



# Response to Comments Document:

## Land Disposal Restrictions - Phase IV: Treatment Standards for Wood Preserving Wastes, Paperwork Reduction and Streamlining, Exemptions from RCRA for Certain Processed Materials, and Miscellaneous Hazardous Waste Provisions

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This document contains responses to public comments on issues addressed in today's final rulemaking, "Land Disposal Restrictions-- Phase IV: Treatment Standards for Wood Preserving Wastes, Paperwork Reduction and Streamlining, Exemptions from RCRA for Certain Processed Materials, and Miscellaneous Hazardous Waste Provisions". Additional issues may have been contained in public comments received by EPA on the proposed rule, supplemental proposed rule, or notice of data availability. Concurrent to today's final rulemaking, EPA is reproposing portions of the Phase IV rulemaking. As a result, the issues listed below are not addressed in this response to comments document, but will be considered and responded to in future rulemakings.

GRAB -	Grab vs. composite sampling for metals
KO61 -	Achievability of TC/KO61 treatment standards
FOUN -	Achievability of metal treatment standards in metal foundry sand
FILL -	Use of hazardous waste as "fill"
TC Metals -	Proposed treatment standards for newly identified TC metal wastes
Bevill -	Proposed treatment standards for mineral processing wastes
HWIR -	Coordination of the LDR program with the proposed Hazardous Waste Identification Rule
UHCS -	Establishment of regulations for Underlying Hazardous Constituents in TC metal wastes
SOIL -	Treatment standards for metals in soils and contaminated debris
RADI -	Comment on radioactive mixed wastes
AUTH -	State Authority
MISC -	Miscellaneous Issues not applicable to today's final rulemaking



**List of Phase IV Land Disposal Restriction Codes,  
Description, and Location by Page Number**

<b>Code</b>	<b>Description</b>	<b>Page Number</b>
AMEN	EPA proposed maximum acceptable concentrations for constituents in wastes entering surface impoundments. The targeted constituents are those that are resistant to biological degradation.	1
CLNP	The Agency proposed a number of changes to the current Part 268 regulatory language so that the language would be easier to comprehend. Other language changes were proposed to remove errant references based on the new language. (For the purposes of the minirule, only changes in §268.7 are addressed.)	39
EQUV	EPA proposed three different options for addressing the risks due to cross-media releases in Subtitle D (nonhazardous) surface impoundments that manage decharacterized wastes. The three options place a range of controls on the treatment of underlying hazardous constituents at different points in the surface impoundment treatment process. Where the controls are placed depend upon the extent that treatment is considered equivalent to usual RCRA treatment.	229
F039	Comments on the proposed addition of UTS constituents to the list of F039 regulated constituents	821
MISC	Any portion of a comment submitted to the Agency which did not correspond to one of the major issues. This table include only those issues addressed in today's final rulemaking.	833
POG	To measure the underlying hazardous constituent (UHC) levels in wastes destined for decharacterization and treatment in surface impoundments, the Agency proposed that testing of UHC levels occur when the waste is initially generated (the "point of generation").	865
POLM	EPA proposed polymerization (POLYM) treatment as an alternative to CMBST or RORGS for those high-TOC D001 wastes which are chemical components in the manufacture of plastics. POLYM requires the addition of a polymerizing component or catalyst to the discarded high-TOC D001 monomer stream intended for land disposal.	947

Code	Description	Page Number
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WOOD1	The Agency proposed to specify CMBST or INCIN standards for wood preserving wastes.	1103
WOOD2	The Agency requested comment on the similarity between F032 and F024.	1127
WOOD3	The Agency proposed to regulate arsenic and chromium in wood preserving wastes.	1137
WOOD4	The Agency proposed to regulate dioxins and furans in wood preserving wastes.	1151
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WOOD6	EPA proposed to regulate dioxins and furans in wood preserving wastes. These comments address analytical issues.	1199
WOOD7	EPA proposed to regulate dioxins and furans in wood preserving wastes. These comments address the achievability of the proposed standard in hazardous waste incinerators that meet 99.99% and 99.9999% destruction.	1213
WOOD8	The Agency proposed to regulate various constituents in wood preserving wastes. These comments address the calculation of the treatment standards.	1225
WOOD9	Wastewater Treatment Standard	1237
WOOD10	Wood Preserving Waste Contaminated Media/Remediation	1241
WOOD11	Dioxin/Furan Stigma and Capacity Issues	1255
WOOD12	Miscellaneous Issues	1287
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DCN PH4P044

COMMENTS American Forest & Paper Association

RESPONDER SM

SUBJECT AMEN

COMMENT EPA's proposal not to ban purportedly nonamenable wastes from land-based biological treatment systems is correct.

RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P044

COMMENTS American Forest & Paper Association

RESPONDER SM

SUBJECT AMEN

COMMENT EPA Is Correct When It Proposed Not To Ban Nonamenable Wastes

From Land-based Biological Treatment Systems. EPA reports in the Phase IV preamble that "the Environmental Technology Council (ETC) has suggested that EPA develop regulations restricting Subtitle D surface impoundment disposal of organic compounds and metals resistant to biological degradation in these units." 60 Fed. Reg. 43677 (emphasis added). ETC's "suggestion" is just that; it is not backed up by supporting data or persuasive rationale. For that reason alone EPA's proposal to reject this suggestion is correct and AF&PA supports that result. There are other reasons to reject the ETC "suggestion." AF&PA agrees with the Agency that CWA effluent limitations are the appropriate way to address ETC's concerns about nonamenability. *Id.* In this regard, the NCASI wastewater and sludge data discussed above demonstrate that constituents in paper industry wastestreams do not present significant risks to human health and the environment. Consequently, as EPA notes, the Agency can be reasonably certain that treatment in paper industry impoundments is adequate and that the "nonamenability issue" is of no practical consequence. AF&PA also agrees with the Agency's identification of numerous technical impediments to banning purportedly nonamenable wastes from biological treatment impoundments. EPA correctly observes that operating conditions in these impoundments can vary widely, making it difficult to conclude on a national level whether constituents are or are not amenable to biological treatment. Also, constituents that may not be regarded as amenable at the point of generation, may be rendered amenable by transformation processes in CWA treatment trains. Moreover, processes like acclimation of the biomass and phenomena like co-metabolism commonly result in biodegradation of constituents which ETC suggested are nonamenable. 60 Fed. Reg. 43677. ETC's "suggestion" about banning purportedly nonamenable wastes is an example of proof by assertion. They offer no data. For example, ETC claimed that "'ICR waste streams nonamenable to biological treatment'" include "ICR wastes with 'water insoluble and highly volatile' F039 constituents . . . ." 60 Fed. Reg. 11717-18 (March 2, 1995). To illustrate that generalizations such as this are just plain wrong, NCASI analyzed data it gathered during original research



on biodegradability to determine whether water solubility and volatility are likely to have any effect on amenability of compounds in surface impoundments. NCASI began by conducting a two-phase study to gather data concerning the biological treatability of 14 organic compounds. In the first phase of this study NCASI determined biodegradation rate constants for these compounds using bench-scale reactors. In the second phase of the study the fate of individual compounds was estimated during full-scale treatment using the NOCEPM model, with the bench-scale biodegradation rate constants entered as a model input. The percentage of each compound that was removed by biodegradation can be used as a relative indicator of biological amenability. Complete details about this study appear in Douglas A. Barton, Summary of Results of Biotreatability Study of Selected BDAT Compounds, November, 1995 ("NCASI Biotreatability Report") which is attached as Appendix F. Next, Henry's Law constants were obtained from EPA's treatability manual. These values can be used to express a relative tendency of each compound to evaporate from a water solution. Water solubility for each compound was obtained from the Envirofate Database. Graphs 1 and 2 present the percentages of removal by biodegradation for each compound studied as a function of volatility and water solubility, respectively. Acetone and methanol are not depicted on Graph 2 as complete miscibility cannot be represented graphically. An analysis of variance on the regression for each graph shows that no significant relationship exists between either volatility or water solubility and the amenability of a compound to biodegradation. Tables 9 and 10 show the analysis of variance for, respectively, volatility and water solubility. As the NCASI Biotreatability Study and data analyses show, for the 14 organic compounds examined, volatility and water solubility cannot be used to predict the amenability to biological treatment of these compounds in surface impoundments. Thus, EPA was correct in rejecting ETC's "suggestion" about banning purportedly non-amenable wastes from land-based biological treatment systems.

An analysis of variance on the regression for each graph shows that no significant relationship exists between either volatility or water solubility and the amenability of a compound to biodegradation. Tables 9 and 10 show the analysis of variance for, respectively, volatility and water solubility.

As the NCASI Biotreatability Study and data analyses show, for the 14 organic compounds examined, volatility and water solubility cannot be used to predict the amenability to biological treatment of these compounds in surface impoundments. Thus, EPA was correct in rejecting ETC's "suggestion" about banning purportedly non-amenable wastes from land-based biological treatment systems.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P065

COMMENTS Safety-Kleen Corp.

RESPONDER SM

SUBJECT AMEN

COMMENT 7. Safety-Kleen concurs with EPA that there is no need to ban nonamenable wastes from biological treatment in surface impoundments. In the Phase III LDR proposal, the Agency discussed the possibility of banning "nonamenable constituents" from biological treatment surface impoundments. In this Phase IV LDR proposal, EPA makes the determination that such a ban is not necessary, because the provisions in the Phase III and Phase IV LDR rulemakings are sufficient to protect human health and the environment, and because it would be technically infeasible to implement such a ban. Safety-Kleen commends the Agency for its realistic, common sense evaluation and dismissal of an infeasible and ineffective proposed requirement.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P015  
COMMENTS BP Oil  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 015  
COMMENT

We support EPA's decision not to ban nonamenable wastes from biological treatment systems.

We agree with EPA that the transfer of nonamenable constituents to air, leaks, sludges, and discharges to surface waters is best addressed by the Phase III and Phase IV LDR rulemaking which is designed to protect human health and the environment from hazardous constituents. There is no need to issue separate regulations addressing nonamenable wastes. The comments being submitted by the American Petroleum Institute (API) will provide additional information and data on petroleum refinery wastewaters to support EPA's decision on this issue.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

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DCN PH4P019  
COMMENTS Asarco  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 019  
COMMENT

Asarco supports EPA's proposal to refrain from banning non-amenable wastes from land-based biological treatment systems. Asarco supports EPA's conclusion that it should not promulgate regulations restricting Subtitle D Surface impoundment disposal of organic compounds and metals resistant to biological degradation in those units. EPA correctly stated in the Proposed Rule that the existing provisions in Phase III and the forthcoming provisions in Phase IV of the LDR program will adequately protect human health and the environment, so that the regulation of non-amenable wastes would be unnecessary. 60 Fed. Reg. 43677. Asarco acknowledges and endorses EPA's concern that the "technical impediments" to such regulation are too burdensome to impose upon the regulated industry. Id.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

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DCN PH4P018  
COMMENTS Mobil Oil  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 018  
COMMENT

EPA should not specify constituents that are non-amenable to biological treatment because as data provided by API demonstrates:

- Many constituents that the Environmental Treatment Council listed as non-amenable are in fact amenable.
- Constituents that are genuinely non-amenable are absorbed on bio-sludge and do not leach, per TCLP testing.

#### **EPA SHOULD NOT SPECIFY CONSTITUENTS THAT ARE NON-AMENABLE TO BIOLOGICAL TREATMENT**

Proposed lists of constituents that may be non-amenable to biological treatment were provided to EPA by the Environmental Treatment Council (ETC). ETC's argument that certain organic compounds and metals are not amenable to biodegradation and shouldn't be allowed in non-hazardous surface impoundments is flawed from both a technical and regulatory perspective. From a regulatory perspective, the pathways for release of such compounds are already being addressed in the Phase IV rule, so the designation of compounds as non-amenable is not necessary to protect the environment. From the technical perspective, ETC's arguments are just wrong, based on the data which API has developed and submitted for the record with its comments. As demonstrated by the API study conducted by ERM-Southwest, many of the compounds designated by ETC as non-amenable were in fact amenable to treatment based on actual refinery data. Moreover, those constituents which were not biodegraded were absorbed onto the biological sludges which exit these bioreactors. TCLP testing of these sludges demonstrates that the constituents do not leach from these sludges and thus, do not pose a threat to underlying groundwater.

#### **RESPONSE**

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to

biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P020  
COMMENTS Exxon  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 020  
COMMENT

B. Because ABTs treat all UHCs in wastewater and wastewater sludge to below UTS, EPA should not define amenable and non-amenable constituents

Exxon supports EPA's position not to ban non-amenable constituents from management inland-based units. Exxon encourages EPA to consider API's comments on the issue of amenable and non-amenable constituents. Exxon opposes designation of "amenable" and "non-amenable" constituents and encourages EPA to select ABT as a technology-based standard for our industry. ABT is considered Best Available Treatment (BAT) under the CWA and is the basis for wastewater UTS. See 58 FR 29864 on May 23, 1993. The court has not required EPA to address the issue of non-amenable, so EPA should refrain from doing so in the Phase IV LDR.

D. API data shows that ABTs treat rather than volatilize UHCs. ABTs are not "media-transfer" units.

Prior to the issuance of the Phase III LDR proposal, API recognized the importance of ABTs as a technology that provides effective and proven treatment of wastewaters. An extensive sampling and analysis effort from ten refineries (some of which had co-located petrochemical plants) was undertaken. Exxon participated in the sampling and analysis effort at its Baytown, Texas Complex. The Baytown Complex includes a 396,000 Barrel/Day refinery and a large petrochemical complex producing polypropylene, paraffins, hydrocarbon solvents, aromatics and other chemical commodities. A subsequent sampling effort of four refineries discussed in the API Phase IV LDR comments has "closed the material balance" around ABTs. The data shows that UHCs are either treated in the ABT or tightly adsorbed onto the sludge (i.e., not leachable above TCLP limits) but are not volatilized.

## RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to



biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P024  
COMENTER Union Camp  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 024  
COMMENT

E. EPA is Correct in its Proposal Not to Ban Nonamenable Wastes From land-based Biological Treatment Systems.

EPA reports in the Phase IV preamble that "the Environmental Technology Council (ETC) has suggested that EPA develop regulations restricting Subtitle D surface impoundment disposal of organic compounds and metals resistant to biological degradation in these units." 60 Fed. Reg. 43677 (emphasis added).

ETC's "suggestion" is just that; it is not backed up by supporting data or persuasive rationale. For that reason alone EPA's proposal to reject this suggestion is correct and UCC supports that result.

There are other reasons to reject the ETC "suggestion." UCC agrees with the Agency that CWA effluent limitations are the appropriate way to address ETC's concerns about nonamenability. In this regard, the NCASI wastewater and sludge data discussed above demonstrate that constituents in paper industry waste streams do not present significant risks to human health and the environment. Consequently, as EPA notes, the Agency can be reasonably certain that treatment in paper industry impoundments is adequate and that the "nonamenability issue" is of no practical consequence.

UCC also agrees with the Agency's identification of numerous technical impediments to banning purportedly nonamenable wastes from biological treatment impoundments. EPA correctly observes that operating conditions in these impoundments can vary widely, making it difficult to conclude on a national level whether constituents are or are not amenable to biological treatment.

Also, constituents that may not be regarded as amenable at the point of generation, may be rendered amenable by transformation processes in CWA treatment trains. Moreover, processes like acclimation of the biomass and phenomena like co-metabolism commonly result in biodegradation of constituents

which ETC suggested are nonamenable. 60Fed. Real 43677.

As the NCASI study and data analyses show, for the 14 organic compounds examined, volatility and water solubility cannot be used to predict the amenability to biological treatment of these compounds in CWASIs. Thus, EPA was correct in rejecting ETC's "suggestion" about banning purportedly non-amenable wastes from land-based biological treatment systems.

## RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P031  
COMMENTS Department of Energy  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 031  
COMMENT

II. Proposal Not to Ban Nonamenable Wastes From Land-Based Biological Treatment systems

II.B Rationale for Proposing Not to Ban Nonamenable Wastes From Biological Treatment Systems

1. p. 43677, col. 2 -- EPA explains its reasons for deciding not to prohibit certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment.

DOE agrees that the key issue in deciding whether nonamenable decharacterized wastes should be banned from impoundment-based wastewater treatment systems concerns whether cross-media transfers of hazardous constituents would occur in the absence of such a ban. DOE also agrees that the provisions of the LDR Phase III and IV rules (i.e., end-of-pipe limits on hazardous constituents coupled with a regulatory option to address potential hazardous constituent releases), when effective, will protect human health and the environment from risks caused by cross-media transfers of hazardous constituents from impoundment-based wastewater treatment systems, including those accepting nonamenable wastes. Therefore, DOE supports EPA's decision to not ban nonamenable decharacterized wastes from impoundment-based wastewater treatment systems.

RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year

study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P036  
COMMENTS American Iron & Steel Ins  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 036  
COMMENT

AISI supports EPA's proposal not to prohibit certain decharacterized wastes from placement into CWA surface impoundments based on assumptions about whether the wastes are "amenable" to biological treatment in such impoundments. As discussed below, such a prohibition would be unnecessary and inappropriate. The issue of whether or not to prohibit "non-amenable" wastes from CWA surface impoundments was originally raised by the Environmental Technology Council ("ETC") in comments on EPA's March 1993 Supplemental Information Report on potential responses to the court decision in Chem Waste II. Apparently, ETC was concerned that certain constituents might not be adequately treated in biological impoundments, but instead might simply be transferred into the environment in the form of leaks, volatilization, sludges, or discharges to surface waters. In this way, the risks associated with the constituents might not be "minimized," as required under the statute, and human health and the environment might not be adequately protected.

As an initial matter, AISI believes that ETC's focus on wastes that are supposedly "non-amenable" to biological treatment is fundamentally flawed. It is well established that virtually all organic compounds, and many inorganic constituents (e.g., cyanide, ammonia, nitrate, and thiocyanate), are susceptible to biological degradation under certain conditions. See, e.g., 60 Fed. Reg. at 11,719 ("there are no organic chemicals, other than [certain] polymers, which are absolutely resistant to biological degradation"). The extent to which these compounds can be biologically degraded depends upon a wide variety of factors, including the overall composition of the waste stream, the variability of the waste stream, the dimensions and design of the impoundment, the ambient temperature, the time that the waste is retained in the impoundment, the amount of agitation that the contents of the impoundment are subjected to, the nature of the microbes in the impoundment, and the acclimation of those microbes. See generally *id.* at 11,718-19. As EPA has acknowledged, "[c]onstituents that are amenable to treatment in one system may be nonamenable in another." *Id.* at 11,719.

Accordingly, it makes no sense to focus in the abstract on constituents that are "non-amenable" to biological treatment. The only other possible approach would be to try identifying "non-amenable" constituents on a site-specific basis. However, the Agency has properly concluded that this approach would present an impossible administrative burden. 60 Fed. Reg. at 43,677.

Even if it were possible to identify constituents that are non-amenable to Biological Treatment (on a generic or site-specific basis), it does not follow that those constituents should be prohibited from placement in CWA surface impoundments. There are many forms of legitimate treatment other than biodegradation that can take place in such impoundments. For example, metals can be complexed within surface impoundments to form compounds that are highly immobile in the environment. Wastes also can be treated in surface impoundments by means of pH adjustment, cooling, and physical separation (e.g., settling and de-emulsification). These types of good engineering practices should not be discouraged under the LDR program. Moreover, even if a constituent is not treated in a surface impoundment, it may be treated in another portion of the wastewater treatment system of which the impoundment is only a part. For example, a constituent that is not amenable to biological treatment within an impoundment may be subjected to some other form of treatment in tanks "upstream" or "downstream" of the surface impoundment. In these situations, it would clearly be inappropriate to prohibit the constituents from being added to the wastewater treatment systems or from being placed in the impoundments. Indeed, managing the constituents in such systems may be the most efficient, sensible, and protective option available. To the extent that EPA continues to be concerned that placement of supposedly "non-amenable" wastes into CWA surface impoundments may not result in legitimate treatment, may not "minimize" risks, or may not be protective of human health and the environment, such concerns should be adequately addressed by other regulatory provisions. As the Agency itself has noted, if constituents are not excessively migrating to ground water through leaks, to air through emissions, adsorbing onto sludge sediments, or being discharged at the end of the pipe, they must be undergoing legitimate treatment in the form of destruction, removal, or immobilization. See 60 Fed. Reg. at 43,677. The upcoming Phase III LDR rule will be designed specifically to ensure that hazardous

constituents are not merely being discharged from CWA impoundments at the end of the pipe. As discussed above, AISI believes that other regulatory programs are adequate to ensure that hazardous constituents are not simply being transferred to the environment in the form of leaks, volatilization, or sludges. See Section II.C, above. Even if EPA concludes that additional controls on these releases are warranted, such controls presumably will be promulgated under other portions of the Phase IV rule, without regard to the "amenability" of particular constituents to biological treatment. Thus, a prohibition on the placement of "non-amenable" constituents in CWA impoundments is not necessary to ensure that such constituents are being legitimately treated. Moreover, if the constituents are being legitimately treated, and releases to the environment are being adequately controlled, the risks associated with the constituents necessarily are being "minimized," as required by the statute, thereby protecting human health and the environment.

For the reasons set forth above, it would be inappropriate, unnecessary, and probably impossible to impose a prohibition on placement of "non-amenable" constituents or wastes in CWA surface impoundments. Accordingly, AISI urges EPA to finalize its proposal not to establish such a prohibition.

## RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P048  
COMMENTER Chemical Waste Management  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 048  
COMMENT

The EPA is proposing not to ban nonamenable wastes from bad-based biological treatment systems because the Agency believes the key issues of whether the nonamenable constituents are being transferred to air, leaks, sludges, or discharged to surface waters will best be addressed by the end-of-pipe limits on constituents proposed in Phase III or the three options proposed in this rulemaking.

CWM supports the approach by the Agency, however, CWM is concerned that the Agency appears to be offering conflicting information regarding the justification for supporting this option. WMX requests clarification from the Agency regarding why it discusses the Phase III end-of-pipe proposal to address this issue. Yet in another section of the proposal the Agency states that it does not support this approach. (See 60 Fed. Reg. at 43,659). The Agency needs to evaluate which position it is supporting with regard to the end-of-pipe issue. CWM does not believe that the Phase III end-of-pipe proposal addresses this issue if the Agency is not in support of this type of control on discharges to surface impoundments.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

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DCN PH4P053  
COMMENTS Texaco  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 049  
COMMENT

Texaco supports EPA's conclusion in the preamble to the proposed rule, that it is unnecessary to ban "non-amenable" wastes from land-based aggressive biological treatment units. This is further supported by API's extensive comments and a detailed evaluation conducted by E.M.-Southwest, Inc. on the regulatory and technical flaws of ETC's argument that certain compounds are not amenable to biodegradation.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P063  
COMMENTS Laidlaw  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 063  
COMMENT

2.0 Proposal Not to Ban Non-Amenable Wastes From Land-Based Biological Treatment systems

LES does not support EPA's decision not to ban non-amenable wastes from Biological Treatment systems. The Agency has stated that "significant" impediments exist to banning these wastes, but fails to provide a convincing argument supporting such a decision. A review of the docket indicates that a document submitted by the Environmental Technology Council in 1994 supporting such a ban was not included in the docket material. This document shows that non-amenable wastes are not treated by the biosystem but are merely transferred to the sludge which eventually accumulates in the bottom of the treatment impoundment. Thus, it appears that EPA, by not supporting such a ban, is violating the directive put forth by the Court to address cross-media transfer of hazardous constituents.

RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P064  
COMMENTS Dow Chemical  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 064  
COMMENT

Dow supports the decision not to ban nonamenable wastes from land-based biological treatment systems. The rationale presented by EPA accurately represents the facts surrounding this issue.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P066  
COMMENTS API  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 066  
COMMENT

ABT provides extremely thorough treatment of UTS constituents. Analysis of refinery ABT effluent presented in API's Phase III comments verified that all but one of the VOC and PAH compounds were below UTS upon discharge from the ABT impoundments. API has further verified that most of this treatment occurs by means of biodegradation. Described in detail later in these comments under a discussion of so-called "non-amenable" compounds, is a recent ERM-Southwest study (Appendix A) further verifying that all PAH effluent concentrations from ABTs at four refineries were orders of magnitude below UTS for wastewaters. A mass balance for these PAH compounds was performed, which found that biodegradation was by far the primary removal mechanism. Also presented in the "non-amenable" discussion is evidence that the most common VOCs found in refinery wastewaters are biodegraded in ABT units. Therefore, it is clear that effective treatment of wastewater is occurring within ABT units.

#### VI. EPA Should Not Specify Constituents that are Non-amenable to Biological Treatment

As EPA correctly points out in the draft preamble, it is unnecessary to ban "non-amenable" wastes from land-based ABT units. In their comments to the Phase III LDR proposal, ETC contends that certain organic compounds and metals are not amenable to biodegradation, and therefore should not be allowed in these Subtitle D impoundments. This argument is flawed from both a regulatory and technical perspective.

In a regulatory sense, any pathways for "non-amenable" to be released to the environment are already being evaluated in this Phase IV rule. Technically, the argument is flawed in two respects: first, it presumes non-amenable for many compounds which are amenable to biotreatment; second, it presumes that biodegradation is the only environmentally responsible treatment mechanism by which compounds can be removed in an ABT unit.

### **Regulatory Perspective**

As part of the Phase IV proposal, EPA evaluates pathways for exposure to the environment from constituents in surface impoundments. If EPA deems that these pathways present an unacceptable risk, then further regulation may be appropriate. "Non-amenable" have been included in EPA's analysis of the Phase IV rule, along with any other constituents normally found in industrial wastewater. As EPA stated in the draft preamble to the Phase IV rule, "if [non-amenable] are not excessively migrating to ground water through leaks, to air through emissions, adsorbing onto sludge sediments, or being discharged at the end of the pipe, then EPA can be reasonably certain that treatment in the impoundment is adequate."

Additionally, air emissions and excessive adsorption onto sludge are already controlled through existing regulatory requirements. VOC emissions from refinery wastewater impoundments are regulated under the refinery MACT rule and the benzene waste NESHAP. Excessive adsorption of constituents onto biosludge is regulated upon the sludge's removal from the impoundment, under the toxicity characteristic. As EPA states in the preamble to this proposed rule, since leaks from impoundments are already being evaluated, it is not necessary to evaluate potential impacts from sludge until it is removed, when it could present a separate path for environmental impact.

### **Technical Perspective**

Two treatment processes are at work in the ABT units. They are biotreatment and adsorption, and both play a part in the treatment of "non-amenable." They are discussed in detail below.

### **Biodegradation**

Many of the "non-amenable" compounds listed by ETC in their comments to the Phase III rule are indeed degradable. It has been proven, through literature and field study discussed below, that biological degradation, not stripping, is the primary treatment mechanism for both Volatile Organic Compounds (VOCs), and Polyaromatic Hydrocarbons (PAHs), also referred to as Polynuclear Aromatics (PNAs), in land-based ABT units.

Predictions of biodegradation rates based on constituent characteristics have been performed. In the memo presented as Appendix B, relative contributions of biodegradation and

volatilization are displayed for the most common VOC and PAH compounds in petroleum refinery wastewater by plotting biodegradation constants versus Henry's Law constants (a Henry's Law constant measures the tendency of a given constituent to volatilize from water to air, and are widely available in literature). The biodegradation constants were derived from actual laboratory experimental data. Two graphs were created with biodegradation constants on one axis and Henry's Law Constants on the other. The graphs correspond with diffused and surface aeration cases. Lines were then plotted on the graphs to represent equal percentage biodegradation of the influent constituents for a given pair of biodegradation and Henry's Law constants. The plots indicate that more than 99% of the BTEX compounds, and approximately 90% of naphthalene can be biodegraded, depending on the type of ABT unit utilized.

In the recent ERM-Southwest study discussed earlier and presented in Appendix A, a mass-balance was performed for PAHs in three refineries. Influent concentrations and flow rates were used to identify masses of PAHs entering the ABTs. Likewise, effluent concentrations and flow rates identified the mass of PAHs leaving the units. For sludges, total PAH concentration and sludge generation data were used to determine the mass of PAHs adsorbed to the sludge. It was assumed that given the low Henry's Law constants for PAHs, air emissions from PAHs in the impoundments was negligible. The rate of biodegradation was therefore calculated from the following: the biodegraded mass divided by the influent mass results in the percentage of the constituent which has been biodegraded. The biodegraded mass is derived from the total mass of the constituent in the influent minus the sum of the constituent mass adsorbed to the sludge, the constituent mass emitted into the air (negligible), and the constituent mass in the effluent.

This study found that for all 18 PAH constituents, biodegradation was by far the primary removal mechanism. In fact, 14 of the 18 PAHs averaged greater than 90% biodegradation in the three refinery mass balances. Additionally, of the six analytes sampled in this study which were also listed as "non-amenable" or "recalcitrant" by ETC, benzo(a)pyrene, benzo(b)fluoranthrene, benzo(g,h,i)perylene, benzo(k)fluoranthrene, dibenzo(a,h)anthracene, and indeno(1,2,3-c,d)pyrene, biodegradation rates ranged from 84.4% to 98.2%. The only exception to this was



one facility in which benzo(g,h,i)perylene was less than 1% biodegraded. Since the other biodegradation rates for benzo(g,h,i)perylene were above 76%, and the influent concentration for this constituent at this refinery was very low, it is assumed that this single, extremely low biodegradation rate is attributable to sampling error or a minor variance in laboratory analysis.

#### Adsorption

In refinery wastewater impoundments, metals, and to a lesser degree PAHs, adsorb onto the biosludge, thus stabilizing these constituents. Sludge TCLP data for metals in Table 4 of the ERM-Southwest study described above indicated that all sludge metals results were below UTS limits. Sludge TCLP data for PAH compounds were also low, as all analytical results were less than one part per billion. In addition, effluent concentrations for metals and PAHs were within UTS limits. Therefore, this data verifies that metals and the fraction of PAHs which were not biodegraded were effectively complexed into the biomass, being neither discharged from the ABT unit nor leachable from wasted sludge.

ETC has claimed that "non-amenable" constituents should be segregated from the waste stream prior to entering into biotreatment impoundments. As shown above, this costly alternative is not warranted, either regulatorily or technically. First, all potential pathways for environmental impact from these constituents either pose negligible risk or are already subject to controls. Second, the contention that the compounds in question, VOCs, PAHs, and metals, are not adequately treated in refinery ABT units is simply untrue. Both biodegradation and, to a much lesser degree, adsorption provide effective, environmentally responsible treatment for these constituents. API therefore strongly supports EPA's decision not to ban these so-called "non-amenable" constituents.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they

enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P080  
COMMENTS EASTMAN  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 080

COMMENT V. Eastman Agrees That There is No Need to Ban Nonamenable

Constituents At 60 FR 43677 EPA says that it believes that prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment is unnecessary at this time. Eastman agrees. This proposal was made by an organization which stands to gain economically from its adoption. It is without merit and deserves no further consideration. The Chem Waste decision certainly did not require consideration of nonamenable constituents in the Phase IV rule. The Agency has properly determined that bans on nonamenable constituents is unnecessary and that there are numerous technical and practical reasons why implementation of such bans would be problematic. Bans on "nonamenable" constituents, as defined by ETC, would totally disrupt the enormous capital intensive CWA treatment systems that have been developed over the last 20 years - just the type of result that the Agency has tried to avoid in the Phase IV rule.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P085  
COMMENTS EDF  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 085  
COMMENT

Ironically, EPA's proposed Option 2 purports to distinguish those surface impoundments engaged in disposal from those performing treatment. See 60 FR 43657. Since treatment of metals does not occur in biological systems, the placement of metal wastes in such systems constitutes de facto disposal. Therefore, restricting metal wastes not amenable for treatment is compelled by EPA's underlying rationale for its proposal. Such a restriction could actually improve legitimate treatment in biological systems by eliminating metal inhibitors from these units.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P091  
COMMENTS FMC  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 091

COMMENT IX. FMC Supports the Agency Decision Not to Ban Non-amenable Wastes from Land Based Biological Treatment Systems. FMC concurs with and supports EPA in their decision not to ban nonamenable wastes from land based biological treatment units. /60 FMC supported this position as part of its Phase III comments /61 and for the reasons stated there we continue to support the Agency's position. /59 59 Fed. Reg. 47982, 9/19/94 /60 60 Fed. Reg. 43677 /61 RJ Fields to USEPA, 5/1/94, Docket No. F-95-PH3P-FFFFF, pg.17

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 097  
COMMENT

Proposal Not To Ban Nonamenable Wastes From Land-Based Biological Treatment systems (60 FR 43677)

EPA proposes not to ban nonamenable wastes from land-based biological treatment systems because whether the nonamenable constituents are being transferred to air, leaks, sludges, or discharged to surface waters are best addressed by the end-of-pipe limits on constituents proposed in Phase III or the three options proposed in the rulemaking. HWMA supports this approach. However, the Agency appears to be offering conflicting information regarding the justification for supporting this option. We request clarification regarding why the Agency proposes the Phase III end-of-pipe proposal to address this issue, yet in another section of the proposal states that it does not support this approach (60 FR 43659). The Agency needs to evaluate which position it is supporting with regard to the end-of-pipe issue.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P102  
COMMENTS Chevron  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 102  
COMMENT

4) Chevron Agrees With EPA That Leakage And Sludges From Bio And Post-Bio Units Should Not Be Regulated Under The Phase IV Rule.

Any water leaking from surface impoundments operated as aggressive biological treatment (ABT) units is substantially treated and should not be subject to regulation under Phase IV. As completely mixed systems, the concentration of constituents in the ABT surface impoundment is equivalent to the discharge concentration. Therefore, any leakage from the impoundment or downstream impoundments will be of fully treated wastewater that poses little risk to groundwater. In addition, the constituents in the accumulated sludges in these units do not pose a threat to groundwater because they exist in a near steady-state condition with the impoundments' treated wastewater. Besides, data submitted by API to the docket shows that refinery bio-pond sludges contain underlying hazardous constituents at levels significantly below the universal treatment standards. Thus, the sludge is already well-treated and does not pose a threat to groundwater.

6) Chevron Encourages EPA to declare ABT as BDAT. Chevron again encourages EPA to declare that aggressive biological treatment (ABT) is a best demonstrated available technology (BDAT) for decharacterized wastes. Subsequent to our Phase III comments, API performed additional sampling on four refinery ABT units to gather more accurate information regarding the fate of poly aromatic hydrocarbons (PAHs) in these units. The analytical services of Arthur D. Little, Inc. were used to obtain reporting limits of 10 parts per trillion which allows for more definitive conclusions on this issue. This data is presented and discussed in detail in API's comments. However, Chevron emphasizes two important conclusions:

1. The TCLP extracts from the bio sludge from the four refineries are several of orders of magnitude below the universal treatment standards confirming EPA's finding that the sludges from biological and post biological treatment units do not pose a threat to groundwater. The attached Figure 1 and table presents the ratio of

the measured concentration in the extract to the wastewater UTS for sixteen refinery PAHs. As seen, the extract concentrations are typically more than 1,000 lower than the UTS.

2. The mass balances performed on the data show that the PAHs are being biologically degraded and are not simply adsorbing and precipitating in the sludge. This demonstrates that these compounds are very amenable to biological treatment.

The data supports Chevron's assertion that ABT should be BDAT for treating refinery wastewaters. Further, as demonstrated by this and other data submitted to the docket by API, ABT units: (1) are well mixed as required in their regulatory definition; (2) treat process wastewaters to universal treatment standard levels; (3) do not pose a risk to groundwater since the effluent concentrations are equal to the concentrations in the unit; (4) contain low-risk sludges; and (5) do not emit air emissions in amounts that pose an unacceptable risk.

## RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P115  
COMMENTS Courtaulds Fibers  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 115  
COMMENT

CFI supports EPA's decision in the Phase IV rule not to ban nonamenable wastes from land-based biological treatment systems. CFI concurs with EPA's view that prohibiting decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are amenable to biological treatment is unnecessary at this time, due to the significant technical impediments such a prohibition would pose. CFI also believes that the "end-of-the-pipe" limits on constituents EPA proposed in the Phase III rule, 2 coupled with Option 1 in the Phase IV rule, will address risks, if any, to human health and the environment that may be posed by the management of hazardous constituents in surface impoundments.

Additionally, however, CFI believes that there is no need for EPA to regulate nonamenable wastes. EPA has acknowledged that the Phase IV rule is intended to address risks that EPA itself has characterized as minor.<sup>3</sup> The risks, if any, posed by nonamenable

1/ 60 Fed. Reg. 43654 (Aug. 22, 1995).

2/ 60 Fed. Reg. 11702 (Mar. 2, 1995).

3/ 60 Fed. Reg. 11704.

wastes are a subset of these minor risks, and as such pose commensurately even fewer risks.<sup>4</sup>

CFI also wishes to comment upon the designation of sulfide-bearing waste streams as not amenable to biological treatment. The designation of sulfide as a constituent that is not amenable to biological treatment is based on a list submitted by the Chemical Manufacturers Association (CMA) to EPA in response to EPA's March 1993 Supplemental Information Report on potential responses to Chemical Waste Management, Inc. v. EPA.<sup>5</sup>

While CMA may have created the list and submitted it on behalf of its members, CFI's experience is that some sulfide-bearing waste streams are amenable to biological treatment and thus it is inappropriate to classify all sulfide-bearing wastes as

nonamenable. CFI's wastewater treatment system has achieved consistently high treatability for sulfide-bearing waste streams. While CFI can report only on its own experience with treating sulfide-bearing waste streams, it is likely that other manufacturing entities are achieving similar or better treatability efficiencies. CFI would be pleased to provide whatever data it has available on this subject to EPA, if EPA would find these data useful.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P116  
COMMENTS Occidental Chemical Co.  
RESPONDER SM  
SUBJECT AMEN  
SUBJNUM 116  
COMMENT

Oxychemical supports EPA's decision not to attempt to ban non-amenable wastes from land-based biological treatment systems.

This is necessary due to the complexity of the issue and variety of treatment system capabilities.

#### RESPONSE

EPA is not prohibiting certain decharacterized wastes from land-based wastewater treatment systems on the basis of whether the constituents in those wastes are "amenable" to biological treatment. As is discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. Because they are decharacterized before they enter the impoundment, these wastes are no longer prohibited wastes under RCRA, and any cross-media transfer of hazardous constituents cannot be regulated under RCRA.

It should be noted that the legislation does, however, mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. Comments and data which have been submitted in response to the Phase III and Phase IV rulemakings addressing the issue of amenability of wastes to biological treatment will be considered as part of this 5-year study. The findings of this study may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P020  
COMENTER Exxon Company Usa  
RESPONDER NV  
SUBJECT CLNP  
SUBJNUM 020  
COMMENT

B. EPA should clarify that de minimis losses of commercial chemical products to wastewater systems do not trigger LDRs

EPA removed the language in 40 CFR 268.1.e.4 that clearly stated that de minimis losses of commercial chemical products do not trigger LDRs. Exxon requests that EPA clarify in 40 CFR Part 268 that the de minimis loss provision for commercial products still exists. This issue is of significant concern to Exxon Company, U.S.A. where our two largest refineries share a wastewater treatment plant with co-located petrochemical plants manufacturing commercial chemical products.

#### RESPONSE

EPA first proposed to create a de minimis provision for losses of characteristic wastes in the report entitled "Supplemental Information Concerning the Environmental Protection Agency's Potential Responses to the Court Decision on the Land Disposal Restrictions Third Third Final Rule" prepared for the Notice of Data Availability on the Reponse to the Court Decision, published January 19, 1993. In the report, the Agency requested comments on "whether an approach similar to the mixture rule exception in 40 CFR 261.3(a)(iv)(D) should apply to de minimis losses of ICR [ignitable, corrosive, and reactive] wastes" (emphasis added). Again in this same report the Agency said "Consequently, the Agency is considering an alternative whereby de minimis losses of ICR wastes (emphasis added) to wastewater treatment systems would not be considered to be prohibited wastes." (See page 39.) Confusion has arisen because the language of 261.3(a)(iv)(D) referring to "commercial chemical products or chemical intermediates" rather than specifying "characteristic wastes" was copied into 268.1. The Agency clarified the provision in the regulation of the Phase III final rule by changing 268.1(e)(4) to specify wastes instead of products and intermediates. Unfortunately, in the Phase III Withdrawal Rule published on the same day, a typographical error occurred which indicated that the Agency was withdrawing 268.1(e)--referring to de minimis losses in general--rather than 268.1(e)(4)(ii)--referring to the de minimis losses provision that applied only to underground injection wells injecting decharacterized wastes. Therefore, in the Phase IV final rule the Agency is clarifying that the general de minimis provision of 268.1(e) remains in the regulations and applies to characteristic wastes rather than products or intermediates.

DCN PH4P047  
COMMENTS Merck  
RESPONDER NV  
SUBJECT CLNP  
SUBJNUM 047  
COMMENT

g. The other miscellaneous changes under 268.7 will also provide clarification and greatly ease the burden of trying to understand the requirements under this section.

#### RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.

DCN PH4P035

COMMENTER Utility Solid Waste Activities Grp

RESPONDER NV

SUBJECT CLNP

COMMENT VII. USWAG SUPPORTS THE SIMPLIFICATION OF THE LDR NOTIFICATION

REQUIREMENTS. The proposed administrative changes to the LDR requirements would eliminate several unnecessary regulatory burdens while facilitating compliance with the LDR regulations. In particular, USWAG supports the following proposed changes: Modification of the regulations to require that a generator whose waste meets the appropriate treatment standard need only supply a one-time notification and certification to the disposal facility, unless the waste composition changes. 60 Fed. Reg. at 43678. Elimination of the requirement that a facility treating waste in a 90-day accumulation unit to meet treatment standards must first submit a waste analysis plan ("WAP") to EPA or an authorized state for approval. Id. Reducing the LDR record retention time from five years to three years. Id. These proposed modifications will greatly assist in streamlining the LDR requirements. In addition, EPA proposes to allow small quantity generators with contractual agreements in place for the reclamation of their waste to be subject to reduced certification and notification requirements, provided that the agreements comply with 40 C.F.R. § 262.20(e). Id. at 43693 (proposed 40 C.F.R. § 268.7(a)(10)). USWAG believes that this reduced set of requirements should be equally applicable in situations where large quantity generators have tolling agreements in effect, and therefore, should be extended to cover such arrangements. Extending the scope of this reduced set of requirements will have the desirable benefit of encouraging agreements for hazardous waste reclamation by reducing the administrative burdens currently associated with such transactions.

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort. The LDR provision pertaining to small quantity generators with tolling agreements was designed to capture the same universe as those captured by § 262.20(e), generators of more than 100 but less than 1000 kg of hazardous waste per year, thus it is not appropriate to extend the provisions of § 268.7(a)(10) to large quantity generators. The Agency has provided relief to large quantity generators, however, by changing the requirement to provide LDR notices and certifications with each shipment of hazardous waste to a one-time notice and

certification, provided the waste does not change and the receiving facility does not change.



DCN PH4P065

COMMENTER Safety-Kleen Corp.

RESPONDER NV

SUBJECT CLNP

COMMENT 2. Safety-Kleen requests that the Agency finalize the proposed improvements to the existing land disposal restrictions program separate from the rest of the Phase III and IV proposals if the Agency decides to defer action on the rest of these proposals. Safety-Kleen is concerned with the possibility that the LDR Phase III and IV proposals may not be finalized for several months or even years, thus extending the time during which we must comply with the existing LDR requirements. Both the Phase III and Phase IV proposals offer LDR program modifications that the EPA is not under a court order or other time constraint to finalize, and that would benefit the regulated community without harming human health or the environment. For example, the Agency is proposing to revise the LDR notification form record retention requirement to be equivalent to that required for manifests (3 years); to eliminate reference to the California List wastes because they have all been incorporated into other LDR provisions; and to eliminate redundant tables and language that only serve to confuse the regulated community.

#### RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.

DCN PH4P065

COMMENTS Safety-Kleen Corp.

RESPONDER NV

SUBJECT CLNP

COMMENT 8. Safety-Kleen supports the Agency's efforts to "clean up" the LDR regulations. Safety-Kleen supports the Agency's efforts to eliminate confusion and contradiction in the LDR rules. Safety-Kleen agrees that most of these changes will serve to clarify and simplify the LDR regulations without adverse affects on human health and the environment. Safety-Kleen is particularly supportive of the proposal to modify the LDR notification form retention requirements to correspond directly with most other RCRA record retention requirements (3 years). The inconsistency between the three-year manifest retention requirements and the five-year LDR notice retention requirements has created confusion in the regulated community, particularly because the LDR form is generally attached to the manifest upon receipt and in the facility files. Clearly, if a three-year records retention requirement is appropriate for the manifest information, it is also appropriate for the LDR notification form information.

#### RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.

DCN PH4P008  
COMMENTS Florida DEP  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 008  
COMMENT

268.7(a)(5): I agree with the proposal to delete the requirement for generators to submit Waste Analysis Plans. No one is submitting them anyway. I agree that generators should have WAPs available for inspection.

268.7 Notice requirements I would prefer to see all of these provisions deleted. Instead, EPA should adopt an official uniform waste profile form. Each TSDF already requires a generator to submit a waste profile prior to accepting the waste as part of the §264.13 Waste Analysis plan. These forms should be adopted uniformly, with updates required if the process generating the waste changes. As part of §262.11 and §262.40, each generator should be required to keep a waste profile on each hazardous and solid waste generated at the facility for 3 years from the date of last disposal, excluding office paper trash and garbage.

Analytical data (if available) would be attached to and become part of the waste profile. The waste profile already includes information on the process, the waste codes, and physical information that would affect treatment. The Waste Profile would only need to be submitted to the TSDF onetime, not with every shipment.

We see a lot of generators and brokers conspiring to evade LDRs and RCRA altogether by omitting essential information on the waste profile. If the generators were forced to sign certifications that were RCRA enforceable on these documents, there would be a greater incentive to comply. The currently optional boxes I and R, reserved for the EPA waste number could be used for the generators' waste profile numbers. The recent changes in DOT regulations make the EPA waste number box redundant. There have been recent discussions on elimination of the manifest form, and relying on DOT bills of lading. This would be a lot more palatable to the regulators if bills of lading referenced the generator EPA ID number and a specific waste profile number. Generators would keep copies of the DOT bills of lading instead of manifests. TSDFs can keep copies as part of their operating record, cross referenced to waste profile.

A couple of sample forms are attached that are already in use. To improve the forms, I would add check off boxes for the waste

categories "virgin" "used" "byproduct" and "sludge." I would also add spaces for the treatability group and statements regarding whether the waste/constituents meet treatment standards. A statement should be added per §268.7(a)(6) for wastes that become excluded subsequent to generation. Although waste profiles are not an EPA requirement, they are in universal use. If they became an official form, generator paperwork would be reduced and easier to understand.

#### RESPONSE

Thank you for your support of the change made to 40 CFR 268.7(a)(5). As for your suggestion to do away with all notification/certification requirements in 268.7 and rely instead on the waste profile, the Agency is unable to make such a broad change at this time. As you point out in your comment, the waste profile is not required by EPA regulations. To adopt it as a uniform notification document would require the coordination of EPA, DOT, the states, the regulated community, environmental groups, and others. Such an effort was not possible within the time constraints of promulgating the Phase IV final rule.

DCN PH4P008  
COMMENTS Florida DEP  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 008  
COMMENT

Generator recordkeeping regulations are scattered throughout many sections which are referred to only by reference in Part 262. This makes it difficult for the generators to conduct self audits. Along with the revisions to §268.7, Section 262.40 should be revised as follows:

(c) A generator must keep records of any test results, waste analyses, or other determinations made in accordance with §262.11 and §268.7 for at least 3 years from the date that the waste was last sent to on-site or off site treatment (including recycling), storage or disposal, including disposal of accumulated wastes in on site waste water treatment units.

(d) Pursuant to §268.7(a), a generator must keep copies of all land disposal restriction notices and certifications made for wastes sent off site for treatment, storage or disposal. A generator must also keep copies of the waste analysis plan, records and certification statements for wastes treated on site or excluded from the definition of solid or hazardous waste subsequent to the point of generation.

(e) A generator must keep records of all inspections of required emergency equipment and units accumulating or treating hazardous waste pursuant to §262.34. (Add a reference to subparts AA, BB and CC recordkeeping if EPA does not withdraw these provisions for generators.)

(f) A generator must keep copies of all personnel training records, including job titles and position descriptions for persons managing hazardous waste as required under 265.16.

(g) The periods of retention referred to in this section...(renumber and correct typo!)

Also: revise §262.44(a) to read :§262.40 (a), (c), (d), (e) and (g), recordkeeping.

#### RESPONSE

The Agency thanks the commenter for their suggestions. They are beyond the scope of this rulemaking, however, they will be considered as part of the effort to revise the LDR regulations further in future LDR rulemakings.

DCN PH4P008  
COMMENTS Florida DEP  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 008  
COMMENT

Pg. 43692, middle column 268.7(a)(5)(iii): There appears to be a typographical error in the new §268.7(a)(5)(iii). It should reference §269.7(a)(3), not (4). In addition, there is no provision here for sending decharacterized wastes off site for further treatment at a non RCRA facility. I suggest this section should read:

(iii) Wastes shipped off site pursuant to this paragraph, or disposed in an on-site Subtitle D facility, must comply with the notification requirements of §268.7(a)(3) or §268.9(d), as appropriate.

#### RESPONSE

The Agency agrees there was a typographical error, and has incorporated language suggested by the commenter into the regulation. The suggested language will be considered in future revisions of the regulations.

DCN PH4P008  
COMMENTS Florida DEP  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 008  
COMMENT

268.9(d)(1)(ii) Reference to "EPA hazardous waste code" should read "EPA hazardous waste number(s)". This section is still fairly obscure. In low concentration wastes, it is impossible to determine if a sample of spent solvent is ignitable because of the listed solvent constituent(such as acetone) or the unlisted solutes (such as styrene, alcohols or aliphatic hydrocarbons). Since the F001-F005 listings are almost guaranteed to exhibit a characteristic, why not just make the UTS applicable to all spent solvent wastes?

#### RESPONSE

EPA has changed the word "code" to "number" as suggested language by the commenter. In reference to the whether ignitable wastes are ignitable because of the listed solvent constituent or the unlisted solutes, a waste that is identified as F001-F005 is not subject to the requirement to identify and treat underlying hazardous constituents just because it also exhibits the ignitable characteristic. In such a case, the treatment standards for the listed waste govern, which are, by the way, UTS levels.

DCN PH4P008  
COMMENTS Florida DEP  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 008  
COMMENT

Revisions to 268.30-36, Appendix VII Deletion: The appendix is still useful to inspectors who are trying to determine if a waste was restricted at the time it was generated. I think that any waste that became subject to restrictions within the previous 3 years should be included in the appendix, especially if the recordkeeping time is reduced to 3 years. In addition, any national capacity variances effective during this period should be noted in the appendix. Alternatively, the appendix should cover back through the time covered by the statute of limitations. If this is done, the text revisions to §268.30-36 are acceptable.

#### RESPONSE

The Agency has developed a new Appendix VII that incorporates the information suggested by the commenter, and has revised sections 268.30 -- 268.37 to include newly restricted wastes.



DCN PH4P013  
COMMENTS New York DEC  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 013  
COMMENT

DEC agrees with the EPA that there is a definite need to streamline the LDR regulation for understandability and ease of compliance. Removal of unnecessary, outdated, confusing language is highly recommended. DEC has endeavored to eliminate unnecessary language from its LDR regulation since its inception. DEC has been limited in this effort, due to the inclusion of certain language in 40 CFR Part 268, while meeting the requirements for State authorization.

Specifically, DEC agrees with all of the proposed changes outlined in III.A 1 through 6. Much of the difficulty and confusion experienced with the LDR are due to the complexity of the regulation and its integration with other hazardous waste management regulations. These proposed changes will do much to relieve that regulatory burden for generators, facilities, and state regulators as well. Also, the proposed changes greatly increase the clarity of the regulation, such as the elimination of the references to the California List in 40 CFR 268.7, and the elimination of 40 CFR 268.32. A great deal of confusion about applicability of the California List has arisen in the past.

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort, and your support of the LDR clarification effort.

DCN PH4P013  
COMMENTS New York DEC  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 013  
COMMENT

DEC also agrees with the EPA's proposed simplification of the notification and certification requirements of 40 CFR 268.7. DEC has experienced many problems with notifications and certifications in the past and may propose in its next rulemaking to adopt these changes and require, with minor exceptions, that only 40 CFR 268.7 requirements apply in New York in lieu of current state requirements. A workable, simplified recordkeeping approach for the LDR will allow New York State to defer to 40 CFR 268.7 (and related recordkeeping clarifications) and eliminate an unintentional duplication that now exists for the regulated community in New York State.

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.

DCN PH4P017  
COMMENTS Kodak  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 017  
COMMENT

Finally, we applaud your plan to reduce the paperwork associated with compliance with the LDR regulations .

RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.

DCN PH4P017  
COMMENTS: Kodak  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 017  
COMMENT

**Paperwork Reduction**

Kodak Supports the Portions of the Proposed Rule that Simplify Paperwork. We support the following changes, because they will reduce paperwork and save money without affecting environmental protection: 1. The use of a one-time notification and certification to the receiving facility for generators of waste whose composition does not change and which meets the treatment standards for the receiving facility in § 268.7(a)(3). 2. Consolidation of paperwork requirements into a table in § 268.7(a)(4) for generators and a table in § 268.7(b)(4) for treatment facilities to simplify compliance reporting. 3. Elimination of the requirement in § 268.7(a)(5) for generators managing wastes in tanks or containers to submit their waste analysis plans to the state or EPA. 4. Reduction of record retention requirements in § 268.7(a)(8) from 5 to 3 years.

Recommendations Kodak recommends the adoption of the preceding changes that reduce paperwork.

**RESPONSE**

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.

DCN PH4P024  
COMMENTS Union Camp  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 024  
COMMENT

R. UCC supports reduction of reporting requirements  
UCC supports EPA for its efforts to reduce reporting requirements  
for generators to submit waste analysis plans to the state and  
region EPA (required by 268.7(a)(5)). This will make a big dent in  
reducing the paper work burden on the regulated community, as well  
as the agencies. These documents are already available for agency  
inspection at facilities required to have them. UCC further  
encourages EPA to further reduce the reporting burden to  
the regulated community in other areas of the regulations.  
Resources can be spent in much more fruitful ways.

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden  
reduction effort. The Agency is committed to finding additional ways to simplify the  
LDR regulations and reduce paperwork in future rulemakings.

DCN PH4P027  
COMMENTS Rollins Environmental  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 027  
COMMENT

The EPA is proposing several technical modifications to the Land Disposal Restrictions (LDR) Program. The purpose of these changes is to "clean up", revise and simplify some of the requirements of this program. RES fully supports this effort to streamline and simplify the LDR's. Our only concern is that in some cases streamlining may actually compromise human health or the environment.

The vast majority of the proposed technical modifications do "clean up", revise, or simplify the program without any compromising of human health or the environment. However, there are two proposed changes that could have a negative impact. In the Agency's proposed change to section 268.5 a petitioner could request a two year "case-by-case extension" from meeting the LDR's. Presently, the language limits the petitioner to a one year extension with the possibility of another one year extension after the filing of a second petition. We support retaining the existing requirement for a for each one year extension.

We support retaining the existing requirement for two primary reasons:

The commercial hazardous waste industry has grown and matured sufficiently to safely handle the wastes that are being considered for extensions, there is sufficient capacity within this industry to handle these wastes; and

Granting two year extensions leads to the large scale disposal of untreated wastes prior to the expiration of the extension, as opposed to treatment to minimize threats to human health and the environment.

#### RESPONSE

The Agency is persuaded that granting a second-year renewal at the the time the case-by-case extension is applied for is a disincentive to speedy development of treatment capacity. Therefore, the Agency is not promulgating its proposed approach and the final rule does not make such a change to the regulations at 40 CFR 268.5.

DCN PH4P027  
COMMENTS Rollins Environmental  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 027  
COMMENT

RES is also concerned about a change in the "Paperwork Requirements Table". We support the intent of this table, that is to centralize and simplify the LDR paperwork requirements. However, in column 268.7(a)(2) the Agency is not requiring the listing of underlying hazardous constituents (UHC's) on the LDR notification for D001, 2 or D012-43 wastes. These constituents should continue to be listed on this notification.

#### RESPONSE

In the Phase III rule, the Agency changed its requirements for identification of underlying hazardous constituents in characteristic wastes. The change indicated that if the generator or waste management facility was going to analyze for the presence of ALL UHCs in a characteristic waste, then none of the UHCs had to be included in the LDR notification. The Phase IV rule maintains this provision. Therefore if only a subset of UHCs is reasonably expected to be present in a formerly characteristic waste, they must be included on the LDR notification.

DCN PH4P028  
COMMENTS Texas Utilities Services  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 028  
COMMENT

Texas Utilities supports the change in 40 CFR 268.7 related to testing, tracking, and recordkeeping for generators, treaters, and disposal facilities. The proposal would allow a generator to make a one-time notification of a waste's hazardous characteristics so long as those characteristics do not change. This is a "common sense" simplification of the process. In addition, although a 90 day accumulator would still be required to prepare a waste analysis plan, the plan would not have to be submitted to EPA or the state, which would be an administrative and paperwork savings for the agencies and business. Finally, the reduction of LDR record retention requirements from five to three years would benefit those that use surface impoundments for treatment, without having any impact on human health and the environment.

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.



DCN PH4P031  
COMENTER Department of Energy  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 031  
COMMENT

DOE also supports EPA's continuing efforts to clarify and simplify the LDR regulations. Nevertheless, the Department has several comments on the specific regulatory language proposed by the Agency.

III. Improvements to Land Disposal Restrictions Program

III.A. Cleanup of Part 268 Regulations

1. p. 43677, col. 2 -- EPA states that it is proposing to "clean up" existing regulatory language that is outdated, confusing, or unnecessary by clarifying some sections, and by condensing or removing other sections.

DOE supports EPA's continuing efforts to improve and simplify the regulations governing the Land Disposal Restrictions Program. The following comments are provided in response to the specific changes suggested within this proposed rule.

RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.

DCN PH4P031  
COMENTER Department of Energy  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 031  
COMMENT

2. p. 43677, col. 3, Sec. 268.5 -- EPA states that 40 CFR 268.5(e) would be amended to clarify that an applicant could be granted additional time (up to one year) beyond the one-year case-by-case extension to comply with LDR treatment standards. The preamble further indicates that a showing of the need for the additional time would have to be made in the application first submitted for the case-by-case extension.

a. DOE agrees that giving individual waste generators an opportunity to request additional time as part of the application for the original case-by-case extension of the effective date is an appropriate revision to the regulations. An approach of this type could be applied to DOE mixed wastes. For instance, certain mixed waste streams generated by DOE are not presently amenable to treatment using typical hazardous waste treatment technologies, and it is known that more than one year will be required for technology development. Therefore, allowing the application for a case-by-case extension to cover two years would improve the efficiency of the case-by-case extension process.

b. DOE believes that the preamble language which discusses giving individual waste generators an opportunity to request additional time on a case-by-case extension could be misleading. As written, the preamble seems to indicate that additional time may be granted only if requested when first applying for a case-by-case extension. The proposed regulatory language presented at 60 FR 43691, on the other hand, does not contain the limitation implied by the preamble language. In fact, it specifically states that additional time can be requested either in the original application, or at a later date. DOE supports the proposed regulatory language, and requests that EPA clarify, in the preamble to the final rule, its intent with respect to when requests for additional time (beyond a one-year case-by-case extension) may be made.

#### RESPONSE

The Agency has reconsidered its proposal to grant a second-year renewal of a case-by-case extension at the time the petition is made for the extension. Opposing comments stated that allowing renewals to be granted when the petition is granted would be a discentive to the

speedy development of treatment capacity. Therefore, final rule does not incorporate such a change to the regulations at 40 CFR 268.5.

DCN PH4P031  
COMMENTS Department of Energy  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 031  
COMMENT

3. pp. 43677, col. 3 and 43678, cols. 1&2, Sec. 268.7 -- EPA proposes to § 40 CFR 268.7 to reflect changes in LDR notification requirements, to clarify existing LDR notification requirements, and to generally simplify LDR notification requirements. The simplifications proposed include requiring generators to submit notifications to receiving facilities only once for wastes that meet the appropriate LDR treatment standards (i.e., a notice and certification with each shipment would no longer be mandated; if the waste composition or the process generating the waste changes, a new notice and certification must then be submitted) and deleting the requirement that generators submit waste analysis plans to States and Regions.

a. DOE supports EPA's proposal to eliminate the existing requirement for a hazardous waste generator to submit a waste analysis plan to the EPA or authorized state when treatment occurs in an accumulation container, tank or containment building for the purposes of compliance with LDR regulations. This approach will reduce the burden on the generator, as well as on EPA or the authorized state by eliminating the need to review such documents.

b. DOE agrees with removal of the requirement to send a notice and certification to the treatment or storage facility with each shipment of waste that meets the treatment standards. Under the new requirements, a generator (whose waste meets the appropriate treatment standards) will be required to submit a one-time notice and certification to the receiving facility unless the waste stream or process changes. The new requirements will provide major relief from burdensome paperwork requirements.

c. DOE has the following specific comments on the proposed regulatory language for 40 CFR 268.7:

(1) pp. 43691, col. 3 - 43693, col. 3

(a) 40 CFR 268.7(a)(1) -- This rewritten section contains, in part, the following sentences:

In addition, some hazardous wastes must be treated by particular treatment methods before they can be land disposed. These treatment standards are also found in § 268.40 and are described in detail in § 268.42, Table 1. These wastes do not need to be tested. DOE suggests that the last sentence quoted above may cause

confusion in cases where more than one waste code are present in a waste stream, and only one of the waste codes present has a treatment standard that is a specified technology. In such cases, testing may be necessary. DOE requests that EPA revise the quoted language to clarify testing requirements in situations where more than one waste code are present, and the LDR treatment standard for only one waste code is a specified technology.

(b) 40 CFR 268.7(a)(2) – This rewritten section indicates that a generator who determines that its waste does not meet the LDR treatment standards must notify the treatment or storage facility, and the notice must include the information in column "268.7(a)(2)" of the "Notification Requirements Table" in §268.7(a)(4)[emphasis added].

(i) The table in §268.7(a)(4) is actually titled "Paperwork Requirements Table." DOE suggests consistency between the regulatory text and the table. This comment also applies to the proposed §§268.7(a)(3) and 268.7(a)(4).

(ii) Based on existing 40 CFR §268.7(a)(1) [see 60 FR 244-245 (01/03/95)], it seems like a check ( ) should appear next to item 4 in column "268.7(a)(2)" of the Paperwork [sic] Requirements Table in §268.7(a)(4)[requiring the notice to state the date that the waste is subject to the LDR prohibition on land disposal]. DOE requests clarification on whether EPA intended to change the existing information requirement by omitting the check ( ).

(c) 40 CFR 268.7(a)(3) – The first sentence of this rewritten section reads, "If the waste meets the treatment standard: The generator must send a one-time notice and certification to each treatment or storage facility receiving the waste." [emphasis added] In writing the above-quoted sentence, it appears that the existing requirement (see existing 40 CFR 268.7(a)(2)) that the generator provide a notice and certification to land disposal facilities that receive waste meeting the treatment standard (as well as to treatment or storage facilities) was inadvertently omitted. Therefore, DOE suggests that the phrase italicized and underlined above be revised to say, "treatment, storage, or land disposal facility."

(d) 40 CFR 268.7(a)(3) – The second and third sentences of this rewritten section read, "The notice must state that the waste meets the applicable treatment standards set forth in §268.40 or §268.45. The notice must also include the information indicated in column "268.7(a)(3)" of the Notification Requirements Table in §268.7(a)(4)." Based on existing 40 CFR 268.7(a)(2), it seems like checks ( ) should appear next to items 2 and 3 in column "268.7(a)(3)" of the

Paperwork [sic] Requirements Table in §268.7(a)(4) [requiring, respectively, that the notice state the constituents of concern in certain wastes, as well as the wastewater/nonwastewater category and subcategory within the waste code (if any), and include waste analysis data, when available]. DOE requests clarification on whether EPA intended to change the existing information requirement by omitting the checks ( ).

(e) 40 CFR 268.7(a)(3) -- The fourth sentence of this rewritten section reads, "However, generators of hazardous debris excluded from the definition of hazardous waste under §261.3(e)(2) of this chapter are not subject to these requirements."

On March 3, 1992 [57 FR 7628], EPA promulgated an interim final rule which simultaneously removed and reissued 40 CFR 261.3, including the "mixture" and "derived- from" rules. The revised 40 CFR 261.3 included a termination date or "sunset provision" (40 CFR 261.3(e)) for the reinstated "mixture" and "derived-from" rules.

On October 30, 1992, EPA removed the sunset provision (40 CFR §261.3(e)) from the regulations because many commenters on the interim final rule urged the Agency to provide additional time for evaluation of revisions to the "mixture" and "derived-from" rules and expressed concern about the expiration date [see 57 FR 49279]. Since 40 CFR 261.3(e) has been removed from the regulations, and since, even before it was removed, §261.3(e) did not address hazardous debris, DOE believes the reference to §261.3(e)(2) in the above-quoted sentence from proposed 40 CFR 268.7(a)(3) is an error. Based on the existing regulatory language in 40 CFR 268.7(a)(2), DOE believes that the reference in the quoted sentence should be to either 40 CFR 261.3(f)(1) or 261.3(f)(2) [excluding certain hazardous debris from regulation], instead of to 40 CFR 261.3(e)(2).

## RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort. The commenter references to apparent mistakes in the Paperwork Requirements table have been noted by other commenters. EPA is working to eliminate the confusion surrounding the table and will publish a revised table with the final rule. The commenter points out the fact that in 268.7(a)(3), a one-time notification has been required only for generators sending waste to treatment or storage facilities. This notification provision should also apply to generators that send waste to a disposal facility as pointed out by the commenter. This has been corrected in the final rule. The commenter addressed a statement in 268.7(a)(1), claiming that it could be confusing. EPA agrees that this statement could be confusing and that if more than one waste code is

present, testing may be necessary; language has been added to clarify this situation. The commenter correctly pointed out that the 261.3(e) was not the right citation--the citation has been corrected to refer to 261.3(f).

DCN PH4P031  
COMMENTS Department of Energy  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 031  
COMMENT

(f) 40 CFR 268.7(a)(4) -- DOE requests clarification of this rewritten section. Existing regulations at 40 CFR 268.7(a)(3) require generators of hazardous waste that is subject to an exemption from LDR treatment standards (e.g., a case-by-case extension under §268.5, an exemption under §268.6, or a nation-wide capacity variance under subpart C) to include the following information on a notice to any facility receiving the waste:

i. EPA Hazardous Waste Number; ii. Constituents of concern for certain wastes, as well as the wastewater/nonwastewater category and subcategory (if any) within the waste code; iii. Manifest number; iv. Waste analysis data, when available; v. Certain information for hazardous debris that will be treated using the alternative treatment technologies provided by §268.45; vi. Certain information for hazardous debris that will be treated in accordance with the requirements applicable to the contaminating waste; and vii. Date on which the waste is subject to the prohibition on land disposal.

These existing requirements are changed by rewritten section 40 CFR 268.7(a)(4). Specifically, items ii, iv, v, and vi are no longer required. Further, a new requirement for a certification statement has been added. EPA does not discuss or explain these changes in the preamble. Therefore, DOE requests clarification about whether EPA intended to make such changes. Generally, the changes seem appropriate for exempt wastes, and DOE would support them if they are being proposed.

#### RESPONSE

The omission of these data and the requirement for a new certification were intentional changes. EPA considers them to have been proposed through general preamble language and through the regulatory language that the commenter refers to.



DCN PH4P031  
COMMENTS Department of Energy  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 031  
COMMENT

(g) 40 CFR 268.7(a)(4), Paperwork [sic] Requirements Table -- DOE suggests that EPA consider expanding this table to include the paperwork requirements for lab packs.

(h) 40 CFR 268.7(a), Paperwork [sic] Requirements Table (item 2) -- This item, under the "Required Information" column, is worded as follows: "The constituents for F001-F005, F039, and underlying hazardous constituents, unless the waste will be treated and monitored for all constituents (in which case none are required to be listed). The notice must include the applicable wastewater/nonwastewater category (see §§268.2(d) and (f)) and subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanide)."

DOE requests clarification of the first sentence of proposed item 2. Should this sentence be modified to read, "The constituents of concern for F001-F005 and F039 wastes, and underlying hazardous constituents for all characteristically hazardous wastes (as defined by 40 CFR 261.21 - 261.24), unless the waste will be treated and monitored for all constituents (in which case none are required to be listed)" ?

## RESPONSE

EPA agrees with the commenter and applied the new one-time notification provision to lab packs, along with other hazardous wastes that do not meet the treatment standard as generated. The wording of 40 CFR 268.7(a) has been clarified as suggested by the commenter.

DCN PH4P031  
COMMENTS Department of Energy  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 031  
COMMENT

(I) 40 CFR 268.7(a), Paperwork [sic] Requirements Table (item 5)  
-- This item, under the "Required Information" column, provides the wording for a certification statement, but neither the item nor accompanying regulatory text indicates who is required to sign the certification.

DOE suggests that the language of existing 40 CFR 268.7(a)(2)(ii) indicating that the certification must be signed by an authorized representative of the generator be included either in the Table, or in accompanying regulatory text.

#### RESPONSE

EPA has added the information indicating who is required to sign the certification required under 268.7(a)(2)(ii).

DCN PH4P031

COMMENTS Department of Energy

RESPONDER PV

SUBJECT CLNP

SUBJNUM 031

COMMENT

(j) 40 CFR 268.7(a)(5)(iii) -- EPA's proposed language for this section reads: "(iii) Wastes shipped off-site pursuant to this paragraph must comply with the notification requirements of §268.7(a)(4)."

DOE requests verification that the cross-reference is correct. It appears that it should be §268.7(a)(3) (discussing generator notification requirements when waste meets the treatment standard) rather than §268.7(a)(4) (discussing reporting and recordkeeping for wastes that are excepted from treatment requirements).

#### RESPONSE

The commenter is correct, EPA inadvertently referred to 268.7(a)(4) when in fact the reference should be to 268.7(a)(3). This has been corrected in the final rule.

DCN PH4P031  
COMMENTS Department of Energy  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 031  
COMMENT

(m) 40 CFR 268.7(b)(4) -- See comment III.A, item 3.c.(1)(e) above concerning the cross-reference in this section to 40 CFR 261.3(e). It appears that this provision [proposed §268.7(b)(4)] should be revised to refer to §261.3(f).

4. p. 43678, col. 3, Sec. 268.30 - 268.37 -- EPA proposes to remove 40 CFR 268.31 through 268.37, and to replace the existing 40 CFR 268.30 with a new section that identifies the prohibition dates of the wastes covered by the LDR Phase IV rule.

a. The following specific comments are offered in response to the language proposed for new 40 CFR 268.30.

(1) p. 43694, cols. 1-3

(a) 40 CFR 268.30(a) -- DOE requests that EPA confirm that the effective date for the prohibition from land disposal of D004-D011 and F032, F034 and F035 actually should be November 20, 1995 as stated in this section. DOE believes EPA intended this proposed regulatory language to contain the parenthetical "[insert date 90 days from publication of final rule]" rather than an actual date.

(b) 40 CFR 268.30(b) -- DOE requests that EPA confirm that the effective date for the prohibition from land disposal of soil and debris contaminated with F032, F034 and F035 and radioactive wastes mixed with D004 - D011 wastes (as measured by the TCLP) actually should be August 22, 1997 as stated in this section.

DOE believes EPA intended this proposed regulatory language to contain the parenthetical "[insert date two years from publication of final rule]" rather than an actual date.

(c) 40 CFR 268.30(c) -- DOE requests that EPA confirm the correctness of the dates in this proposed section. DOE believes that, in the proposed language, the parenthetical "[insert date 90 days from publication of final rule]" should replace "November 20, 1995" and the parenthetical "[insert date two years from publication of final rule]" should replace "August 22, 1997."

## RESPONSE

The commenter is correct that the cross-reference should be to 261.3(f). In addition, the effective dates of the treatment standards for wood preserving wastes were wrong. These have been corrected in the final rule.

DCN PH4P031  
COMMENTS Department of Energy  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 031  
COMMENT

5. p. 43678, col. 3, Appendices -- EPA proposes amending 40 CFR Part 268, Appendix VI to clarify that characteristic wastes that also contain UHCs must be treated not only by a "deactivating" technology to remove the characteristic, but also treated to achieve the UTS for UHCs.

DOE does not object to the clarification which EPA proposes. However, DOE notes that the treatment standard prescribed raises a troubling issue for deactivation by detonation of explosives(D003) containing toxic metals. In the LDR Phase III proposed rule, EPA proposed modifying the table in 40 CFR 268.40, "Treatment Standards for Hazardous Wastes," to indicate that the LDR treatment standard for both wastewater and nonwastewater forms of "D003 Explosives Subcategory" would be "DEACT and meet §268.48 standards." [60 FR 11702, 11742 (03/02/95)] This proposed treatment standard for the D003 Explosives Subcategory is replicated in the LDR Phase IV proposed language for the table in §268.40. [60 FR 43654, 43694 (08/22/95)] There is no obvious way, in certain explosive wastes, that UHC metals can be treated to meet UTS either before or after deactivation by detonation. Since detonation is the primary method by which explosives are deactivated, DOE perceives this issue to be potentially significant. Therefore, the Department requests the Agency to address this issue and to provide the opportunity for the affected regulated community to submit information for the Agency's consideration.

#### RESPONSE

The Agency has established a treatment standard of "deactivation" with no requirement to meet UTS for UHCs for unexploded ordnance subject to an emergency response. The Agency believes that this treatment standard will expedite treatment of unexploded ordnance in situations that cause imminent threats to human health and the environment. In situations other than an emergency response, UHCs must be treated in characteristic reactive wastes. In cases when it is not possible to treat or confirm compliance with UHC levels, one may petition for a variance from the treatment standard.

DCN PH4P034  
COMMENTS CMA UIC Task Force  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 034  
COMMENT

The UIC Group has worked with EPA in the Agency's development of a regulatory system that is protective of human health and the environment while enabling reasonable mechanisms for timely compliance. We support EPA's efforts to streamline record keeping requirements and to make the land disposal restrictions (LDR) program easier to comprehend by deleting outdated language. EPA continues to work towards eliminating requirements that create additional regulatory burden without providing additional protection of the environment by clarifying the applicability of the de minimis exemption. The UIC Group, however, urges EPA to adhere to the Joint Stipulation agreed to by CMA and EPA on May 28, 1993, which provides exemptions for injection of decharacterized wastes.

#### RESPONSE

EPA first proposed to create a de minimis provision for losses of characteristic wastes in the report entitled "Supplemental Information Concerning the Environmental Protection Agency's Potential Responses to the Court Decision on the Land Disposal Restrictions Third Third Final Rule" prepared for the Notice of Data Availability on the Reponse to the Court Decision, published January 19, 1993. In the report, the Agency requested comments on "whether an approach similar to the mixture rule exception in 40 CFR 261.3(a)(iv)(D) should apply to de minimis losses of ICR [ignitable, corrosive, and reactive] wastes" (emphasis added). Again in this same report the Agency said "Consequently, the Agency is considering an alternative whereby de minimis losses of ICR wastes (emphasis added) to wastewater treatment systems would not be considered to be prohibited wastes." (See page 39.) Confusion has arisen because the language of 261.3(a)(iv)(D) referring to "commercial chemical products or chemical intermediates" rather than specifying "characteristic wastes" was copied into 268.1. The Agency clarified the provision in the regulation of the Phase III final rule by changing 268.1(e)(4) to specify wastes instead of products and intermediates. Unfortunately, in the Phase III Withdrawal Rule published on the same day, a typographical error occurred which indicated that the Agency was withdrawing 268.1(e)—referring to de minimis losses in general—rather than 268.1(e)(4)(ii)—referring to the de minimis losses provision that applied only to underground injection wells injecting decharacterized wastes. Therefore, in the Phase IV final rule the Agency is clarifying that the general de minimis provision of 268.1(e) remains in the regulations and applies to characteristic wastes rather than products or intermediates.

DCN PH4P036  
COMMENTS American Iron & Steel Ins  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 036  
COMMENT

AISI generally supports EPA's proposal to "clean up" the existing LDR regulations at 40C.F.R. Part 268 by clarifying existing provisions, simplifying the current regulatory language, and deleting sections that are outdated or otherwise no longer necessary. See 60 Fed. Reg. at 43,677.

The current LDR regulations are unnecessarily complicated, confusing, and in some cases even misleading. In order to facilitate compliance, it is imperative that the rules be clear, concise, and accurate. Although the Agency's proposal does not achieve this goal completely, it is a significant step in the right direction. Accordingly, AISI urges the Agency to adopt the "housecleaning" amendments to the Part 268 regulations.

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.

DCN PH4P041  
COMMENTS Sterling  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 041  
COMMENT

Also for this reason, we support EPA's proposal to revise the notification provisions of 40 C.F.R. § 268.7 to eliminate the requirement to identify regulated constituents on waste streams injected in Class I wells with approved petitions. These constituents have already been identified in the petition process and a requirement to further analyze and report on these constituents affords no additional environmental benefit--but could impose additional, costly burdens on deep well operators.

#### RESPONSE

The Agency reminds the commenter that the EPA hazardous waste number(s) for any wastes must be included on the one-time notification that is placed in the facility's records, as must the wastewater/nonwastewater category. In addition, the manifest number is included on the one-time notification, and the facility must include when the waste will be subject to LDR prohibitions. The Agency significantly reduced the amount of information required on the notice, however, by eliminating the requirement to put underlying hazardous constituents potentially present in characteristic wastes. It would appear that the commenter is referring to this paperwork reduction, and the Agency thanks the commenter for their interest in and support of the paperwork burden reduction effort.



DCN PH4P047  
COMMENTS Merck  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 047  
COMMENT

Merck supports the Agency's attempt to clean up the existing regulatory language for the LDR program. The regulatory language that currently exists is confusing and as such needlessly complicates compliance efforts. We believe that clarification of this language will help to ensure a high level of compliance in the regulated community and conserve resources. Specifically we support the following changes:

1. Section 268.4 is being changed to clarify that there are no additional recordkeeping requirements in 268.4 over and above what's required by 264.13 and 265.13.  
2. Section 268.5 is being clarified to indicate that an applicant could be granted additional time beyond the one year case-by-case extension;

3. a. Section 268.7 is being modified to clarify what notifications are required and to simplify the regulatory language. It is critical that the Agency ensure that the drafted language actually achieves this objective to prevent further confusion from being added to the program.

The consolidation of generator paperwork requirements into a table at 268.7(a)(4) and treatment facility requirements at 268.7(b)(4) would greatly help the Agency achieve this goal. Consolidation of all requirements from the existing tables at 268.41, 268.42 and 268.43 into a consolidated table will also strongly support this goal.

b. We support the removal of references to the California list and concur with the Agency that there is no longer a reason to evaluate wastes against this list, since most characteristics of the California list wastes are addressed in other treatment standards under LDR.

c. Limiting the notification of the receiving facility to a one time notice for wastes that meet the treatment standards and do not change is an intelligent approach that will still ensure enough information is exchanged for tracking purposes while minimizing the regulatory burden.

d. Section 268.7(a)(8) will allow generators managing wastes in containers, tanks, or containment buildings to only keep the Waste Analysis Plan on-site rather than submitting it to the Agency for review. We believe this proposed change is an intelligent

acknowledgment of the limitations of Agency resources and therefore the need to prioritize them to where they are most needed; and the superior knowledge generators have of the characteristics of their waste. This change is necessary to ensure that wastes are not stored on-site for excessive periods of time awaiting Agency review of Plans. There is adequate guidance available to ensure that Plans address the issues then need to and further support of their adequacy can be assured through inspections by the Agency.

e. Changing record retention times from five to three years will allow companies to manage LDR records with other RCRA records, thus freeing company resources for other RCRA work.

f. The Agency has indicated an intent to change the lab pack notification requirements of 268.7(a)(8) to only include the requirements of 268.7(a)(2), 268.7(a)(6), and 268.7(a)(7) based on the assumption that the alternative treatment standards for lab packs are based on a method of treatment and therefore is no need to know if the wastes are wastewater's or nonwastewaters. We concur with this assumption and support the elimination of any paperwork that is not absolutely necessary.

## RESPONSE

The Agency has finalized the changes pointed out by the commenter, with one exception: no change is being made to 40 CFR 268.5 to allow a renewal to be applied for at the time the petition is made for a case-by-case exemption. Therefore, the regulations at 268.5 remain unchanged. The Agency thanks the commenter for their interest in and support of the paperwork burden reduction effort.

DCN PH4P048  
COMMENTS Chemical Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 048  
COMMENT

1. Section 268.5 - Procedures for case-by-case extensions to an effective date. (60 Fed. Reg. at 43,677)

The Agency is proposing to amend §268.5(e) to clarify an applicant can be granted additional time (up to one year) beyond the one-year case-by-case extension, when the applicant first applies for the extension.

CWM supports this amendment to reflect that the additional one-year extension can be requested and received with the initial application request.

#### RESPONSE

The Agency has reconsidered its proposal to grant a second-year renewal of a case-by-case extension at the time the petition is made for the extension. Opposing comments stated that allowing renewals to be granted when the petition is granted would be a disincentive to the speedy development of treatment capacity. Therefore, final rule does not incorporate such a change to the regulations at 40 CFR 268.5.

2. Section 268.7 - Waste Analysis and Recordkeeping (60 Fed. Reg. at 43677)

CWM supports the Agency's proposal to streamline the waste acceptance procedure by eliminating obsolete (references to 268.41) and inconsistent requirements (e.g., 5 years for record retention) from the existing regulations. It has been CWM's experience that the existing notification/certification requirements of this section do not yield useful information when evaluating methods for managing a restricted waste. Therefore, CWM supports the Agency's efforts to delete non-beneficial paperwork from the hazardous waste regulations. Provided below are detailed comments on each section of the proposed amendments to the LDR recordkeeping requirements.

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden

reduction effort.

a. 268.7(a)(2)

1. California List Applicability

The Agency has proposed to delete any references to § 268.32 and RCRA 3004(d), California List wastes because the Agency believes that existing treatment standards supersede all Statutory standards. CWM generally agrees with the Agency in its evaluation; however, notwithstanding the Agency's desire to make this change the following California List wastes appear to be restricted under RCRA 3004(d): Liquid waste containing greater than or equal to 50 ppm Polychlorinated Biphenyls (PCBs); Liquid or nonliquid wastes with greater than or equal to 1,000 ppm Halogenated Organic Compounds (HOCs) listed in Appendix III; and Liquid waste containing greater than or equal to 134 ppm Nickel or 130 ppm Thallium.

It is CWM's understanding that a hazardous waste (e.g., D002) containing PCBs at greater than 50 ppm must be treated using incineration (INCIN) or fuel substitution (FSUBS). CWM believes that this standard is correct because when there is an inconsistency between RCRA and TSCA regulations, the most stringent standard governs. This citation is found in §761.1(e). A review of both regulations finds that the regulatory standard of INCIN or FSUBS could be construed to be more stringent than existing PCB requirements. Under existing PCB disposal regulations, specific liquid PCB wastes are eligible for disposal in a TSCA approved chemical landfill without undergoing additional treatment. Specific examples include:

Liquid hazardous waste containing PCBs less than 500 ppm which have been treated (i.e., chemically) to render the waste non-liquid.

See § 761.60(a)(3) & .75(b)(8)(ii); and

Containerized liquid hazardous waste containing PCBs less than 500 ppm which meet § 264.314(d).

It is CWM's opinion that requiring a generator to meet a specific treatment technology would be more stringent than the existing PCB regulations which do not require a specified treatment technology.

CWM also requests that the Agency clarify its rationale with respect to why the other California List (i.e., HOCs and specific metals) wastes listed earlier are no longer subject to Statutory restrictions. CWM believes that the California List restriction is applicable to a F005 listed waste which contains greater than 1,000 ppm of HOCs. In this example the waste contains toluene, which was used for its solvent properties, and chloromethane at greater than

1,000 ppm. Past guidance from the Agency has been that the California List HOC standards do not apply where the waste is subject to a part 268, Subpart D treatment standard for a specified HOC. In addition, the Agency has stated that where a hazardous waste contains both HOCs and non-HOC constituents, the waste would be prohibited from land disposal until it has met the treatment standard for both HOC and non/HOC constituents. See 52 Fed.Reg. at 25,773. In this example there is no treatment standard for chloromethane in subpart D. In accordance with the guidance given by the Agency, CWM believes, at a minimum, that such waste would be subject to the 268.42(a)(2) treatment standard of INCIN. Because of the complexity and confusion which has surrounded the California List, CWM strongly recommends that the Agency provide clear and concise guidance as to the applicable LDR regulations for such waste streams.

Further, CWM believes that a liquid waste which is listed as an F006 hazardous waste and contains thallium at greater than 130ppm would be subject to a California Listing restriction. In this example, CWM requests that the Agency determine the waste's applicable LDR standards. Specifically, would the waste require treatment to meet the F006 listing under section 268.40

and to the Statutory level for nickel, or would the waste only be subject to the F006 listing under section 268.40? CWM believes that the waste should only be subject to the 268.40 requirements for nickel under the F006 listing.

CWM does not believe that it is appropriate to assume that all California List standards have been superseded. CWM believes that it is critical that the Agency evaluates whether this unique type of hazardous waste continues to have a treatment standard identified under RCRA 3004(d). CWM believes that it is the Agency's responsibility to provide the regulated community with clear guidance on this complex issue.

If the Agency's review determines that all California List standards have been superseded, the CWM supports the Agency's decision to delete any reference which requires a notification of the treatment standards for these waste. On the other hand, if the Agency determines that specific California List standards continue to exist, CWM recommends that the Agency identify the types of restrictions which may apply and list them. Listing such applicable restrictions should eliminate any future confusion regarding the California List.

## RESPONSE

The Agency continues to believe that all the treatment standards for California List wastes have been superseded by more specific standards (55 FR at 22675; 52 FR at 29993). The Agency believes that the treatment standards for listed hazardous wastes are the most specific. Next would be the characteristic waste treatment standards with their associated treatment standards for underlying hazardous constituents (UHCs).

In 1990, the Agency stated its belief that all standards had been superseded at that time with the exceptions of (1) liquid hazardous wastes that contain over 50 ppm PCBs; (2) HOC-containing wastes identified as hazardous by a characteristic property that does not involve HOCs, as for example, an ignitable waste that also contains greater than 1000ppm HOCs; and (3) liquid hazardous wastes that exhibit a characteristic and also contain over 134 mg/l nickel and 130 mg/l of thallium. These three exceptions have now become subject to more specific standards as explained below. All of the wastes in these examples are subject to the LDR requirement that all UHCs reasonably expected to be present in a characteristic hazardous waste at the point of generation must be treated to meet Universal Treatment Standards (UTS) (and, of course, the hazardous characteristic would also have to be treated prior to land disposal).

What is eliminated under this approach, however, is the requirement in some cases to incinerate the waste rather than treat in any way other than impermissible dilution to meet UTS levels. The Agency does not view this as in any way making the regulations less stringent. The Agency sets methods of treatment when the residues cannot be analyzed to see if they meet UTS, or when the technology is clearly far superior to other types of treatment for a particular waste. Neither of these conditions exist for the examples provided by the commenter. In the case of PCBs, they must meet UTS and then be disposed in a TSCA-approved landfill. The Agency believes that regulations under two statutes are as protective as required incineration of the PCBs. While the Agency once believed that it was necessary to require incineration of high-HOC wastes, it is possible that they can be adequately treated—i.e. treated in a way that destroys or removes these constituents from the waste before disposal—by other technologies to meet the UTS concentration levels. Therefore the California List treatment standards are superseded and are no longer in effect in the RCRA program.

## **2. Notifications required for each shipment**

Existing regulations require that for each shipment of waste a generator must notify the treatment or storage facility in writing of specific information. In an effort to assist the Agency in streamlining the LDR regulations CWM proposes the following option which CWM believes will provide a greater benefit to generators of restricted waste.

The Agency established a notification requirement for each shipment when the first Land Disposal Restrictions were promulgated. See 51 Fed. Reg. at 40,572 (November 7, 1996). Beginning with this

prohibition and continuing through the Phase II LDR rule, the Agency has consistently stated that the disposal facility has the ultimate responsibility in ensuring that all restricted wastes meet applicable treatment standards before being land disposed. This burden has directly effected how commercial hazardous waste management companies develop and maintain waste approval procedures. Waste approval procedures are designed to evaluate whether wastes are acceptable for management. One of the steps in the process to determine whether to approve or disapprove a waste stream for management is to determine what treatment standards are applicable and whether the waste requires treatment. This information must be received prior to shipment in order for a treatment or storage facility to determine if the waste is acceptable for receipt and treatment. The information required in 268.7(a)(1), except for the manifest number, has already been obtained and maintained in a file which identifies the waste stream. This is accomplished through the waste profile and approval process at all CWM facilities. Through this process CWM operations know prior to receipt of the waste whether it requires treatment. Therefore, the notifications submitted by a generator with each shipment only provide redundant information. In addition, the waste stream approval process used by CWM includes a comprehensive review process which provides significant information on the critical physical and chemical parameters of the waste being handled. In fact, the CWM waste stream review and approval process is similar to the recycling tolling agreements which are entered into by small quantity generators (SQGs). Since June 1, 1990 such agreements have allowed SQGs to send a one-time LDR notice to the receiving facility. See existing §268.7(a)(10) for requirements applicable to tolling agreements. The Agency promulgated this minimal notification requirement because of the belief that such tolling agreements provided the receiving facility with sufficient knowledge of the nature of the waste, and that recycled waste was picked up at regular intervals. This fact is also true of hazardous waste which is not destined for recycling. The CWM approval process is used to identify the different waste streams generated by a customer. Like waste streams are managed under one profile. If the waste stream deviates from the parameters established by the waste profile, the deviated waste is required to be profiled differently. The end result is that CWM has obtained the necessary information, prior to shipment, to manage the waste in accordance with permit conditions, LDR regulations, and operational conditions. It is CWM's belief

that a tolling agreement is substantively similar to a well documented waste approval process. The main difference is that the waste approval process provides more detailed on a broader range of materials than most conventional tolling agreements. The test of significant knowledge is easily met. Approved waste are also linked to a business contract which established an arrangement for properly transporting the waste for proper treatment, storage, and disposal.

Therefore, CWM recommends that the Agency amend the regulations under existing § 268.7(a) & (b)(4) & (5) to require a notification and certification be required only with the initial shipment.

Unless the waste stream (e.g., profile) changes, the generator would not be burdened with submitting paperwork and keeping a copy of this paperwork in their files. This will contribute a significant reduction to the burden hour currently mandated by the Agency's requirement to send notices with every shipment. In summary, CWM recommends that the Agency amend section 268(a) to read:

"If the waste does not meet the treatment standard: With the initial shipment of waste to each treatment or storage facility, the generator must notify the treatment or storage facility in writing."

#### RESPONSE

The commenter's suggested language has been considered in writing the regulation.

#### 3. Notification of date waste is subject to prohibition

This requirement was added during the technical amendments to the Phase II LDR rule. Subsequent conversations with personnel from the Waste Treatment Branch confirmed that it was not the Agency's intent to require this information. It was inadvertently added to this section. In addition, this requirement has historically been applicable only to restricted waste which was subject to case-by-case extension, capacity variance, etc.

Therefore, CWM supports the Agency's proposal to delete it from the proposed §268.7(a)(2).

#### RESPONSE



The Agency acknowledges the commenter's support.

#### 4. Paperwork Requirements Table

The Agency has proposed listing the requirements applicable for the different notification forms by addressing each requirement in a table. The concept is good but CWM believes that the check marks used to identify each requirement are hard to distinguish. Therefore, CWM is concerned that a generator or regulator could misread which section is checked. CWM recommends that the Agency add a line, which separates each row in the required information column and each citation column, for easier confirmation of which row is checked.

This proposed table outlines the notification requirements for hazardous debris which will be treated using the alternative treatment technologies identified in §268.45. The Agency proposes to delete the reference that the date of prohibition be listed for each hazardous debris. This requirement was added during the technical amendments to the Phase II LDR rule. Conversations with personnel from the Waste Treatment Branch confirmed that it was not the Agency's intent to require this information for hazardous debris. It was inadvertently added to the debris section. Therefore, CWM supports the Agency's proposal to delete it as a requirement from the existing §268.7(a)(3).

#### RESPONSE

The Agency modified the table to make it easier to read. The Agency acknowledges the commenter's support on the proposed change to the debris requirements.

#### b. 268.7(a)(3)

##### 1. Clarify "naturally" meets

This section is intended to address hazardous waste which at the initial point of generation "naturally" meet treatment standards. The Agency proposes to reduce the notification and certification requirements for generators which have such waste streams from each shipment to a one-time notice. CWM supports this proposal.

CWM recommends that the Agency clarify this requirement to clearly indicate that this section is applicable to restricted

hazardous waste which meet the LDR treatment standards as generated. The proposed language is ambiguous enough that a generator could misinterpret this section. For example, hazardous waste solvents (e.g., F004), when generated do not meet BDAT, may be subsequently mixed with a solid waste. After mixture the resultant waste is physically solid and meets the applicable treatment standards for F004. A generator could mistakenly misread 268.7(a)(3) to mean that they could send a one-time notice to a disposal facility. (This is assuming that the Agency continues to require a notification with each shipment.) Therefore, CWM recommends that the Agency add the following language to this section so that it is clear that the one-time notification is applicable only to nontreated waste:

"If the waste meets the treatment standards at the original point of generation;"

## RESPONSE

The Agency has considered the language suggested by the commenter in the regulation.

### 2. Receiving facility applicability

The language proposed in this section only addresses waste which "naturally" meets treatment standards and will be sent to a treatment or storage facility. If a hazardous waste "naturally" meets BDAT it is highly probable that the waste will be sent directly to a disposal facility.

CWM recommends that the Agency amend the proposed language so that it is clear that this requirement is applicable to generators who send waste which "naturally" meets treatment standards to disposal facilities also. Amending the language to address a disposal facility will eliminate any potential confusion for the regulated community. CWM recommends that the Agency add the following language:

"If the waste meets the treatment standard: The generator must send a one-time notice and certification to each treatment, storage, or disposal facility receiving the waste."

## RESPONSE

The Agency has considered the language suggested by the commenter in the regulation.

### 3. Definition of one-time notice

The Agency has proposed to reduce the frequency which a generator must submit a notification and certification for waste which "naturally" meets applicable treatment standards and is not prohibited from land disposal from every shipment to a one-time notice. CWM supports the Agency's proposal to reduce the frequency of supplying LDR forms. This reduction will greatly reduce the unnecessary burden which generators and TSDF's have in maintaining duplicative records. (See discussion on the necessity to provide LDR notices in section IV.A.2.a.2. above.) In addition, CWM recommends the following clarification to the Agency's approach. The Agency should identify a specific point in time when a LDR notice must accompany the waste. The term one-time is ambiguous and does not reflect whether shipments received prior to the notice meet BDAT. Therefore, CWM recommends that the Agency amend the proposed language to require that the LDR notice and certification accompany the initial shipment. By requiring a generator to certify that the waste meets BDAT with the initial shipment, the generator will assume some responsibility for determining if subsequent shipments of the same waste is prohibited.

Requiring this specific frequency leaves no room for different interpretations. For example, one-time many mean that shipments may be sent for 6 months before a generator provides a certification of meeting treatment. While this time frame may be technically acceptable, CWM does not believe that this is the Agency's intent. Additionally, CWM is very concerned that an inspector with an agency may pursue enforcement action because they believe that the LDR notice should have been send earlier in the example given above. In order to avoid unnecessary resources and costs associated with determining each stat and Region interpretation, the Agency should amend the proposed language to read:

"If the waste meets the treatment standard: The generator must send a notice and certification with the initial shipment to each treatment, storage, or disposal facility receiving the waste."

## RESPONSE

The Agency has considered the language suggested by the commenter in the regulation.

4. Certification required for waste which "naturally" meets BDAT  
The proposed certification for waste which "naturally" meets BDAT has been changed to incorporate language which addresses waste which is exempt from treatment standards. Existing regulations do not require a certification to accompany waste subject to case-by-case extensions or capacity variances. While the Agency may view this change as minor it becomes a very significant issue for commercial hazardous waste management facilities, because certification changes require changes to LDR forms which are used by CWM's customers.

This proposed change will result in a financial loss due to the discarding of thousands of pre-printed forms currently in stock because they cannot be converted in a cost effective manner to include the new certification. Changing a LDR form results in the following: 1) art fees for creating a new master form for mass copying; 2) purchasing existing LDR forms with the incorrect certification currently in stock from the printer; 3) disposal or recycling of the old forms; 4) printing and distribution of the new forms with the new certification; and 5) Computer system changes must be made to LDR information maintained in CWM's waste approval system which will print out completed LDR forms for CWM's customers. While these conditions are favorable for the printing industry it is very costly for the waste management company who provides their customers with LDR forms. CWM does not support the Agency's proposal to change the existing certification language for wastes which "naturally" meet applicable treatment standards. The Agency must understand, that changing one word in a LDR required certification causes CWM thousands of dollars. The last changes in the LDR certification language in the Phase II LDR technical correction (60 Fed. Reg. at 242; January 3, 1995) cost CWM approximately \$3,500. This change occurred after CWM had just received the LDR notifications as a result of the Phase II final rule changes (59 Fed. Reg. at 47,982; September 9, 1995). These changes cost the commercial hazardous waste management industry as a whole thousands of dollars in additional compliance costs which are not beneficial to public health and the environment. In fact, it causes the opposite effect on the environment because natural resources are needlessly utilized.

## RESPONSE

The Agency has reconsidered the certification language as suggested by the commenter, and omitted reference to wastes subject to an exemption.

### c. 268.7(a)(4)

#### 1. Definition of one-time notice

This section addresses notification requirements for hazardous waste that meet certain exemptions which allow the waste to be land disposed without meeting applicable treatment standards. CWM support the Agency's proposal to reduce the frequency of supplying LDR forms from each shipment to a one-time notice. This reduction will greatly reduce the unnecessary burden which generators and TSDF's have in maintaining duplicative records. As noted above, CWM recommends that the Agency identify a specific point in time when a LDR form must accompany the waste. The term one-time is ambiguous and leaves a lot of room for different interpretations to develop.

Thus, CWM recommends that the Agency amend the proposed language to require that the LDR form accompany the initial shipment.

Requiring this specific frequency places some responsibility on the generator to correctly identify the status of their waste under 268 regulations. CWM recommends that the Agency amend the proposed language to read:

"If a generator's waste is so exempt, then the generator must submit with the initial shipment a notice to each land disposal facility receiving the waste."

## RESPONSE

The Agency has considered the language suggested by the commenter in the regulation.

#### 2. New requirement to submit a certification

The Agency's proposed language references the need to submit a certification. When reviewing the informational requirements outlined for exempt waste in the proposed "paperwork requirements table", the Agency has added a requirement to provide a certification for such waste. CWM is concerned that

the Agency is imposing new and additional recordkeeping requirements. Under existing requirements located in § 268.7(a)(3) there is no requirement to provide a certification of any kind to a disposal facility when LDR exempt waste is shipped. Adding a requirement to submit a certification statement for exempt waste, even one-time, contradicts the Agency's attempt to reduce the recordkeeping requirements under the LDR regulations.

New LDR forms maintained by CWM for use by generators will also have to be developed to include the new certification language. As previously discussed above in section IV.A.2.b.4, this proposal, if promulgated, will result in the discarding of thousands of forms currently in stock because they cannot be converted in a cost effective manner to include the new certification. CWM strongly urges the Agency to evaluate the necessity in requiring a new certification. Changing one word in an LDR required certification costs commercial hazardous waste management companies thousands of dollars in additional compliance costs which are not beneficial to public health and the environment. In fact, it causes the opposite effect on the environment because natural resources are needlessly utilized.

Therefore, CWM requests that the Agency delete the checkmark from the proposed paperwork requirements table which identifies that a certification must be submitted with waste subject to an exemption identified under § 268.7(a)(4). Keeping this requirement in the final rule will undermine the Agency's attempt to streamline the LDR process.

## RESPONSE

The Agency has reconsidered the certification language as suggested by the commenter, and omitted language indicating a certification is necessary for wastes subject to an exemption.

### d. 268.7(a)(5)

#### 1. Submittal of mini-WAPs

This section details the requirement for a generator who treats a restricted waste to meet BDAT in a 90-day accumulation tank, container, or containment building. Existing requirements include the submittal of a waste analysis plan (WAP), to the EPA, 30 days prior to conducting treatment. The Agency proposes to delete the requirement for submittal of the WAP, and only require

its availability on-site.

CWM supports the Agency's proposal to delete the requirement to submit a "90-day generator mini-WAP" to the EPA. This will avoid the unnecessary administrative delays currently associated with the requirement for the Agency to review the contents of the mini-WAP. Even though an approval is not required under federal regulations, CWM believes that some Agencies have an internal policy that when a document is required to be submitted, it must be reviewed. These types of policies have discouraged generators from treating their waste on-site. The removal of a requirement to submit such a document provides a simple, self-implementing standard that will help promote innovative treatment technologies.

## RESPONSE

The Agency acknowledges the commenter's support on the proposed change to the 90-day generator WAP requirements.

### 2. Information required for generator treated waste

The proposed section (iii) of § 268.7(a)(5) notes that site generated waste treated in 90-day accumulation units, when shipped off-site, must comply with § 268.7(a)(4). Section §268. 7(a)(4) is applicable to hazardous waste which is exempt from meeting treatment standards. This section requires that a generator submit a certification that the waste meets applicable treatment standards at the point of generation. The date the waste is subject to a prohibition is also required to be identified on the LDR notice. The identification of a prohibited date is not currently required for generators who treat on-site in 90 day units.

CWM believes that it would be more appropriate to reference The proposed §268.7(b)(4)(i) which outlines treatment facility requirements. Since the generator is treating the waste to meet applicable treatment standards under the LDR program, it does not make sense to use a certification which has been developed for use with exempted wastes.

In addition to the certification issue, CWM believes that the Agency should clarify whether a generator, not a commercial treater, who performs partial treatment on a restricted waste is required to use any certification or should a certification be used only when all applicable treatment standards have been met. A review of existing and proposed LDR notification regulations does

not identify a clear direction on whether the generator is required to notify under such circumstances. Provided below are two examples which illustrate the point:

Example number 1 involves a company which generates an electroplating sludge (i.e., F006) which requires treatment for both cyanides and metals. The generator treats the cyanide present in the waste in a 90-day accumulation tank. However, the metals still require treatment and must be sent off-site. Is the generator required to submit a certification that the waste meets a treatment standard? A review of the existing and proposed regulations does not clearly identify how a generator should address such a situation. CWM believes that the most appropriate requirement is to list F006 twice on the LDR notice. After one F006 listing, the generator indicates that the waste requires treatment. After the other F006 listing the generator would supply the certification required by a treatment facility located in existing § 268.7(b)(5)(I).

Example number 2, involves a generator with a hazardous waste which exhibits the characteristic of corrosivity and lead (i.e., D002 and D008). The generator neutralizes the waste for corrosivity in a 90-day accumulation container, which is not subject to CWA discharges, and does not treat the lead compound present to meet BDAT. A review of existing and proposed LDR notification regulations does not identify a clear direction on how the generator is required to notify under such circumstances. CWM believes that the generator in this example should submit with its initial shipment to an off-site treatment or storage facility, the certification required by treatment facilities in § 268.7(b)(5)(iv) of the existing LDR regulations which covers characteristic wastes treated to remove the characteristic, but which contains UHCs that still require treatment. Although this certification does not exactly correspond with the example provided it appears to be the most appropriate of the existing certifications.

In an effort to assist the Agency in its objective of providing streamlined regulations, CWM recommends that the Agency amend the proposed language in §268.7(a)(5)(iii) to read:

"Wastes shipped off-site pursuant to this paragraph must comply with the notification certification requirements of §268.7(b)(5)(I) if all applicable treatment standards have been met, or the certification requirements of §268.7(b)(5)(iv) if UHCs require treatment in decharacterized waste."



## RESPONSE

The commenter's suggestion that the certification used for treatment facilities is more applicable to generators treating in 90-day tanks than the one that has been required (for generators) for several years is beyond the scope of this rulemaking. It will, however, be further considered by the Agency in future rulemakings. The Agency prefers not to address specific examples of the applicability of the regulations (as submitted by the commenter) in this Response to Comments Document. Rather, if these examples are raised in a letter to the Agency, interpretations of the regulations will be made.

### e. §268.7(a)(8)

The Agency has proposed to reduce the record retention period for LDR notices from 5 years to 3 years. CWM supports the Agency's proposal to require LDR information to be retained onsite for 3 years from the date such information was generated. This will simplify LDR record retention requirements by making them consistent with other hazardous waste record retention requirements.

## RESPONSE

The Agency acknowledges the commenter's support on the proposed change to the record retention requirements.

### f. §268.7(a)(9)

#### 1. Notification requirements for lab packs

This section outlines the requirements for lab packs which are eligible to use the alternative treatment standard of incineration. In sum, the Agency proposes that there is no need to identify whether a lab pack contains hazardous debris or wastes which are wastewaters/nonwastewaters (WW/NWW), because the alternative treatment standard is a specified technology. See 60 Fed. Reg. at 43,678. CWM agrees with the Agency's proposal and the need to delete the requirement to provide this information. However, the proposed language in § 268.7(a)(9) notes that with each shipment the generator must comply with paragraph (a)(2). One of the requirements in this paragraph is the need to

identify applicable WW/NWW categories. The Agency must correct this error or the Agency's intent to reduce useless information will not be implemented. CWM recommends that the Agency amend The proposed language in § 268.7(a)(9).

Further, CWM recommends that the Agency delete the general requirement under § 268.7(a)(9) to identify the applicable subcategory would be the same as why it is appropriate to delete the WW/NWW category. Restricted waste placed into a lab pack which are eligible for the specified technology or incineration (INCIN) do not have numerical standards to meet.

Therefore, there is no need to identify what subcategory the waste meets. It is also important to note that streams are not prohibited from placement into a non-Appendix lab pack by subcategory. Again, the need to identify a subcategory is needless when the treatment standard is a specified technology.

In summary, CWM recommends that the Agency amend The proposed language in § 268.7(a)(9) to read as follows:

"If a generator is managing a lab pack waste... the generator must submit a notice to the treatment facility in accordance with paragraph (a)(2) of this section, except for The identification of wastewater/nonwastewater categories and waste specific subcategories (such as D003 reactive cyanide)."

## RESPONSE

The Paperwork Requirements Table 1 has been changed to include a column for lab packs. It should be noted that there are no requirements to identify the waste constituents or subcategories for the hazardous wastes placed in a lab pack.

### 2. Lab pack certification

This section requires that a generator use a specific certification when a lab pack will be managed using the alternative treatment standard of incineration (INCIN). The language for the certification has changed several times during the last year. A review of The proposed language reveals that the Agency has once again changed the certification language. The proposed language is the same language which was promulgated on September 19, 1994 under the Phase 11 LDR rule. See 59 Fed. Reg. at 48,045. On January 3, 1995 the Agency published technical amendments to the Phase 11 LDR rule and changed the certification language for lab packs. See 60 Fed. Reg. at 245.

CWM does not believe that there is any positive environmental benefit related to these changes. As noted in earlier comments, insignificant changes to the wording of a certification cause the commercial hazardous waste industry significant costs to create new LDR forms and buy back and recycle existing inventory. In addition, the confusion which is created in the regulated community is unnecessary. Therefore, CWM strongly urges the Agency to amend the proposed lab pack information so that it is identical to the January 3, 1995 technical amendment version. To do otherwise will unnecessarily heap huge amounts of paperwork burden and cost on the regulated community.

## RESPONSE

The Agency is finalizing the certification language as proposed. The primary difference in language advocated by the commenter and the language that is being finalized is that the final language includes a statement that the lab pack is being sent to a combustion facility for treatment. Other commenters requested this language be added to the certification, convincing the Agency that it is important to certify that the treatment method required by the lab pack alternative treatment standard is being carried out.

### 9. §268.7(b)

#### 1. California List Applicability

The LDR notification and certification requirements for facilities treating hazardous waste, in accordance with standards established under 268, are outlined in this section. The most significant proposed amendment identified is the removal of the contents of existing § 268.7(b)(2) which reference the California list wastes. As CWM commented in section IV.A.2.a.1. above, the Agency must first determine whether any hazardous wastes continue to compel application of the California List statutory label. If the Agency determination is legally binding it can delete all references to California List waste. CWM would support the conclusion.

## RESPONSE

The Agency believe that all the treatment standards for California List wastes have been superseded by more specific standards (55 FR at 22675; 52 FR at 29993). The Agency believes

that the treatment standards for listed hazardous wastes are the most specific. Next would be the characteristic waste treatment standards with their associated treatment standards for underlying hazardous constituents (UHCs).

The Agency stated in the In 1990, the Agency stated its belief that all standards had been superseded at that time with the exceptions of (1) liquid hazardous wastes that contain over 50 ppm PCBs; (2) HOC-containing wastes identified as hazardous by a characteristic property that does not involve HOCs, as for example, an ignitable waste that also contains greater than 1000ppm HOCs; and (3) liquid hazardous wastes that exhibit a characteristic and also contain over 134 mg/l nickel and 130 mg/l of thallium. These three exceptions have now become subject to more specific standards as explained below. All of the wastes in these examples are subject to the LDR requirement that all UHCs reasonably expected to be present in a characteristic hazardous waste at the point of generation must be treated to meet Universal Treatment Standards (UTS) (and, of course, the hazardous characteristic would also have to be treated prior to land disposal).

What is eliminated under this approach, however, is the requirement in some cases to incinerate the waste rather than treat in any way other than impermissible dilution to meet UTS levels. The Agency does not view this as in any way making the regulations less stringent. The Agency sets methods of treatment when the residues cannot be analyzed to see if they meet UTS, or when the technology is clearly far superior to other types of treatment for a particular waste. Neither of these conditions exist for the examples provided by the commenter. In the case of PCBs, they must meet UTS and then be disposed in a TSCA-approved landfill. The Agency believes that regulations under two statutes is as protective as required incineration of the PCBs. While the Agency once believed that it was necessary to require incineration of high-HOC wastes, it is possible that they can be adequately treated— i.e. treated in a way that destroys or removes these constituents from the waste before disposal — by other technologies to meet the UTS concentration levels. Therefore the California List treatment standards are superseded and are no longer in effect in the RCRA program.

## **2. Characteristic waste with UHCs**

The Agency has proposed to require the identification and treatment of applicable UHCs for D004-D011 characteristic wastes. CWM provides comments regarding its disagreement with requiring UHC treatment standards for characteristic metal wastes later in this document. If the Agency finalizes this approach, CWM recommends that the Agency amend existing § 268.7(b)(5)(iv) to reference D003-D011. This section requires a specific certification to be filed when the characteristic has been removed but UHCs still require treatment. The addition of these waste codes will clarify what LDR notification and certification requirements are expected for characteristic waste.

CWM recommends that the Agency amend the existing language in §

268.7(b)(5)(iv) to read as follows:

"For applicable characteristic wastes D001-D043 that are:

The word "applicable" should be added because not all characteristic hazardous waste is subject to treatment standards for UHCs. For example, D002 waste which is managed in a CWA regulated unit is not subject to UHC identification. This wording would help clarify which characteristic waste is subject to this section.

#### RESPONSE

The Agency is not finalizing treatment standards--including requirements to treat UHCs--for toxic characteristic (TC) metal wastes in this final rule. The commenter's suggestion will be considered in the context of the Phase IV final rule that will be promulgated in April of 1998, when treatment standards for TC metal wastes will be finalized.

#### h. §268.7(b)(4)(iii)

This section outlines the requirements for a treatment facility which treats organic wastes and uses the analytical detection limit as an alternative means of verifying compliance without analytical problematic constituents. The proposed language references §268.43(c) which was deleted and moved as a result of the Phase II LDR final rule. See 59 Fed. Reg. at 48,046. The alternative means is now located under §268.40(d). In an effort to assist the Agency in their review of deleting and replacing obsolete citations, CWM recommends that the Agency add the citation §268.40(d). in place of the obsolete citation of §268.43(c)". This will ensure consistency and eliminate confusion from the regulated community.

#### RESPONSE

The commenter's suggestion has been incorporated into the final rule.

#### i. §268.7(c)(1)

This section outlines the requirements for the disposal of recyclable material used in a manner constituting disposal. The existing regulation references that such facilities must comply with the generator standards (paragraph a) or treatment standards (paragraph b) of §268 which are applicable. The proposed section eliminates the reference for complying with treatment

standards (paragraph b). CWM does not fully understand why this reference has been omitted and the Agency does not explain why it is appropriate to delete such a requirement. Therefore, CWM believes that it was an inadvertent omission and recommends that the Agency add this reference to the final section.

## RESPONSE

The commenter's suggestion has been incorporated into the final rule.

### 3. Section 268.9 - Special rules regarding wastes that exhibit a characteristic.(60 Fed. Reg. at 43,678)

a. The Agency proposes to amend 268.9(a) and (b) to clarify how wastes should be identified when they are both listed and exhibit a hazardous characteristic. Existing regulations require that for the LDR notification a waste must be identified as a listed waste and also as a characteristic waste, unless the listed waste has a treatment standard for the constituent or addresses the hazardous characteristic that causes the waste to also be characteristically hazardous. If the listed waste has treatment standards that address all characteristics, then the characteristic waste codes do not apply.

CWM generally supports this clarifying change to 268.9(a) & (b); however, because the Agency did not print the proposed changes to paragraph (b) (See 60 Fed. Reg. 43,694) CWM cannot comment on the specific change. Therefore, CWM recommends that the language in paragraph (b) stay the same. CWM recommends this because CWM believes that the language in paragraph (b) adequately conveys the requirements.

In addition, CWM believes that the Agency should provide three clear examples of the clarification in the final rule preamble discussion. Examples are the best means of providing guidance. CWM has three examples it recommends the Agency use. Example #1 involves the waste code K061 which contains lead at greater than 5.0 ppm determined by TCLP. Since K061 has a treatment standard for lead, the D008 characteristic for lead would not apply.

Example #2 involves a waste stream that has specified technology for its treatment standard. For example, U042 (2-Chloroethyl vinyl ether) has a specified technology of INCIN, and exhibits the characteristic of Ignitibility (D001) because it has a flash point of 8°F. Because the specified technology of

INCIN is listed in 268Appendix VI as a technology available for Deactivating (DEACT) a characteristic waste, CWM believes that the proper assignment of a waste code would be UO42. There is no need to add D001. As the Agency can see, this example is not as obvious as the first.

Example #3 involves the applicability of D001 to a F003, F005solvent waste that exhibits the characteristic of ignitability. The Agency stated in a September 28, 1994, letter to Ms. Susan Prior, Laidlaw Environmental Services, that for land disposal restriction purposes that for F003, F005 solvent wastes that exhibit the characteristic of ignitability that the waste should also be identified as D001 (See Attachment 1). CWM agrees with this position, however, because this guidance was issued in a letter CWM requests that the Agency include this example in the preamble discussion. CWM urges the Agency to provide these three examples in the final rule preamble discussion because many in the generating community still do not understand these principles.

#### RESPONSE

The commenter's suggestion has been incorporated into the final rule.

b. The amendment to paragraph (d)(1)(ii) is to clarify that if all underlying hazardous constituents, reasonably expected to be present in a characteristic waste, are monitored by the treatment facility then the generator is not required to list any of the UHCs on the LDR notification. If, however, a subset (e.g. 230 of 240 UHCs) will be monitored then all constituents must be included on the LDR notification.

CWM believes that this requirement should be modified to include less notifications when a subset group of UHCs cannot be accepted at a treatment facility. CWM continues to believe that this requirement provides no meaningful environmental benefit. For example, an incinerator may not be permitted to accept a subset of codes or constituents (e.g., dioxin and furan wastes) for thermal destruction. As a result of this permit requirement each generator is asked during the preacceptance process whether the waste stream contains dioxins and furans. If the waste stream contains these compounds the waste stream is not accepted for processing. The facility evaluates its treatment residues for all other 268.48constituents after treatment. Because the facility

does not monitor for six dioxin and furan compounds each generator is required to send in additional documentation identifying all UHCs present in the waste stream. CWM believes that is unreasonable when The facility already knows that the six dioxin and furan compounds are not present in the waste through the approval process. The facility should be able to accept these waste streams without the additional burden imposed to require additional UHC documentation that provides no additional environmental benefit. CWM urges the Agency to reevaluate this issue especially in the case of permit restrictions.

## RESPONSE

EPA continues to look for ways to further reduce paperwork burden; however, in order to ensure that the Agency's ability to protect human health and the environment is not compromised by these changes, we are only implementing those changes that have been thoroughly analyzed and which have been previously proposed. As stated previously, the Agency will continue to implement changes to the paperwork requirements where practicable and your suggested changes will be evaluated during this process

### 4. Section 268.30 - 268.37 (Fed. Reg. at 43,678)

The Agency is proposing to remove 268.31 through 268.37 because the treatment standards for wastes in these sections are now in effect, and all of these wastes are now prohibited from land disposal. Thus, the sections are no longer necessary. In addition, the Agency is proposing to replace old 268.30 with a new section that provides the prohibition dates of the wastes included in this proposal.

CWM does not support the Agency's proposal to remove these sections. CWM believes that these sections provide useful historical information, and that the removal of these sections will give the appearance that the wastes are no longer prohibited. Therefore, CWM urges the Agency to maintain these sections.

As an alternative CWM recommends that the Agency remove Subpart B to 268 which contains the schedule for land disposal restrictions. CWM believes that removing 268.10, 268.11, and 268.12 will result in a clearer, simpler revision.



## RESPONSE

The Agency has updated Appendix VII and Appendix VIII to Part 268 to include the effective dates of treatment standards for all prohibited hazardous wastes, therefore the prohibition language for the earlier LDR rulemakings is no longer necessary. The sections have been superseded or have been deleted as proposed. EPA disagrees with the commenter's drafting suggestion since the California List wastes are all prohibited, just under other provisions. Since the California List was meant as a stop-gap until these later prohibitions took effect (as noted by EPA in a number of places such as the Third Third rule preamble), eliminating the California List prohibition now that the other rules have been promulgated makes sense. Furthermore, sections 268.10, 268.11, and 268.12 were removed in a previous rulemaking.

### 5. Part 268 Appendix I - TCLP

The Agency is proposing to remove Appendix I, because the TCLP test method reference to SW-846 will be incorporated into the text of the regulatory language.

CWM supports this proposed change.

## RESPONSE

The Agency acknowledges the commenter's support for this change in the regulations.

### 6. Part 268 Appendix II - Treatment Standards (As Concentrations in the Treatment Residual Extract).

The Agency is proposing to remove Appendix II to Part 268 because it incorrectly refers to treatment standards in 268.41, 268.42, and 268.43, and there is no longer a need to reference the solvent treatment standards.

CWM supports this proposed text removal.

## RESPONSE

The Agency acknowledges the commenter's support for this change in the regulations.

### 7. Part 268 Appendix 11 - List of Halogenated Organic Compounds Regulated Under 268.32.

The Agency is proposing to remove Appendix 111 which contains

alist of halogenated organic compounds regulated under 268.32 because the California List treatment standards have been superseded by Universal Treatment Standards, thus there is no longer a need for a listing of halogenated organic compounds because they are California List wastes. CWM disagrees with the Agency's statement that all California List treatment standards have been superseded by the Universal Treatment Standards, and that there is no longer a need for a listing of halogenated organic compounds. CWM believes that the California List requirements are still in effect. (See the previous discussion regarding 268.7(a)(2) on page 5 of these comments ). For example, if a K061 contains any of the halogenated organic compounds listed in appendix 111, that are not characteristically hazardous, in a quantity greater than 1000 mg/kg then pursuant to 268.42(a)(2) the waste must be incinerated in accordance with the requirements of 40 CFR part 264. Subpart O or 265 Subpart O. Because California List HOCs can still require a waste stream to be incinerated under California List CWM believes that the Agency must maintain the list of California List HOCs in Appendix III to part 268. As stated in earlier comments CWM would support to Agency's final determination if the Agency determines that statutorily California List requirements are no longer in effect. If the Agency makes this determination it must ensure that clear guidance is provided to the regulated community.

## RESPONSE

The Agency believes that all the treatment standards for California List wastes have been superseded by more specific standards (55 FR at 22675; 52 FR at 29993). Therefore, Appendix II has been removed from Part 268.

8. Part 268 Appendix VI - Recommended Technologies to Achieve Deactivation of Characteristics in Section 268.42  
The Agency is proposing to amend Appendix VI to clarify that characteristic wastes that also contain UHCs must be treated not only by a "deactivating" technology to remove the characteristics, but also treated to achieve the UTS for UHCs. CWM supports this language clarification.

## RESPONSE

The Agency acknowledges the commenter's support for this change in the regulations.

### 9. Part 268 Appendix VII - Effective Dates of Surface Disposed Wastes Regulated in the LDRs

The Agency is proposing to remove Appendix VII because all of the wastes listed in the table have treatment standards now in effect, thus there is no need to know the effective dates.

CWM supports this proposed change.

## RESPONSE

Other commenters requested that this Appendix be retained, especially because Subpart C is being revised to accommodate the newly listed and identified wastes for which treatment standards are being promulgated in recent rulemakings. Therefore, the Agency has updated Appendix VII to Part 268 to include the effective dates of treatment standards for all prohibited hazardous wastes.

### 10. Part 268 Appendix VIII - National Capacity Variances for UIC Wastes

The Agency is proposing to remove Appendix VIII because the effective dates for these wastes when deep well injected are past and are no longer needed.

CWM believes that the current list of wastes in Appendix VIII can be removed; however, because the Agency is proposing national capacity variances for deep well injected Phase IV wastes the Appendix should be maintained. The appendix should then list the Phase IV wastes subject to a UIC capacity variance.

## RESPONSE

Other commenters requested that this Appendix be retained, especially because Subpart C is being revised to accommodate the newly listed and identified wastes for which treatment standards are being promulgated in recent rulemakings. Therefore, the Agency has updated

Appendix VIII to Part 268 to include the effective dates of treatment standards for all prohibited hazardous wastes being deepwell injected.

**11. Part 268 Appendix IX - Extraction Procedure (EP) Toxicity**

The Agency is proposing to remove Appendix IX because as of this proposed rule all characteristic metal treatment standards are based on toxicity using the TCLP rather than the Extraction Procedure (EP).

CWM supports this proposed change.

**RESPONSE**

The Agency acknowledges the commenter's support for this change in the regulations.

**12. Part 268 Appendix X - Recordkeeping, Notification, and/or Certification Requirements.**

The Agency is proposing to remove Appendix X because it summarizes paperwork requirements that are proposed to be changed in the Phase III proposal and this proposal.

CWM believes that the Agency's proposed tables in 268.7(a) and(b) that discuss the regulatory requirements would allow for the removal of Appendix X if the tables are finalized as CWM has previously commented under IV.A.2.a.4 on page 11 of these comments.

**RESPONSE**

The Agency acknowledges the commenter's support for this change in the regulations.

DCN PH4P052

COMMENTS Pacific Gas & Electric

RESPONDER PV

SUBJECT CLNP

SUBJNUM 052

COMMENT

Pacific Gas and Electric Company (PG&E) supports the simplification of the Land Disposal Restriction (LDR) notification requirements. PG&E appreciates the opportunity for comment on EPA's LDR Phase IV Proposal (60 Fed. Reg. 43654 (August 22, 1995)). The proposed administrative changes to the LDR requirements would eliminate several unnecessary regulatory burdens while facilitating compliance with the LDR regulations. In particular, PG&E supports the following proposed changes:

Modification of the regulations to require that a generator whose waste meets the appropriate treatment standard need only supply a one-time notification and certification to the disposal facility, unless the waste composition changes. 60 Fed. Reg. at 43678.

Elimination of the requirement that a facility treating waste in a 90-day accumulation unit to meet treatment standards must first submit a waste analysis plan ("WAP") to EPA or an authorized state for approval. Id.

Reducing the LDR record retention time from five years to three years. Id.

These proposed modifications will greatly assist in streamlining the LDR requirements. In addition, EPA proposes to allow small quantity generators with contractual agreements in place for the reclamation of their waste, to be subject to reduced certification and notification requirements, provided that the agreements comply with 40 C.F.R. § 262.20(e). Id. at 43693(proposed 40 C.F.R. § 268.7(a)(10)). PG&E believes that this reduced set of requirements should be equally applicable in situations where large quantity generators have tolling agreements in effect, and therefore, should be extended to cover such arrangements. Extending the scope of this reduced set of requirements will have the desirable benefit of encouraging agreements for hazardous waste reclamation by reducing the administrative burdens currently associated with such transactions.

## RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort. In reference to the commenters suggestion regarding LQGs, the LDR provision

pertaining to small quantity generators with tolling agreements was designed to capture the same universe as those captured by § 262.20(e), generators of more than 100 but less than 1000 kg of hazardous waste per year, thus it is not appropriate to extend the provisions of § 268.7(a)(10) to large quantity generators. The Agency has provided relief to large quantity generators, however, by changing the requirement to provide LDR notices and certifications with each shipment of hazardous waste to a one-time notice and certification, provided the waste does not change and the receiving facility does not change.

DCN PH4P056  
COMMENTS Westinghouse  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 056  
COMMENT

Issue 2: Improvements to Land Disposal Restrictions  
Program Reference: Preamble at Section III.A.3., regarding Section  
268.7, page 43678

Comment #1 EPA requested comments on deleting the requirement that  
generators submit waste analysis plans in §268.7(a)(5) to the  
states and the regions. We support deleting the requirement  
because it does not provide additional protection of human health  
or the environment. Regulators will still  
be able to inspect the site and obtain copies of generator related  
documentation. The proposed change will make generator waste  
analysis plan requirements consistent with requirements associated  
with contingency, training, or inspection plans, none of which  
have to be submitted for review.

Comment #2

The EPA solicited comment on whether labpack information  
requirements should be reduced. Westinghouse supports EPA's  
initiative to eliminate unnecessary paperwork requirements for  
labpacks.

## RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden  
reduction effort. EPA appreciates your comments on the elimination of unnecessary  
paperwork requirements for labpacks and has decided to promulgate the proposed change to a  
one-time notice and certification for labpacks that contain the same hazardous waste each time  
that are shipped to the same treatment facility in the final rule.

DCN PH4P056  
COMMENTS Westinghouse  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 056  
COMMENT

Issue 6: Regulatory Language Found in Section 268.1 Reference:  
Regulatory test at page 43691

In order to prevent the imposition of LDR on the beneficial reuse of biosolids by land application, an additional exemption should be added to Section 268.1 stating: "Sludges regulated under 40 CFR 503 are exempt from Part 268."

#### RESPONSE

The commenter's suggestion is beyond the scope of this final rule, therefore, no change has been made.

Issue 7: Recordkeeping Requirements Reference: Regulatory text at page 43691-43692

Section 268.7 describes frequencies for notifications and certifications (one-time or with each shipment). Westinghouse recommends that EPA add clarification to these frequencies to account for situations where all phases of management are under a single EPA/state identification number. For example, if a waste movement is defined as an off-site shipment because it is being shipped on a public right-of-way, but is being sent to a TSD unit which operates under the same EPA/state ID number as the generator and the transporter on contiguous property, did EPA intend for the notification and certification requirements pertaining to that shipment to be as if the shipment was being made to another entity with a separate EPA/state ID number? In this cause, the same permittee may be the generator, transporter, treater, and disposer of the waste but the waste was moved on a road that may classify the movement as an off-site shipment. Westinghouse manages several DOE sites which store significant quantities of mixed waste in accordance with the Federal Facility Compliance Act. When the waste is treated and disposed, will the sites be subject to the certification and notification requirements that describe the frequency of "each shipment" even though the waste is completely managed on-site? This information



was intended for off-site shipments and did not consider how long mixed wastes would have to be stored until sufficient treatment and disposal technologies are available. What certification frequency is appropriate for several thousand waste drums which are removed from storage and treated on a batch basis? Should the owner/operator look at compliance with the certification requirements on a per-batch basis as waste is removed from storage, or can the owner/operator look at the waste stream as a whole to eliminate unnecessary paperwork? Furthermore, does each treated drum require sampling to determine whether a concentration-based treatment standard is met, or can compliance with the treatment standard be based on a per-batch basis?

#### RESPONSE

The Agency prefers not to address specific examples of the applicability of the regulations (as submitted by the commenter) in this Response to Comments Document. Rather, if these examples are raised in a letter to the Agency, interpretations of the regulations will be made. EPA believes as a general matter that responding to questions such as these without a specific factual context can lead to confusion or error, and consequently declines to do so here.

Issue 8: Regulatory Language Found in Section  
268.7(a)(3)Reference: Regulatory text at page 43692  
Throughout the proposed text of 40 CFR 268.7, reference is made to  
40 CFR 261.3(e). The correct reference should be 261.3(f).

#### RESPONSE

The Agency has corrected this error in the final rule.

DCN PH4P064  
COMMENTS Dow Chemical  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 064  
COMMENT

Dow supports the proposed improvements to the Land Disposal Restrictions program. We appreciate EPA's efforts to clean-up and clarify outdated, confusing, or unnecessary language.

In particular, we approve of the changes proposed for 268.7 that eliminates redundancy or removes obsolete material and simplifies the requirements for generators. A one-time notification and certification to the receiving facility for those wastes that meet the appropriate treatment standard, is a definite improvement over the current system. The decision to change the record retention time period in 268.7(a)(8) from five years to three years is a significant improvement that will minimize confusion over recordkeeping and will be consistent with the manifesting recordkeeping requirements.

Dow supports the change found in 268.9 that states that if all underlying hazardous constituents reasonably expected to be present in a characteristic waste will be monitored, then the generator need not list any of them on the LDR notification.

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.

DCN PH4P074  
COMMENTS DOD  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 074  
COMMENT

DoD is highly supportive of EPA efforts to simplify LDR requirements. While the suggestions made in this section of the proposed rule are minor simplifications, DoD does support this step in the right direction. DoD agrees that the proposed changes in this section make the reading of the LDR regulations more straightforward. Additionally, the streamlined notification and reduction to a three-year records retention period is very helpful for a large organization such as DoD. DoD does want to mention the following points:

a. Proposed 40 CFR 268.7(a)(4) now contains a certification requirement which was not present in the previous corresponding section of 268.7 (a)(3). The proposed rule discusses a streamlining measure for this section, but fails to explicitly mention that a certification requirement is being added. 60 Federal Register at 43678. DoD requests EPA to specifically request comment on whether a certification requirement should be added. DoD does support the one-time notification streamlining concept proposed.

#### RESPONSE

The Agency did not intend to add a certification requirement at 40 CFR 268.7(a)(4), and any indication that a certification is required has been removed from the regulatory language in the final rule. The Agency acknowledges the commenter's support of the one-time notification concept.

b. Proposed 40 CFR 268.5 (iii) refers to proposed 268.7(a)(4). Did EPA mean instead to refer to proposed 268.7(a)(3), as this section would correspond to the previous edition of the regulation? If EPA is changing the reference in proposed 268.5(iii), DoD requests EPA to explain why this changed reference is suggested and allow for public comment on this issue after EPA's explanation.

#### RESPONSE

The commenter has found an inadvertent error in the proposed rule, however, the proposed language at 40 CFR 268.5 has been removed because the Agency is not finalizing that provision in this final rule. There is, therefore, no cross reference to 268.7 in today's rule.

c. In proposed 268.7(a)(9), the certification language omits the previously used phrase, "...or solid wastes not subject to regulation under 40 CFR part 261." DoD requests EPA to explain why this change in certification language is requested and to allow for public comment after EPA's explanation. This certification should be amended to include the phrase, "...based on knowledge and belief," at the beginning of the certification.

#### RESPONSE

The Agency does not believe that the language suggested by the commenter is appropriate, and is therefore not incorporating it into the final rule. The commenter asks why the certification omits the phrase, "...or solid wastes not subject to regulation under 40 CFR part 261." This change was made in the technical amendments to the Phase II final rule. The explanation given at that time was: "The certification language that reads '*or solid wastes not subject to regulation under 40 CFR part 261*' is being removed and is no longer considered necessary, because the regulated community has in appendix IV a list of wastes that are prohibited from placement in a lab pack. The Agency believes that deleting this statement is not a substantive change, but rather alleviates unnecessary language."

DCN PH4P075  
COMMENTS Elf Atochem  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 075  
COMMENT

Elf Atochem believes that both the current and proposed LDR notification requirements are far more burdensome than necessary to ensure compliance with substantive LDR requirements. Specifically, Elf Atochem believes that both the existing and proposed LDR notification provisions impose substantial information tracking requirements that serve no useful purpose.

EPA has already taken steps to reduce unnecessary LDR paperwork burdens by limiting the requirement that LDR paperwork track individual underlying hazardous constituents. EPA SHOULD now provide additional relief by eliminating the requirement to track waste codes and treatability groups for characteristic wastes that have been "decharacterized" but that remain subject to UTS treatment requirements. In lieu of the need to track waste codes and treatability groups related to nonhazardous wastes or residues, it should be sufficient to track only the fact that UTS treatment standards apply. This seemingly modest amount of streamlining would provide enormous regulatory relief in some situations, without compromising the Agency's ability to ensure compliance with substantive LDR requirements.

The need for such relief is graphically illustrated in the case of residues from carbon regeneration. Briefly, Elf Atochem manufactures and supplies activated carbon for use in a variety of waste treatment and manufacturing process applications. As an additional part of this business, Elf Atochem accepts spent activated carbon generated by its customers, regenerates the carbon in a rotary kiln, and sells the regenerated activated carbon for reuse. Because the regeneration of spent activated carbon produces residual materials (ash and baghouse dust) that are ultimately disposed of in a landfill, LDR requirements may be triggered.

The difficulty Elf Atochem faces is that the specific LDR treatment requirements that apply to residues from the regeneration of spent activated carbon appear to include any LDR requirements that may have attached at the point of generation to any characteristic ancestor waste that is traceable to the residue in question. The problem is aggravated by the fact that activated carbon is often used to treat commingled wastes, and that spent

carbon from a wide variety of sources is then commingled for regeneration. Consequently, in order to identify the specific constituents for which treatment is required, it appears that it may be necessary to identify all of the sources of the spent carbon from which regeneration residues are derived, to identify all of the wastes treated with each of those individual sources of spent activated carbon, to identify all of these wastes (and all of their ancestors) that exhibited hazardous characteristics at their point of generation, and to identify all underlying hazardous constituents that were present in such distant-ancestor characteristic wastes at their point of generation.

Fortunately, the book-keeping needed to track individual underlying hazardous constituents can be eliminated if testing is performed to ensure that residues meet UTS levels for all UTS constituents prior to land disposal. See 60 Fed. Reg. at 43,678 col. 2. In effect, it is possible to ensure substantive compliance - without the need for complex compliance evaluation - through the expedient of assuming that every UTS constituent is an underlying hazardous constituent that requires treatment.

Unfortunately, it appears that substantial compliance evaluation and book-keeping is necessary anyway to track the original waste codes and treatability groups of any and all ancestor characteristic wastes. This information tracking - which is not necessary to ensure substantive LDR compliance - is necessary solely to satisfy LDR paperwork requirements. The specific paperwork requirements involved are as follows.

First, it appears that operators that use activated carbon to treat wastes that exhibit hazardous characteristics - or that exhibited hazardous characteristics at their point of generation - must prepare LDR notifications recording detailed information concerning these "original" wastes. At least in the case of nonhazardous spent carbon, it appears that the notification must identify the waste codes and treatability groups that applied to these "original" wastes at their point of generation. Such operators must also identify any underlying hazardous constituents present in these "original" ancestor wastes at their point of generation, unless the residues ultimately land disposed will be tested for all UTS constituents prior to land disposal.

The more serious problem is that further LDR notification and certification requirements apply when residuals from the regeneration of spent activated carbon are shipped off-site by the regeneration facility for subsequent management. Again, at

least in the case of nonhazardous residues, it appears that the paperwork required must include "a description of the waste as initially generated." 40 C.F.R. §268.9(d). It thus appears that the regeneration facility would be required to list the waste codes and treatability groups that applied at the point of generation to any characteristic or formerly-characteristic wastes that were treated with any of the spent carbon from which the regeneration residues were in turn derived. In addition, the regeneration facility would need to identify the underlying hazardous constituents present in these "distant ancestor" wastes, again unless residues will be monitored for all UTS constituents prior to land disposal. *Id.*

The paperwork management tasks presented by these requirements are obviously considerable, and they are certainly far more burdensome than necessary to advance the environmental objectives of the LDR program. The limitations on the need to track underlying hazardous constituents is important, because residuals from Elf Atochem's carbon regeneration activity will consistently meet UTS levels for organic constituents, and they will meet UTS levels for all constituents if they are stabilized prior to land disposal. Elf Atochem should therefore be able to obviate the need to track individual underlying hazardous constituents. Unfortunately, however, the requirement to track waste codes and treatability groups for characteristic wastes still presents extraordinary compliance challenges in the context of carbon regeneration activities. These requirements provide no practical benefit that could not be obtained through far simpler requirements.

Where a waste is subject to UTS treatment standards because one of its ancestors exhibited a hazardous characteristic, it appears that the waste code and treatability group of the original ancestor waste is of no continuing relevance once the hazardous characteristic has been removed. A statement that a waste is subject to UTS treatment standards should by itself be sufficient, together with an identification of the underlying hazardous constituents involved unless residuals will be monitored for all UTS constituents prior to land disposal. EPA should therefore eliminate the requirement that LDR certifications identify the original characteristic waste codes and treatability groups that apply in any case in which the UTS treatment standard applies. This change would dramatically simplify paperwork

requirements without any sacrifice of relevant information.

#### RESPONSE

The Agency continues to believe that RCRA mandates "cradle to grave" management of hazardous wastes. Characteristic wastes must be identified, therefore, even if they have lost the hazardous characteristic. The Agency has streamlined the process, however, by requiring in 40 CFR 268.9 that only a one-time notice be placed in the files when a characteristic waste loses its characteristic.



DCN PH4P076  
COMMENTER Society of the Plastics Industry  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 076  
COMMENT

SPI supports EPA's efforts to streamline LDR requirements for generators who manage their own waste, such as by proposing to require only a one-time notification and certification to the receiving facility, eliminating the requirement to submit waste analysis plants to States and regions, and reduce record retention periods from five to three years. 60 Fed. Reg. at 43677. It would be of further help for the final rule to remind manufacturers of their inherent obligations, and to inform them that the use of POLYM does not trigger the need for treatment, storage and disposal facility ("TSDF") permitting. Although permitting is not required if a generator chooses to manage waste in tanks, containers or containment buildings to meet the applicable LDR standards, other RCRA generator and LDR obligations apply. 51 Fed. Reg. 10168 (March 24, 1986). SPI believes that facilities will be able to perform the required polymerization well within the accumulated storage time limits. The involved facilities are familiar with safe handling techniques and the associated particulars of polymerization technology.

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort. The use of POLYM, if it is performed within 90 days in a tank or container, does not trigger the need for a RCRA treatment, storage and disposal facility ("TSDF") permit. The generator is required, however, to prepare a 1-time notification and keep it in the on site files under 268.7(a).

DCN PH4P085  
COMMENTS EDF  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 085  
COMMENT

**A. Case-By-Case Extensions**

On a generic basis, EPA proposes to amend 40 CFR 268.5 to allow case-by-case extensions of the effective date of up to two years when first requested by the applicant. See 60 FR43677. The proposal conflicts with the express language of Section 3004(h)(3) of RCRA, authorizing only one year extensions, and a maximum one year renewal. The structure of Section 3004(h)(3) of RCRA is intended to discourage unnecessary extensions of time by ensuring the provision is utilized only in "extraordinary circumstances," with regard to both initial applications and the appropriate durations of effective date extensions. 23 The procedure of reviewing the validity of the extension annually, and inviting public comment on the extension and the renewal, are important elements of accomplishing this Congressional intent.

23 See S. Rep. 98-284, 98th Cong., 1st Sess. 19 (1983).

**RESPONSE**

EPA agrees with the commenter and has decided not to finalize the case-by-case extension renewal as proposed. Section 268.5 will remain as is was before the proposal, i.e., provide opportunity to be granted a one year case-by-case extension, with the requirement that a one-year renewal can be granted upon application at the end of the first year of the extension.

DCN PH4P085  
COMMENTS EDF  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 085  
COMMENT

**B. Generator Sampling Plans**

EPA proposes to delete the requirement in 40 CFR 268.7 that generators managing restricted wastes submit their waste sampling plans to the EPA Region or authorized state for review and approval. EPA proposes this deletion as a "streamlining" measure, but fails to indicate whether and how these sampling plans will be reviewed if they are not submitted to the appropriate regulatory agency. Presumably, EPA would rely upon generator inspections to perform this task, but as recent data regarding generator inspection frequency indicates, many sampling plans will remain unreviewed for decades if review is linked to inspections.

Through a Freedom of Information Act request submitted in March 1994 to various EPA Regional offices, EDF obtained data regarding generator inspection frequency in FY 1993 and 1994. In FY 1993, the following percentage of large quantity generators (LQGs) received inspections in Region V: IL (3.67%), IN (4.89%), MI (7.9%), OH (4.75%). For small quantity generators (SQGs), the applicable percentages were: IL (0.41%), IN (0.32%), MI (4.45%), OH (0.77%). In FY 1994, projected inspection LQG percentages were: IL (2.43%), IN (2.97%), MI (3.5%), OH (8.98%). No SQG inspections were projected in these states in FY 1994.

Region III provided similar but slightly higher percentages for Pennsylvania. In FY 1993, 12% of LQGs, 3.3% of SQGs, and 71% of TSDs were inspected. In FY 1994, inspection projections were 8% for LQGs, 3.5% for SQGs, and 52% for TSDs. Significantly, while Regional staff believed Pennsylvania would exceed the 8% target level for LQGs, approximately 60% of the LQG inspections were directed toward generators that have never received a RCRA inspection before.

These inspection frequencies can be expected to decrease since EPA no longer specifies minimum target inspection frequencies for either LQGs or SQGs. Accordingly, EPA can hardly ensure a generator's waste sampling plan will produce valid land disposal restriction determinations if review of the plan awaits an inspection, and a generator may not ever be inspected (in the case of many SQGs) or will not be inspected in the next 25 years (in the case of some LQGs).

## RESPONSE

The FY 1996/1997 Memorandum of Agreement (MOA) between EPA Headquarters and the Regions provides for greater risk-based targeting, and encourages the Regions and States to focus more attention on hazardous waste generators, a universe which previously had low enforcement priority. Therefore, the Agency believes that an increasing number of generators will be inspected, allowing an opportunity for the WAPs in question to also be inspected. In addition, the Agency believes that the generator has an incentive to comply with the requirement to prepare the WAP because it assists them in demonstrating that they are in compliance with all regulations applicable to proper waste identification, thereby ensuring a safe operating environment and protection of human health and the environment. Furthermore, the generator is likely aware that there are serious penalties (up to \$ 25000/day) for noncompliance, so even if generators are not inspected frequently, they must seriously weigh the consequences of noncompliance.

DCN PH4P089  
COMMENTS ASTSWMO  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 089  
COMMENT

(3) Notification requirements should be reduced.

In response to streamlining measures for generators that meet the appropriate treatment standards which are only required to submit a one-time notification and certification to the receiving facility[26 3.7(a)(3)], the Task Force agrees with the proposed simplification of these notification and certification requirements. In addition, the Task Force believes that the notification should only be a one-time activity for all generators for shipments to a specific receiving facility. In a case where the generator changes the receiving facility, a new notification would be required.

The notification requirement was established to disallow generators from diluting the wastes in order to circumvent an effective date or otherwise alter the applicable treatment standard (51 FR40620). In the Phase IV proposal (60 FR 43678), Appendix VII and VIII of Part 268 contained all the effective dates for treatment standards and are proposed to be deleted because there is no need to know the effective dates, waste by waste, as all the wastes in the table have treatment standards now in effect. The second issue concerning the altering of applicable treatment is not as significant an issue as it was during the early implementation of the Land Disposal Restrictions. Specifically, the adoption of Universal Treatment Standards now has the consequence of minimizing the differences between treatment standards for different wastes and minimizes any inappropriate switching of applicable treatment standards.

Furthermore, the information necessary for treatment of the waste is dictated by the treatment facility, and these off-site facilities require a preacceptance waste profile to determine treatability of the waste. Present notification information such as constituents to be monitored, wastewater or nonwastewater, and subcategory placed on the notification form will be obtained by the treatment facility in order for them to properly certify that the waste was properly treated.

## RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.

DCN PH4P091  
COMMENTS FMC  
RESPONDER RC/NV  
SUBJECT CLNP  
SUBJNUM 091

COMMENT I. FMC Supports the Agency in their Efforts to Improve the Land Disposal Restriction program. FMC fully supports and applauds the Agency for their efforts to improve the Land Disposal Restrictions (LDR) program. /1 FMC has previously advocated steps to streamline the Land Disposal program. In our comments to both the Phase II /2 and to Phase III /3 proposals, FMC requested modifications to the LDR that would streamline the system without sacrificing protection of human health and the environment. As the Agency is aware, as stated in the August 22, 1995 proposal, the current LDR program is one of the most confusing and burdensome (excess paperwork and recordkeeping) systems within the environmental program. The proposed modifications go a long way toward revising the system. FMC believes there are further modifications that can be made to make the LDR program more workable. At the Agency's convenience, we would be happy to meet with you to discuss further modifications. a. The Agency is Correct in Removing Outdated. Confusing and Duplicative Requirements 1/ 60 Fed. Reg. 43677, 8/22/95 2/ J.F. Schmidt to USEPA, 11/15/93, Docket No. F-92-CS2P-FFFFF 3/ R.J. Fields to USEPA, 5/1/94, Docket No. F-95-PH3P-FFFFF FMC concurs with the Agency in removing the outdated, confusing and duplicative requirements regarding: - §268.4:/ 4 Treatment in Surface Impoundments - §268.7:/5 Notification requirements One time Certifications Deletions of extraneous tables and references in 268.4143 Deletion of the California Standards Deletion of WAP submittals Record retention time to 3 years Reference to SW-846 methodologies (see below) - §268.9:/6 Code clarification - §268.30-37:/7 Timing on prohibitions - Appendices b. The Agency is Correct in Deleting Appendix I but Needs to Modify the New Language FMC concurs with the EPA in its intent to revise §268.32 regarding /8 the change from Appendix I to SW-846 /9 but requests that the Agency revise the language to allow for either a modified method or additional methods as approved by EPA. This can be done by adding at the end of the proposed change (after "EPA Publication SW-846.n) the following: "or other methods as approved by the Regional Administrator or Authorized State". In some circumstances the TCLP methodology cannot be used for various

reasons such as matrix interference from various constituents, detectability issues and general safety procedures due to constituents (whether or not listed in 40 CFR §261 Appendix VIII) that are contained in the waste. Generators, treaters or disposal facilities which seek to use a modified method would have to follow the procedures for "Petitions for equivalent testing or analytical methods" to use a revised method. /10 4/ 60 Fed. Reg. 43677 5/ ibid 6/ 60 Fed. Reg. 43678 7/ ibid 8/ ibid 9/ "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" 10/ 40 C.F.R. §260.21

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort. The Agency views the commenter's suggestion that modified test methods be allowed to be used instead of the TCLP is far beyond the scope of the proposed change to omit an Appendix from Part 268. Therefore, the Agency has not considered this comment in the context of the final rule.



DCN PH4P093  
COMMENTS Heritag Environmental  
RESPONDER PMC  
SUBJECT CLNP  
SUBJNUM 093  
COMMENT

Heritage Supports EPA's Proposed Improvements to the Notice and Certification Requirements (40 CFR 268.7)

Heritage supports EPA's proposal to allow generators a one-time notice and certification for situations where the waste meets applicable treatment standards. However, Heritage requests that EPA clarify that the one-time notice may be sent to a disposal facility, as well as a storage or treatment facility. The preamble discussion of this proposed change states that the one-time notice would be submitted to the "receiving facility," which would include a treatment, storage or disposal facility (60 FR 43678).

The proposed regulatory language for 268.7(a), however, specifies the one-time notice would be submitted to "each treatment or storage facility receiving the waste" (60 FR 43691), implying this option is not available for wastes shipped to a disposal facility.

#### RESPONSE

The Agency appreciates the commenters suggestion for further streamlining of the LDR paperwork requirements. In this rule, EPA has made significant changes to the LDR program and its paperwork requirements, greatly reducing the reporting and recordkeeping burden on the regulated community. EPA continues to look for ways to further reduce this burden. However, in order to ensure that the Agency's ability to protect human health and the environment is not compromised by these changes, we are only implementing those changes that have been thoroughly analyzed and which have been previously proposed. As stated previously, the Agency will continue to implement changes to the paperwork requirements where practicable and your suggested changes will be evaluated during this process.

DCN PH4P093  
COMMENTS Heritage Environmental  
RESPONDER PMC  
SUBJECT CLNP  
SUBJNUM 093  
COMMENT

Heritage also requests that EPA clarify that a treatment facility shipping a waste that meets the applicable treatment standards also may send a one-time notice and certification to the receiving facility. RCRA-permitted treatment facilities are under much greater scrutiny with regard to their LDR compliance. Treatment facility RCRA permits typically include a rigorous sampling and analysis protocol to verify compliance with applicable treatment standards. These facilities also typically generate more shipments per facility that meet applicable requirements than generating facilities, since their purpose is to treat the waste to meet these standards prior to disposal. The same rationale used to justify the reduced requirement for generators would also apply to treatment facilities. This reduction in paperwork burden would free more resources to perform other more effective compliance duties, such as reviewing other paperwork (i.e., manifests) and identifying potential waste discrepancies. This proposed modification will greatly reduce the paperwork burden on both generators and receiving facilities. The determination as to whether a waste meets the applicable treatment standards is analogous to the initial hazardous waste determination for a waste stream. Both determinations are made at the point of initial generation and are usually performed initially, then updated on a routine or as-necessary basis, depending on the variability of the waste stream or changes to the generating process. Generators of hazardous waste are not required to submit a hazardous waste determination with each shipment. Similarly, generators should not be required to submit an LDR notice with each shipment that merely repeats the same information.

#### RESPONSE

The Agency appreciates your comments suggesting that treatment facilities shipping waste that meet the applicable treatment standards may also send a one-time notification and certification to the receiving facility. It was the intent of EPA to include these facilities in this requirement and the final rule will reflect this.

DCN PH4P093  
COMMENTS Heritage Environmental  
RESPONDER PMC  
SUBJECT CLNP  
SUBJNUM 093  
COMMENT

In fact, Heritage requests that EPA change the entire LDR notice and certification requirement to a one-time only requirement, unless the waste changes. There seem to be few benefits to the requirement for an LDR notice with each shipment, as the information once submitted on the initial notice, seldom changes for most waste streams. Receiving facilities already know the applicable treatment standards based on the waste codes approved for a waste stream and included on other shipping papers received with each shipment. Once the appropriate information regarding the LDR compliance of a specific waste stream is received and filed by the receiving facility, it can easily be referenced for future shipments. The one-time notice system would significantly reduce LDR notice errors, as the generator and TSDF would be able to concentrate on the completeness and correctness of the initial notice. Under the current system, the paperwork is so overwhelming and complex, generators often make errors which divert many of the receiving facilities' resources towards follow-up and correction, and increases the potential for overlooking an inaccurate notice.

#### RESPONSE

EPA appreciates your comments on this issue and has incorporated your suggested change that the one-time notification include all facilities in the final rule.

DCN PH4P093  
COMMENTS Heritage Environmental  
RESPONDER PMC  
SUBJECT CLNP  
SUBJNUM 093  
COMMENT

Heritage also suggests that it would further simplify the LDR program to consolidate the sections regarding generator and treatment facility notice and certification requirements (40 CFR 268.7(a) and (b)). Since generators may perform treatment on-site and many treatment facilities are generators, it would be less confusing and less cumbersome to specify notice and certification requirements to a situation (e.g., the waste requires treatment, the waste meets the treatment standards, etc.), rather than to a facility's regulatory status. Only one certification statement would be required if a waste met all of the applicable treatment standards, particularly since many wastes are multi-coded and would require more than one certification under the current system.

#### RESPONSE

The Agency appreciates the commenters suggestion for further streamlining of the LDR paperwork requirements. In this rule, EPA has made significant changes to the LDR program and its paperwork requirements, greatly reducing the reporting and recordkeeping burden on the regulated community. EPA continues to look for ways to further reduce this burden. However, in order to ensure that the Agency's ability to protect human health and the environment is not compromised by these changes, we are only implementing those changes that have been thoroughly analyzed and which have been previously proposed. As stated previously, the Agency will continue to implement changes to the paperwork requirements where practicable and your suggested changes will be evaluated during this process.

DCN PH4P093  
COMMENTS Heritag Environmental  
RESPONDER PMC  
SUBJECT CLNP  
SUBJNUM 093  
COMMENT

Heritage Supports Other Proposed Improvements to the Current LDR  
Rules

Heritage supports EPA's efforts to streamline and simplify other  
LDR requirements and language of the rules. In particular, Heritage  
supports the proposed changes to the text of 40 CFR 268.7 regarding  
testing, tracking and recordkeeping requirements. The  
clarification of the language requiring identification of F001-F005  
and F039 constituents and the paperwork requirements tables help to  
clarify the information required in an LDR notice and  
certification.

#### RESPONSE

The Agency thanks you for your comments and support of proposed changes to  
the LDR requirements and language of the rules. The proposed changes, for the most part, are  
included in the final rule.

DCN PH4P093  
COMMENTS Heritag Environmental  
RESPONDER PMC  
SUBJECT CLNP  
SUBJNUM 093  
COMMENT

Heritage also supports EPA's proposal to modify the waste analysis plan requirement for generators that treat in tanks or containers on-site. By maintaining the requirement to prepare and implement a waste analysis plan and keep the plan on site, but removing the requirement to submit the plan, EPA has streamlined the rule and still maintained its substantive features. In addition, EPA's proposal to clarify the language at 40 CFR 268.9 requiring identification of characteristics in listed wastes and modifying the constituent list for F039 at 40 CFR 268.40 to reference universal treatment standard constituents will improve and clarify the LDR requirements as well.

#### RESPONSE

The Agency appreciates your support of the proposed changes to the waste analysis plan requirements and attempts to clarify language regarding identification of characteristics in listed wastes. The Agency is not, however, changing the treatment standard for F039 as proposed, as explained in the preamble to the final rule and elsewhere in this response to comments document.

DCN PH4P093  
COMMENTS Heritage Environmental  
RESPONDER PMC  
SUBJECT CLNP  
SUBJNUM 093  
COMMENT

Lastly, Heritage agrees with EPA's proposal to make the records retention period for LDR documents three (3) years, rather than five (5) years. This is consistent with other RCRA and non-RCRA records retention periods. Such consistency will reduce the unnecessary confusion created by varying the required retention period.

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.

DCN PH4P094  
COMMENTS General Motors Corp.  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 094  
COMMENT

Streamlining LDR Notification Requirements (60 FR 43677)  
Generators are currently required to file this notification and certification every time a waste shipment is generated. The original intent of this requirement was to make certain that the receiving facility was aware of the applicability of the LDR's, since the generator was most familiar with the waste and regulations. As the LDR program has matured it has become apparent that the TSDF's are very knowledgeable of the rules and often assist the generator in filling out the notification forms used by the generator to notify the TSDF. LDR notifications no longer serve any purpose.  
General Motors recommends that the requirements for LDR notifications be deleted. Although EPA's proposal to reduce the notification and certification to a one-time requirement for new and modified waste streams is a substantial improvement over the current process, a deletion of the LDR notifications would be most effective in streamlining the notification process.

#### RESPONSE

The Agency does not agree that the LDR notification should be eliminated at this time. EPA continues to look for ways to further reduce paperwork burden; however, in order to ensure that the Agency's ability to protect human health and the environment is not compromised by these changes, we are only implementing those changes that have been thoroughly analyzed and which have been previously proposed. As stated previously, the Agency will continue to implement changes to the paperwork requirements where practicable and your suggested changes will be evaluated during this process



DCN PH4P097  
COMMENTER Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Improvements To Land Disposal Restriction Program (60 FR 43677)  
Clean Up of Part 268 Regulations  
Section 268.5: Procedures for case-by-case extensions to an  
effective date (60 FR 43677)

The Agency proposes to amend §268.5(e) to clarify that an  
applicant can be granted additional time (up to one year) beyond  
the one-year case-by-case extension, when the applicant first  
applies for the case-by-case extension. The HWMA supports this  
amendment to reflect that the additional one-year extension can be  
requested and received with the initial application request.

#### RESPONSE

Although the idea of granting additional time beyond the one-year case-by-case  
extension when the applicant first applies was proposed by the Agency, it is not being included in  
the final rule. Concerns were raised by commenters about the affect such a change would have  
on the LDR case-by-case extension process. EPA believes that if an applicant did not have to file  
a second petition to gain additional time, then that applicant would not have sufficient incentive  
to make a good-faith effort during the initial one-year period as required. Therefore, the Agency  
is not making any changes to the case-by-case extension application process in the final rule.

DCN PH4P097

COMMENTS Hazardous Waste Management

RESPONDER PV

SUBJECT CLNP

SUBJNUM 097

COMMENT

Section 268.7 - Waste Analysis and Recordkeeping (60 FR 43677)  
HWMA supports the Agency's proposal to streamline the waste acceptance procedure by eliminating obsolete (e.g., references to § 268.41) and inconsistent requirements (e.g., 5 years for record retention) from the existing regulations. Our members believe that the existing notification/certification requirements of this section do not yield useful information when they evaluate whether they can manage the restricted waste. HWMA supports the Agency's efforts to delete non-beneficial paperwork from the hazardous waste regulations because these requirements have done nothing but provide Agency inspectors with a potentially easy compliance issue when evaluating a generator's LDR records. Below are more detailed comments on each section of the recordkeeping requirements.

RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268.7(a)(2): California List Applicability

The Agency proposes to delete any references to § 268.32 and RCRA § 3004(d), California List wastes, because existing treatment standards supersede all statutory standards. We generally agree with this evaluation; however, the following California List wastes should continue to be restricted under RCRA 3004(d) as follows:

Liquid waste containing greater than or equal to 50 ppm

Polychlorinated Biphenyls (PCBs);

Liquid or nonliquid wastes with greater than or equal to 1,000 ppm

Halogenated Organic Compounds (HOCs) listed in Appendix III; and

Liquid waste containing greater than or equal to 134 ppm Nickel or 130 ppm Thallium

Our members' understanding is that a hazardous waste (e.g., D002) containing PCBs at greater than 50 ppm must be treated using incineration or fuel substitution. HWMA believes that this standard is correct because when there is an inconsistency between RCRA and TSCA regulations, the most stringent standard governs (40 CFR § 761.1(e)). A review of both regulations reveals that the statutory standard of incineration or fuel substitution could be construed to be more stringent than existing PCB requirements. Under these PCB disposal regulations, specific liquid PCB wastes are eligible for disposal in a TSCA approved chemical landfill without undergoing additional treatment.

Specific examples include:

Liquid hazardous waste containing PCBs less than 500 ppm which have been treated (i.e., chemically) to render the waste non-liquid (See § 761.60(a)(3) and 75(b)(8)(ii)); and

Containerized liquid hazardous waste containing PCBs less than 500 ppm which meet § 264.314(d).

Our opinion is that requiring a generator to meet a specified treatment technology would be more stringent than the existing PCB regulations which do not require a specified treatment technology. HWMA also requests that the Agency provide the rationale for why other California List (i.e., HOCs and specific metals) wastes listed earlier are no longer subject to statutory restrictions.

Our

members believe that the California List restriction is applicable to a F005 listed waste which contains greater than 1,000 ppm of HOCs. In this example, the waste contains toluene, which was used for its solvent properties, and chloromethane at greater than 1,000 ppm. Past guidance from the Agency has been that the California List HOC standards do not apply where the waste is subject to Part 268, Subpart D treatment standards for a specified HOC. In addition, the Agency has stated that where a hazardous waste contains both HOCs and non-HOC constituents, the waste would be prohibited from land disposal until it has met the treatment standard for both HOC and non/HOC constituents (52 FR 25773). In this example, there is no treatment standard for chloromethane in Subpart D. In accordance with the guidance issued by the Agency, such waste would be subject to the §268.42(a)(2) treatment standard of incineration. Because of the complexity and confusion which has surrounded the California List, the Agency needs to provide clear and concise guidance as to the applicable LDR regulations for such waste streams.

HWMA also believes that a liquid waste which is listed as an F006 hazardous waste and contains thallium at greater than 130 ppm would be subject to a California Listing restriction. In this example, the Agency needs to determine the applicable LDR standards. Specifically, would the waste require treatment to meet the F006 listing under section 268.40 and to the statutory level for nickel, or would the waste only be subject to the F006 listing under section 268.40?

Until the Agency can answer the questions posed, the regulated community must assume that it is appropriate to assume that all California List standards have been superseded. The Agency needs to evaluate whether statutorily this unique type of hazardous waste continues to have a treatment standard identified under RCRA §3004(d). If the Agency's review determines that all California List standards have been superseded, then we support the Agency's decision to delete any reference which requires a notification of their treatment standards. However, if the Agency determines that specific California List standards continue to exist, we recommend that the Agency identify the types of restrictions which may apply and list them. Listing such applicable restrictions should eliminate any future confusion over the California List.

RESPONSE

The Agency continues to believe that all the treatment standards for California List wastes have been superseded by more specific standards (55 FR at 22675; 52 FR at 29993). The Agency believes that the treatment standards for listed hazardous wastes are the most specific. Next would be the characteristic waste treatment standards with their associated treatment standards for underlying hazardous constituents (UHCs).

The Agency stated in the In 1990, the Agency stated its belief that all standards had been superseded at that time with the exceptions of (1) liquid hazardous wastes that contain over 50 ppm PCBs; (2) HOC-containing wastes identified as hazardous by a characteristic property that does not involve HOCs, as for example, an ignitable waste that also contains greater than 1000ppm HOCs; and (3) liquid hazardous wastes that exhibit a characteristic and also contain over 134 mg/l nickel and 130 mg/l of thallium. These three exceptions have now become subject to more specific standards as explained below. All of the wastes in these examples are subject to the LDR requirement that all UHCs reasonably expected to be present in a characteristic hazardous waste at the point of generation must be treated to meet Universal Treatment Standards (UTS) (and, of course, the hazardous characteristic would also have to be treated prior to land disposal).

What is eliminated under this approach, however, is the requirement in some cases to incinerate the waste rather than treat in any way other than impermissible dilution to meet UTS levels. The Agency does not view this as in any way making the regulations less stringent. The Agency sets methods of treatment when the residues cannot be analyzed to see if they meet UTS, or when the technology is clearly far superior to other types of treatment for a particular waste. Neither of these conditions exist for the examples provided by the commenter. In the case of PCBs, they must meet UTS and then be disposed in a TSCA-approved landfill. The Agency believes that regulations under two statutes is as protective as required incineration of the PCBs. While the Agency once believed that it was necessary to require incineration of high-HOC wastes, it is possible that they can be adequately treated-- i.e. treated in a way that destroys or removes these constituents from the waste before disposal -- by other technologies to meet the UTS concentration levels. Therefore the California List treatment standards are superseded and are no longer in effect in the RCRA program.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268.7(a)(2): Notification of date waste is subject to prohibition

This requirement appears to have been inadvertently added to the rule during the technical amendments to the Phase II LDR rule based on members' conversations with personnel from the Waste Treatment Branch. In addition, the requirement has historically been applicable only to restricted waste which was subject to case-by-case extension, a capacity variance, etc. Therefore, HWMA supports the Agency's proposal to delete it from the proposed §268.7(a)(2).

#### RESPONSE

The Agency acknowledges the commenter's support.

#### Section 268.7(a)(2): Paperwork Requirements Table

The Agency proposes listing the requirements applicable for the different notification forms by addressing each requirement in a table. The concept is sound; however, the check marks used to identify each requirement are hard to distinguish. A generator or regulator could misread which section is checked. The Agency should add a line, which separates each row in the required information column and each citation column, for easier confirmation of which row is checked.

In addition, the proposed table outlines the notification requirements for hazardous debris which will be treated using the alternative treatment technologies identified in §268.45. The Agency proposes to delete the reference that the date of prohibition be listed for each hazardous debris. This requirement was inadvertently added during the technical amendments to the Phase II LDR rule based on members' conversations with personnel from the Waste Treatment Branch. Therefore, HWMA supports the Agency's proposal to delete it as a requirement from the existing §268.7(a)(3).

## RESPONSE

The Agency modified the table to make it easier to read. The Agency acknowledges the commenter's support on the proposed change to the debris requirements.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268. 7(a)(3): Clarify "naturally" meets treatment standards

This section addresses hazardous waste which, when originally generated, "naturally" meets treatment standards. The Agency proposes to reduce the notification and certification requirements for generators which have such waste streams from each shipment to a one-time notice. We generally support this proposal and recommend that the Agency clarify this requirement to clearly indicate that this section is applicable to restricted hazardous waste which meet the LDR treatment standards as generated. The wording proposed is ambiguous enough that a generator could misinterpret this section. The addition of the following language to this section is recommended so that it is clear that the one-time notification is applicable only to nontreated waste:

"If the waste meets the treatment standards upon original generation:"

#### RESPONSE

The commenter's suggested language has been considered in writing the regulation.



DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268. 7(a)(3): Receiving facility applicability

The language in this section only addresses waste which "naturally" meets treatment standards and will be sent to a treatment or storage facility. If a hazardous waste is not prohibited from land disposal, it is highly probable that the waste will be sent directly to a disposal facility.

Therefore, the Agency should amend the proposed language so that it is clear that this requirement also is applicable to generators who send waste which "naturally" meets treatment standards to disposal facilities. Amending the language to address a disposal facility will eliminate any potential confusion for the regulated community. The following language change is recommended:  
"If the waste meets the treatment standard: The generator must send a one-time notice and certification to each treatment, storage, or disposal facility receiving the waste."

#### RESPONSE

The Agency has considered the language suggested by the commenter in the regulation.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268. 7(a)(3): Definition of one-time notice

HWMA supports the Agency's proposal to reduce the frequency with which a generator must submit a notification and certification for waste which "naturally" meets applicable treatment standards and is not prohibited from land disposal from every shipment to a one-time notice. This reduction greatly reduces the burden on generators and TSDFs in maintaining duplicative records(see previous section, above).

However, the Agency needs to identify a specific point in time when an LDR notice must accompany the waste. The term, "one-time," is ambiguous and does not reflect whether shipments received prior to the notice meet BDAT. The Agency should amend the proposed language to require that the LDR notice and certification accompany the initial shipment. By requiring a generator to certify that the waste meets BDAT with the initial shipment, the generator will assume some responsibility for determining if subsequent shipments of the same waste are prohibited. In addition, this requirement does not leave room for different interpretations which may cause an inspector with an agency to pursue enforcement action. In order to avoid unnecessary resources and costs associated with determining each state's and Region's interpretation, the Agency should amend the proposed language to read:

"If the waste meets the treatment standard: The generator must send a notice and certification with the initial shipment to each treatment, storage, or disposal facility receiving the waste."

RESPONSE

The Agency has considered the language suggested by the commenter in the regulation.

DCN PH4P097

COMMENTS Hazardous Waste Management

RESPONDER PV

SUBJECT CLNP

SUBJNUM 097

COMMENT

Section 268.7(a)(3): Certification required for waste which "naturally" meets BDAT

The proposed certification for waste which "naturally" meets BDAT has been changed to incorporate language which addresses waste which is exempt from treatment standards. Existing regulations do not require a certification to accompany waste subject to case-by-case extensions or capacity variances. While the Agency may view this change as minor it becomes a very significant issue for some hazardous waste management facilities because certification changes require changes to LDR forms which are used by customers.

This repeated exercise results in the discarding of thousands of forms currently in stock because they cannot be converted in a cost-effective manner to include the new certification. While these conditions are favorable for the printing industry, it is very costly for a waste management company that provides its customers with LDR forms.

HWMA does not support the Agency's proposal to change the existing certification language for wastes which "naturally" meet applicable treatment standards. The changing of one word in an LDR-required certification can cost hazardous waste management companies hundreds of thousands of dollars in additional compliance costs which are not beneficial to public health and the environment. In fact, the opposite effect on the environment results because of the natural resources are needlessly utilized.

RESPONSE

The Agency has reconsidered the certification language as suggested by the commenter, and omitted reference to wastes subject to an exemption.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268. 7(a)(4): Definition of one-time notice

This section addresses notification requirements for hazardous wastes that meet certain exemptions which allow the waste to be land disposed without meeting applicable treatment standards. HWMA supports the Agency's proposal to reduce the frequency of supplying LDR forms from each shipment to a one-time notice. This reduction will greatly reduce the unnecessary burden which generators and TSDFs bear in maintaining duplicative records. As stated above, the Agency needs to identify a specific point in time when a LDR form must accompany the waste. The term, "one-time," is ambiguous and leaves room for different interpretations.

Again, the Agency should amend the proposed language to require that the LDR form accompany the initial shipment. Requiring this specific frequency places some responsibility on the generator to correctly identify the status of its waste under part 268

regulations. The following addition is recommended to the proposed language:

"If a generator's waste is so exempt, then the generator must submit with the initial shipment a notice to each land disposal facility receiving the waste."

RESPONSE

The Agency has considered the language suggested by the commenter in the regulation.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268. 7(a)(4) New requirement to submit a certification. The Agency's proposed language references the need to submit a certification. When reviewing the informational requirements outlined for exempt waste in the proposed "paperwork requirements table," the Agency has added a requirement to provide a certification for such waste. The Agency appears to be imposing new and additional recordkeeping requirements. Under existing requirements located in §268.7(a)(3), there is no requirement to provide a certification of any kind to a disposal facility when LDR exempt waste is shipped. Adding a requirement to submit a certification statement for exempt waste, even one-time, undermines the Agency's attempt to reduce the recordkeeping requirements under the LDR regulations. New LDR forms for use by generators will also have to be developed to include the new certification language. As discussed above, this proposal could result in the discarding of thousands of forms currently in stock because they cannot be converted in a cost effective manner to include the new certification. The Agency needs to evaluate the necessity of requiring a new certification. We recommend, therefore, that the Agency delete the check mark from the proposed paperwork requirements table which identifies that a certification must be submitted with waste subject to an exemption identified under §268.7(a)(4). Keeping this requirement in the final rule will undermine the Agency's attempt to streamline the LDR process.

#### RESPONSE

The Agency has reconsidered the certification language as suggested by the commenter, and omitted language indicating a certification is necessary for wastes subject to an exemption.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268.7(a)(5): Submittal of mini-WAPs

This section details the requirements for a generator that treats a restricted waste to meet BDAT in a 90-day accumulation tank, container, or containment building. Existing requirements include the submittal of a waste analysis plan (WAP) to EPA 30 days prior to conducting treatment. The Agency proposes to delete the requirement for submittal of the WAP and only require its availability on-site.

HWMA supports the deletion of the requirement because of the administrative delays associated with an Agency reviewing the contents of the mini-WAP. Even though an approval is not required under federal regulations, we believe that some Agencies have an internal policy that when a document is required to be submitted, it must be reviewed. These types of policies have discouraged generators from treating their waste on-site. The removal of a requirement to submit such a document will help promote innovative treatment technologies.

RESPONSE

The Agency acknowledges the commenter's support on the proposed change to the 90-day generator WAP requirements.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268.7(a)(5): information required for generator treated waste

Subsection (iii) of §268.7(a)(5) notes that site generated waste treated in 90-day accumulation units, when shipped off-site, must comply with §268.7(a)(4). Section §268.7(a)(4) is applicable to hazardous waste which is exempt from meeting treatment standards. This section requires that a generator submit a certification that the waste meets applicable treatment standards upon its generation. The date the waste is subject to a prohibition is also required to be identified on the

LDR notice. The identification of a prohibited date is not currently required for generators who treat on-site in 90-day units.

HWMA believes it is more appropriate to reference the proposed §268.7(b)(4)(I) which outlines treatment facility requirements. Since the generator is treating the waste to meet applicable treatment standards under the LDR program, it does not make sense to use a certification which has been developed for use with restricted waste which meets BDAT without treatment (i.e., "naturally" meets).

In addition to the certification issue, the Agency should clarify whether a generator, not a commercial treater, that performs partial treatment of a restricted waste is required to use any certification or should a certification be used only when all applicable treatment standards have been met. A review of existing and proposed LDR notification regulations does not identify a clear direction on how the generator is required to notify under such circumstances.

In order streamline the regulations, the Agency should amend the proposed language in §268.7(a)(5)(iii) as follows:

"Wastes shipped off-site pursuant to this paragraph must comply with the notification and certification requirements of §268.7(b)(5)(I) if all applicable treatment standards have been met, or the certification requirements of §268.7(b)(iv) if UHCs require treatment in decharacterized waste."

RESPONSE

The Agency has changed the cross-references as suggested by the commenter.



DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268. 7(a)(8): Retention period for LDR notices  
The Agency proposes to reduce the record retention period for LDR  
notices from five years to three years. We support this change  
because LDR record retention requirements will finally  
be consistent with other hazardous waste record retention  
requirements.

RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden  
reduction effort.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268.7(a)(9): Notification requirements for lab packs  
This section outlines the requirements for lab packs which are eligible to utilize the alternative treatment standard of incineration. The preamble section notes that the Agency believes that there is no need to identify whether a lab pack contains hazardous debris or wastes which are wastewaters/nonwastewaters (WW/NWW) because the alternative treatment standard is a specified technology (60 FR 43678). HWMA agrees with this position that identifying the treatability group (i.e., WW/NWW, debris) for waste packaged in a lab pack subject to alternative treatment standards serves no useful or practical purpose.

We also support the Agency's decision to delete the requirement to provide this information. However, the proposed language in §268.7(a)(9) notes that with each shipment the generator must comply with paragraph (a)(2). One of the requirements in this paragraph is the need to identify applicable WW/NWW categories. The Agency needs to correct this error or the intent to reduce useless information will not be implemented.

In addition, the Agency should delete the requirement to identify the applicable subcategory/subdivision. The rationale for deleting the subcategory would be the same as that for deleting the WW/NWW category. Restricted waste placed into a lab pack which is eligible for the specified technology of incineration does not have numerical standards to meet. Therefore, there is no need to identify what subcategory the waste meets. It is also important to note that waste streams are not prohibited from placement into a non-Appendix lab pack by subcategory. Again, the need to identify a subcategory is needless when the treatment standard is a specified technology.

In summary, the Agency should amend the proposed language in §268.7(a)(9) as follows:

"If a generator is managing a lab pack waste .... the generator must submit a notice to the treatment facility in accordance with paragraph (a)(2) of this section, except for identification of wastewater/nonwastewater categories and waste specific subcategories (such as D003 reactive cyanide)."

## RESPONSE

The Paperwork Requirements Table 1 has been changed to include a column for lab packs. It should be noted that there are no requirements to identify the waste constituents or subcategories for the hazardous wastes placed in a lab pack.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

**Section 268.7(a)(9): Lab pack certification**

This section requires that a generator use a specific certification when a lab pack will be managed using the alternative treatment standard of incineration. The language for the certification has changed several times during the last year and a review of the proposal reveals that the Agency has once again changed the certification language. The proposed language is the same language which was promulgated on September 19, 1994, under the Phase II LDR rule (59 FR 48045). However, on January 3, 1995, the Agency published technical amendments to the Phase II LDR RULE and changed the certification language for lab packs (60 FR 245). HWMA does not believe that there is any positive environmental impact supporting these changes. As noted earlier, insignificant changes to the wording of a certification can cause the hazardous waste industry significant costs to create new LDR forms and buy back and recycle existing inventory. In addition, the confusion which is created in the regulated community is unnecessary. Therefore, the Agency should amend the proposed lab pack information so that it is identical to the January 3, 1995 technical amendment version.

**RESPONSE**

The Agency is finalizing the certification language as proposed. The primary difference in language advocated by the commenter and the language that is being finalized is that the final language includes a statement that the lab pack is being sent to a combustion facility for treatment. This addition was requested by other commenters that convinced the Agency that it is important to certify that the treatment method required by the lab pack alternative treatment standard is being carried out.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268.7(b): California List Applicability

The LDR notification and certification requirements for facilities treating hazardous waste, in accordance with standards established under §268, are outlined in this section. The most significant proposed amendment identified is the removal of the contents of existing §268.7(b)(2) which references the California List wastes. As before, the Agency must determine whether California List wastes which exist are no longer subject to RCRA. If the determination is legally binding, then HWMA supports the Agency's proposal to delete all references to California List waste.

RESPONSE

The Agency believe that all the treatment standards for California List wastes have been superseded by more specific standards (55 FR at 22675; 52 FR at 29993). The Agency believes that the treatment standards for listed hazardous wastes are the most specific. Next would be the characteristic waste treatment standards with their associated treatment standards for underlying hazardous constituents (UHCs).

The Agency stated in the In 1990, the Agency stated its belief that all standards had been superseded at that time with the exceptions of (1) liquid hazardous wastes that contain over 50 ppm PCBs; (2) HOC-containing wastes identified as hazardous by a characteristic property that does not involve HOCs, as for example, an ignitable waste that also contains greater than 1000ppm HOCs; and (3) liquid hazardous wastes that exhibit a characteristic and also contain over 134 mg/l nickel and 130 mg/l of thallium. These three exceptions have now become subject to more specific standards as explained below. All of the wastes in these examples are subject to the LDR requirement that all UHCs reasonably expected to be present in a characteristic hazardous waste at the point of generation must be treated to meet Universal Treatment Standards (UTS) (and, of course, the hazardous characteristic would also have to be treated prior to land disposal).

What is eliminated under this approach, however, is the requirement in some cases to incinerate the waste rather than treat in any way other than impermissible dilution to meet UTS levels. The Agency does not view this as in any way making the regulations less stringent. The Agency sets methods of treatment when the residues cannot be analyzed to see if they meet UTS, or when the technology is clearly far superior to other types of treatment for a particular waste. Neither of these conditions exist for the examples provided by the commenter. In the case of PCBs, they must meet UTS and then be disposed in a TSCA-approved landfill.

The Agency believes that regulations under two statutes is as protective as required incineration of the PCBs. While the Agency once believed that it was necessary to require incineration of high-HOC wastes, it is possible that they can be adequately treated-- i.e. treated in a way that destroys or removes these constituents from the waste before disposal -- by other technologies to meet the UTS concentration levels. Therefore the California List treatment standards are superseded and are no longer in effect in the RCRA program.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268.7(b): Characteristic waste with UHCs

The Agency proposes to require the identification and treatment of applicable UHCs for D004-D011 characteristic wastes. Comments regarding its disapproval to require UHC treatment standards for characteristic metal wastes appear later in this document.

However, if the Agency promulgates such a requirement, it should amend existing §268.7(b)(5)(iv) to reference D003-D011. This section requires a specific certification to be filed when the characteristic has been removed but UHCs still require treatment.

The addition of these waste codes will clarify what LDR notification and certification requirements are expected for characteristic waste. The Agency should amend the existing language in §268.7(b)(5)(iv) to read as follows:

"For applicable characteristic wastes D001-D043 that are:

The word "applicable" should be added because not all characteristic hazardous waste is subject to treatment standards for UHCs. For example, D002 waste which is managed in a CWA REGULATED unit is not subject to UHC identification. This wording would help clarify which characteristic waste is subject to this section.

#### RESPONSE

The Agency is not finalizing treatment standards--including requirements to treat UHCs--for toxic characteristic (TC) metal wastes in this final rule. The commenter's suggestion will be considered in the context of the Phase IV final rule that will be promulgated in April of 1998, when treatment standards for TC metal wastes will be finalized.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268. 7(b)(4)(iii): Analytical detection limits  
This section outlines the requirements for a treatment facility  
which treats organic wastes and uses  
the analytical detection limit as an alternative means of  
verifying compliance without analytical problematic constituents.  
The proposed language references §268.43 which was deleted  
and moved as a result of the Phase II LDR final rule (59 FR 48046).  
The alternative is now located under §268.40(d). The Agency should  
add the citation "§268.40(d)" in place of the obsolete citation of  
"§268.43(c)."

RESPONSE

The commenter's suggestion has been incorporated into the final rule.



DCN PH4P097

COMMENTS Hazardous Waste Management

RESPONDER PV

SUBJECT CLNP

SUBJNUM 097

COMMENT

Section 268.7. (c)(1): Disposal of recyclable material

This section outlines the requirements for the disposal of recyclable material used in a manner constituting disposal. The existing regulation states that such facilities must comply with the generator standards (paragraph a) or treatment standards (paragraph b) of §268 whichever are applicable. The proposed section eliminates the reference for complying with treatment standards (paragraph b). HWMA does not fully understand why this reference has been omitted and the Agency does not explain why it is appropriate to delete such a requirement. We believe the Agency needs to add this reference to the final section.

RESPONSE

The commenter's suggestion has been incorporated into the final rule.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268.7(a)(2): Notifications required for each shipment  
Existing regulations require that for each shipment of waste a generator must notify the treatment or storage facility in writing of specific information. In an effort to streamline the LDR REGULATIONS, HWMA proposes the following option which will provide a great benefit to generators of restricted waste.

The Agency established a notification requirement for each shipment when the first LDRs were promulgated (51 FR 40572). Beginning with this prohibition and continuing through the Phase II LDR rule, the Agency has consistently stated that a disposal facility has the ultimate responsibility in ensuring that all restricted wastes meet applicable treatment standards before being land disposed. This burden has directly affected how hazardous waste management companies develop and maintain waste approval procedures to evaluate whether wastes are acceptable for management. One of the steps in the process to determine whether to approve or disapprove a waste stream for management is to determine what treatment standards are applicable and whether the waste requires treatment. This information must be received prior to shipment in order for a treatment or storage facility to determine if the waste is acceptable for receipt. The information required in §268.7(a)(1), except for manifest number, has already been obtained and maintained in a file which identifies the waste stream. Therefore, the notifications submitted by a generator with each shipment only provide information which is not used and redundant.

The Agency needs to amend the regulations under existing §268.7(a) and (b)(4) and (5) to require a notification and certification only with the initial shipment. Unless the waste stream changes, the generator should not be burdened with submitting paperwork and keeping a copy of this paperwork in its files. The following change to section 268.7(a) is recommended:

"If the waste does not meet the treatment standard: With the initial shipment of waste, the generator must notify the treatment or storage facility in writing."

## RESPONSE

The Agency has changed the LDR notification process; in the final rule, requiring that a one-time notification be sent with the initial shipment if the waste does or does not meet the treatment standards. No further notification is required until such time as the waste, process or treatment, storage or disposal facility changes.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268.9: Special rules regarding wastes that exhibit a characteristic (60 FR 43678)

The Agency proposes to amend §268.9(a) and (b) to clarify how wastes should be identified when they are both listed and exhibit a hazardous characteristic. Existing regulations require that, for the LDR notification, a waste must be identified as a listed waste and also as a characteristic waste, unless the listed waste has a treatment standard for the constituent or addresses the hazardous characteristic that causes the waste to also be characteristically hazardous. If the listed waste has treatment standards that address all characteristics, then the characteristic waste codes do not apply.

HWMA generally supports this clarifying change to §268.9(a) and (b); however, because the Agency failed to print the proposed changes to paragraph (b) (60 FR 43694), we cannot comment on the specific change. Therefore, HWMA recommends that the language in paragraph (b) state clearly that if the listed waste has a treatment standard that addresses all of the characteristics, then the characteristic waste codes do not attach to the waste stream.

In addition, the amendment to paragraph (d)(1)(ii) is to clarify that if all underlying hazardous constituents, reasonably expected to be present in a characteristic waste, are monitored by the treatment facility, then the generator is not required to list any of the UHCs on the LDR NOTIFICATION. If, however, a subset (e.g., 230 of 240 UHCs) will be monitored, then all constituents must be included on the LDR notification.

#### RESPONSE

The commenter's suggestion has been incorporated into the final rule.

DCN PH4P097  
COMENTER Hazardous Waste Managemen  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

HWMA believes that this requirement should be expanded to include less notifications when a subset group of UHCs cannot be accepted at a treatment facility because this requirement provides no benefit. When the facility already knows compounds are not present in the waste through an approval process this is an unreasonable requirement. A facility should be able to accept these waste streams without the burden of requiring additional UHC documentation that provides no environmental benefit. The Agency needs to reevaluate this issue especially in the case of permit restrictions.

#### RESPONSE

EPA continues to look for ways to further reduce paperwork burden; however, in order to ensure that the Agency's ability to protect human health and the environment is not compromised by these changes, we are only implementing those changes that have been thoroughly analyzed and which have been previously proposed. As stated previously, the Agency will continue to implement changes to the paperwork requirements where practicable and your suggested changes will be evaluated during this process.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Section 268.30 - 268.37 (CFR 43678)

The Agency proposes to remove §268.31 through §268.37 because the treatment standards for wastes in these sections are now in effect, and all of these wastes are not prohibited from land disposal. Thus, the sections are no longer necessary. In addition, the Agency proposed to replace old §268.30 with a new section that provides the prohibition dates for the wastes included in this proposal.

HWMA does not in support this proposal because these sections provide useful historical information, and the removal of these sections will give the appearance that the wastes are no longer prohibited. As an alternative, the Agency could remove Subpart B to §268 which contains the schedule for land disposal restrictions. Sections 268.10, 268.11, and 268.12 can be removed much easier than the proposed sections.

#### RESPONSE

The Agency has updated Appendix VII and Appendix VIII to Part 268 to include the effective dates of treatment standards for all prohibited hazardous wastes, therefore the prohibition language for the earlier LDR rulemakings is no longer necessary. The sections have been superseded or have been deleted as proposed. EPA disagrees with the commenter's drafting suggestion since the California List wastes are all prohibited, just under other provisions. Since the California List was meant as a stop-gap until these later prohibitions took effect (as noted by EPA in a number of places such as the Third Third rule preamble), eliminating the California List prohibition now that the other rules have been promulgated makes sense. Furthermore, sections 268.10, 268.11, and 268.12 were removed in a previous rulemaking.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Part 268 Appendix I - TCLP

The Agency proposes to remove Appendix I because the TCLP test method reference to SW-846 will be incorporated into the text of the regulatory language. HWMA supports this proposed change.

#### RESPONSE

The Agency appreciates the interest in and support of its efforts to reduce burden and streamline the LDR program.

DCN. PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Part 268 Appendix II - Treatment Standards (As Concentrations in the Treatment Residual Extract).

The Agency proposes to remove Appendix II to Part 268 because it incorrectly refers to treatment standards in sections 268.41, 268.42, and 268.43, and there is no longer a need to reference the solvent treatment standards. HWMA supports this proposed text removal.

RESPONSE

The Agency appreciates the interest in and support of its efforts to reduce burden and streamline the LDR program.



DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Part 268 Appendix III - List of Halogenated Organic Compounds Regulated Under 268.32.

The Agency proposes to remove Appendix III, which contains a list of halogenated organic compounds regulated under §268.32, because the California List treatment standards have been superseded by Universal Treatment Standards, and thus there is no longer a need for a listing of halogenated organic compounds because they are California List wastes. HWMA disagrees with the Agency's statement that all California List treatment standards have been superseded by the Universal Treatment Standards, and that there is no longer a need for a listing of Halogenated Organic compounds. Members believe that the California List requirements are still in effect (refer to the previous discussion regarding 268.7(a)(2)). For example, if a K061 contains any of the halogenated organic compounds listed in appendix III, that are not characteristically hazardous in a quantity greater than 1000 mg/kg, then pursuant to §268.42(a)(2), the waste must be incinerated in accordance with the requirements of 40 CFR Part 264, Subpart O or Part 265, Subpart O. Because California List HOCs can still require a waste stream to be incinerated under the California List, the Agency must maintain the inventory of California List HOCs in Appendix III to Part 268. As stated earlier, we are indifferent to the Agency's final determination of this matter. However, if the Agency makes this determination, it must ensure that clear guidance is provided to the regulated community.

#### RESPONSE

The Agency believes that all the treatment standards for California List wastes have been superseded by more specific standards (55 FR at 22675; 52 FR at 29993). Therefore, Appendix II has been removed from Part 268.

DCN PH4P097  
COMENTER Hazardous Waste Managemen  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Part 268 Appendix VI - Recommended Technologies to Achieve  
Deactivation of Characteristics in Section 268.42

The Agency proposes to amend Appendix VI to clarify that  
characteristic wastes that also contain UHCs must be treated not  
only by a "deactivating" technology to remove the characteristics,  
but also treated to achieve the UTS for UHCs. HWMA supports this  
language clarification.

#### RESPONSE

The Agency appreciates the interest in and support of its efforts to reduce burden  
and streamline the LDR program.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Part 268 Appendix VII- Effective Dates of Surface Disposed Wastes  
Regulated in the LDRs

The Agency proposes to remove Appendix VII because all of the  
wastes listed in the table have treatment standards now in effect;  
therefore, there is no need to know the effective dates.  
HWMA supports this proposed change.

RESPONSE

The Agency has updated Appendix VII to Part 268 to include the effective dates  
of treatment standards for all prohibited hazardous wastes.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Part 268 Appendix VIII - National Capacity Variances for UIC  
Wastes

The Agency proposes to remove Appendix VIII because the effective  
dates for these wastes, when deep well injected, are past. HWMA  
believes that the current list of wastes in Appendix VIII can be  
removed; however, because the Agency is proposing national  
capacity variances for deep well injected Phase IV wastes, the  
Appendix should be maintained. The appendix should list the Phase  
IV wastes subject to a UIC capacity variance.

**RESPONSE**

The Agency has updated Appendix VIII to Part 268 to include the effective dates  
of treatment standards for all prohibited hazardous wastes that are deepwell injected.

DCN PH4P097  
COMENTER Hazardous Waste Managemen  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 097  
COMMENT

Part 268 Appendix X - Recordkeeping, Notification, and/or  
Certification Requirements

The Agency proposes to remove Appendix X because it summarizes  
paperwork requirements that are proposed to be changed in the Phase  
III proposal and this proposal. HWMA believes that The proposed  
tables in §268.7(a) and (b) that discuss the regulatory  
requirements would allow for the removal of Appendix X if the  
tables are finalized as discussed.

#### RESPONSE

The Agency appreciates the interest in and support of its efforts to reduce burden  
and streamline the LDR program.

DCN PH4P107  
COMMENTS Uniroyal Chemical Co.  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 107  
COMMENT

4. Uniroyal Chemical supports changing the record retention period for land disposal records to three years to be consistent throughout the RCRA Program.

In order to ensure that all records were kept for the appropriate time period, Uniroyal Chemical has been in the practice of maintaining all disposal related records for five years due to the inconsistency in the regulatory requirements. We appreciate the revision as it will result in shorter record retention for our facilities, more space will be created, and less time will need to be spent on file management. The existence of records which are four and five years old is not useful as there has been no need to refer to these records unless one was being inspected by an environmental agency.

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.

DCN PH4P109  
COMMENTS Ford  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 109  
COMMENT

The rule proposes a streamlining measure to the land disposal regulation notification process. It is proposed that a generator whose waste meets the appropriate treatment standards only be required to submit a one-time notification and certification to the treatment storage or disposal facility (TSDF). Generators are currently required to file this notification and certification every time a waste shipment is generated.

The original intent of this requirement was to make certain that the receiving facility was aware of the applicability of the LDR's, since the generator was most familiar with the waste and the regulations. As the LDR program has grown in complexity it has become apparent that the TSDF's are most knowledgeable of the rules and often assist the generator in filling out the notification forms used by the generator to notify the TSDF. LDR notifications no longer serve any purpose. Ford recommends that the requirements for LDR notifications be deleted. Although the proposal to reduce the notification to a one-time requirement for new and modified waste streams is a substantial improvement over the current process, a deletion of the LDR notifications would best accomplish the goal of streamlining the notification process. This is a paperwork change that would save substantial expense of resources with no adverse environmental impact.

#### RESPONSE

The Agency does not agree that the LDR notification should be eliminated at this time. EPA continues to look for ways to further reduce paperwork burden; however, in order to ensure that the Agency's ability to protect human health and the environment is not compromised by these changes, we are only implementing those changes that have been thoroughly analyzed and which have been previously proposed. As stated previously, the Agency will continue to implement changes to the paperwork requirements where practicable and your suggested changes will be evaluated during this process.

DCN PH4P109  
COMMENTS Ford  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 109  
COMMENT

Revisions to Waste Analysis Plan Submittal Requirements for  
Generators

Currently generators treating prohibited waste in tanks, containers, or containment buildings to meet applicable treatment standards are required to file a waste analysis plan with the EPA Regional Administrator or the authorized state agency at least 30 days prior to the treatment activity. The proposed rule would eliminate the generator filing requirement. The generator would still be required to prepare a detailed waste analysis plan and keep the plan on site in the generator's records. This proposed streamlining of the generator's report filing requirements should be adopted. The managing of this additional paperwork by the agency, states and the regulated community do not add any value to waste management and compliance processes. The plan still would be developed, documented and made available for inspection at the facility so that agency enforcement tools remain intact.

RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.



DCN PH4P109  
COMMENTS Ford  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 109  
COMMENT

**Revision of LDR Notification Record Retention Period**

The proposed rule changes the record retention time period for LDR notification forms from five years to three years. This would make the LDR records retention requirements consistent with the record retention requirements for waste manifests, which are closely related documents. Ford supports this revision. Similar record retention periods for all paperwork associated with waste shipments will assist facilities' environmental staff in meeting records retention requirements.

Ford believes that these recommendations, if implemented, would result in an equally or more effective rule that is less burdensome to both the regulated community and the regulatory agency.

**RESPONSE**

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.

DCN PH4P113  
COMENTER Chemical Manufacturers Assn  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 113  
COMMENT

E. CMA commends the Agency for its efforts to "clean up" the existing regulatory language of the land disposal restrictions (LDR) and suggests that the Agency finalize it separate from the Phase III and Phase IV proposals if they be delayed.

Both the Phase III and Phase IV proposals offer needed fixes to the existing LDR program that the regulated community would benefit from without harming human health or the environment. While CMA has suggested holding up promulgation of the LDR Phase III and Phase IV proposals (see Section VII of these comments), we believe that there are no reasons to hold up finalizing the "clean ups" that the agency has proposed. Specifically, CMA supports finalizing of the following proposed "clean ups":

Phase III

removal of § 268.2(f)(1), § 268.2(f)(2), § 268.2(f)(3) from the definition of wastewaters

removal of § 268.8

removal of § 268.10, § 268.11, and § 268.12 from Subpart B

Phase IV

revisions to § 268.4(a)(2)(iv) to clarify that there are no additional recordkeeping requirements

other than those found in § 264.13 and § 265.13

revisions to § 268.5(e) to clarify that a case-by-case extension to an effective date on a land

disposal restriction can be granted for up to two years

revisions to § 268.7 to clarify the existing notification

requirements. CMA especially concurs with the Agency on: reducing notification requirements for generators whose waste stream meets the LDR standards in §

268.7(a)(3); not requiring generators that treat their wastes

to submit waste analysis plans to the Regional Administrator in §

268.7(a)(5); reducing the record retention time from 5 to 3 years

in § 268.7(a)(8); and streamlining the lab pack notification requirements to only include the requirements of § 268.7(a)(2), § 268.7(a)(6), and § 268.7(a)(7).

revisions to § 268.9 to clarify that a waste stream which carries

both listed and characteristic codes that the characteristic codes do not attach when the listed treatment standards address each characteristic

removal of §§ 268.30 - 268.37 removal of Appendices I, II, VII, VIII, IX and X

## RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort. Most, but not all, of the proposed changes listed above are being made in the Phase IV final rule. The Agency is not promulgating a change to 268.5 to allow that renewals for case-by-case extensions could be applied for at the time the initial case-by-case extension is applied for. Furthermore, Appendices VII and VIII are being revised rather than deleted.

DCN PH4P104  
COMMENTS SSINA  
RESPONDER RC/NV  
SUBJECT CLNP  
SUBJNUM 104

COMMENT V. PARAGRAPH (B) UNDER 40 C.F.R. ~ 268.9 SHOULD BE REVISED IN  
CONJUNCTION WITH PARAGRAPH (A) TO AVOID UNINTENDED TREATMENT

REQUIREMENTS FOR LISTED HAZARDOUS WASTES In the preamble to LDR Phase IV, the Agency states that paragraphs (a) and (b) under 40 C.F.R. § 268.9 will be revised to explain "how wastes should be identified when they are both listed and characteristic wastes." 60 Fed. Reg. at 43,678. However, the Agency only proposes revisions to paragraph (a) in LDR Phase IV. Paragraph (b) is not revised in LDR Phase IV. The Agency should revise paragraph (b) in conjunction with paragraph (a). Otherwise, some listed wastes will inadvertently and inappropriately be treated as both a listed and a characteristic waste. This will impose unintended treatment requirements for some listed hazardous wastes. Responding to the proposed rulemaking for LDR Phase III, SSINA previously commented that paragraph (b) should be revised in conjunction with paragraph (a). See, Letter from SSINA to EPA (May 1, 1995). These comments on the proposed LDR Phase III rule, 60 Fed. Reg. 11,702 (Mar. 2, 1995), are attached as Exhibit 3. The attached comments are consistent with the Agency's stated intent in the preamble to LDR Phase IV. The Agency summarizes its intention for the "clean up" of 40 C.F.R. § 268.9 by stating: The existing regulations require that for the LDR notification, a waste must be identified as a listed waste and also as a characteristic waste unless the listed waste has a treatment standard for the constituent or addresses the hazardous characteristic that causes the waste to also be characteristically hazardous. 60 Fed. Reg. at 43,678. However, revising paragraph (a) without revising paragraph (b) would not meet this "clean up" goal and would unintentionally impose extra treatment requirements for some listed hazardous wastes. Therefore, as SSINA previously indicated in its comments to LDR Phase III, the Agency should revise paragraph (b) in conjunction with paragraph (a). Paragraph (b) should be revised according to SSINA's previously submitted comments. See comments as attached as Exhibit 3.

## RESPONSE

As explained in the Response to Comments Document for the Phase III final rule, the Agency sees no need to amend 268.9(b). Paragraph (b) requires that wastes mixtures be evaluated to determine if the listed portion of the waste has a treatment standard for the constituent that makes the characteristic portion of the waste characteristic. If so, then only the treatment standard for the listed waste must be met for the waste mixture. If, however, the listed waste does not address the constituent that makes the waste characteristic, a determination must be made on the characteristic portion of the waste and underlying hazardous constituents (UHCs) reasonably expected to be present in the waste must also be treated. The commenter's concern that paragraph (b) subjects all listed wastes which also exhibit a characteristic to a requirement to evaluate whether the waste contains UHCs is unfounded. EPA has already determined the constituents of concern for listed wastes and is not imposing a requirement to also determine the characteristic and UHCs in listed wastes.

DCN PH4A004

COMMENTER Heritage Environmental Se

RESPONDER RC

SUBJECT CLNP

SUBJNUM 004

COMMENT Reduction-of Paperwork Requirements Heritage strongly supports

EPA's proposal to expand the one-time notice and certification allowance proposed in the original Phase IV proposed rule to generator wastes that do not meet treatment standards and wastes shipped from treatment facilities to other treatment facilities or disposal facilities. Expansion of the one-time notice and certification to treatment facilities is reasonable because treatment facility RCRA permits typically include a rigorous sampling and analysis protocol to verify compliance with applicable treatment standards. The same rationale used to justify the reduced requirement for generators would also apply to treatment facilities. There seem to be few benefits to the requirement for an LDR notice with each shipment, as the information once submitted on the initial notice seldom changes for most waste streams. Receiving facilities already know the applicable treatment standards based on the waste codes approved for a wastestream and included on other shipping papers received with each shipment. Once the appropriate information regarding the LDR compliance of a specific wastestream is received and noted by the receiving facility, it can easily be referenced for future shipments. The one-time notice system would significantly reduce LDR notice errors, as the generating facility and TSDF would be able to concentrate on the completeness and correctness of the initial notice. Under the current system, the paperwork is so overwhelming and complex, generators often make errors which divert many of the receiving facilities' resources towards follow-up and correction, and increases the potential for overlooking an inaccurate notice.

#### RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.



DCN PH4A006

COMMENTS Department of Energy

RESPONDER RC

SUBJECT CLNP

SUBJNUM 006

COMMENT JIL Proposed Reduction in Paperwork Requirements for the Land

Disposal Restrictions Program IIA Section 269.7 1. D. 2363, col. 3., and v. 2372. col. 3 - D. 2373, col. 1 - EPA proposes to change 40 CFR 268.7(a)(2) which currently requires generators to notify the treatment or storage facility in writing with each shipment of a waste that does not meet the LDR treatment standards. As revised, 40 CFR 268.7(a)(2) would require notification to the treatment or storage facility only with the first shipment of such a waste. A new notice would be required only if changes occurred to the waste or process generating the waste, or the waste was shipped to a different treatment or storage facility. The notice must include the information in column "268.7(a)(2)" of the Notification Requirements Table in 40 CFR 268.7(a)(4). DOE supports the proposed modification. However, as was stated in DOE's comments on the LDR Phase IV proposed rule, EPA should conform the title used in 40 CFR 268.7(a)(2) to refer to the table in 40 CFR 268.7(a)(4) with the actual title of the table. Presently the actual title is "Paperwork Requirements Table," rather than "Notification Requirements Table."

#### RESPONSE

The preamble and regulatory language correctly refer to the Paperwork Requirements Table 1 and Table 2 in the final rule.

As EPA states in the preamble, shredded circuit boards are often shipped in boxes, bulkbags, supersacks, drums, and other containers (61 ER 2363, cot. 1). DOE Comments, Proposed Rule regarding Land Disposal Restrictions -- Phase IV, Specific Comment III.A.3.c(1)(b)(I), p. 25 (11/20/95). In addition, DOE requests clarification in regards to the extent of the notification and certification requirements that apply in cases where a restricted waste is generated, stored, treated and disposed at the same site. -As EPA is aware, DOE operates large,



complex Facilities which may include within their boundaries, but not proximate to one another, both generating units and treatment, storage, or disposal units. In such circumstances, shipments of hazardous waste may occur entirely "on-site" (and such shipments must comply with certain notification requirements). DOE requests that EPA clarify how the proposed change to the LDR notification requirements (as well as all other LDR notification requirements) apply to such on-site shipments.

## RESPONSE

The Agency prefers not to address specific examples of the applicability of the regulations (as submitted by the commenter) in this Response to Comments Document. Rather, if these examples are raised in a letter to the Agency, interpretations of the regulations will be made. EPA believes as a general matter that responding to questions such as these without a specific factual context can lead to confusion or error, and consequently declines to do so here.

2. D. 2363, col. 3 - D. 2364, col. 1 - The proposed one-time notification and certification requirements for wastes that do not meet the treatment standard as generated would not apply to lab packs. The Agency asserts that the one-time notification requirement would be inappropriate for lab pack wastes because it is highly unlikely that lab packs will contain exactly the same hazardous wastes each time they are generated. EPA specifically requests comments on this issue. Although lab packs are highly variable in most cases, there are certain instances where generators ship, either on a regular or a periodic basis, routine and consistent lab packs. Typically, lab packs are managed in accordance with §268.42 and may occur on a periodic basis. It would seem appropriate that for lab packs which are managed based on a consistent process or routine waste stream, the same one-time notification relief should be afforded that is being proposed for other restricted wastes (provided the waste, the process, and the receiving facility do not change" from waste shipment to waste shipment). Generators (and treatment facilities shipping residuals for further treatment or ultimate disposal) will be required to make this determination for each waste stream. Generators of lab packs should be no different in this respect.

## RESPONSE

The one-time notification requirement is being extended to lab packs.

3. D. 2364, col.1: and ip. 2373, col. 1 - EPA proposes to change 40 CFR 268.7(b)(4) which currently requires treatment facilities to notify subsequent treatment or disposal facilities of the LDR status of wastes or treatment residues with each shipment. As revised, 40 CFR 268.7(b)(4) would require notification by treaters only with the initial shipment. A new notice would be required only if changes occurred to the waste or treatment residues, or if shipment occurred to a different treatment or disposal facility. DOE supports the proposed modification. However, as was stated in DOE's comments on the LDR Phase IV proposed rule, it appears that the reference to 40 CFR 261.3(e) in proposed 40 CFR 268.7(b)(4) should be changed to either 40 CFR 261.3(f)(1) or 261.3(f)(2), which exclude certain hazardous debris from regulation. EPA removed 40 CFR 261.3(e) from the regulations on October 30, 1992 [57 FR 49279]. Therefore, since 40 CFR 261.3(e) has been removed from the regulations, and since, even before it was removed, 261.3(e) did not address hazardous debris, DOE believes the reference to it in proposed 261.7(b)(4) is an error. 3 DOE Comments, Proposed Rule regarding Land Disposal Reactions -- Phase IV, Specific Comment III.A.3.c(1)(m), p. 28 (11/20/95).

## RESPONSE

The commenter correctly pointed out that the 261.3(e) was not the right citation--the citation has been corrected to refer to 261.3(f).

DCN PH4A009  
COMMENTS IPC  
RESPONDER RC  
SUBJECT CLNP  
SUBJNUM 009

COMMENT Finally, IPC would like to commend EPA for proposing to streamline the reporting and record keeping burden associated with the Land Disposal Restrictions (LDR) Program. The proposal would establish a one-time notification process for wastes that do not meet LDR treatment standards at the point of generation. This process would - replace a current requirement that requires shippers to notify the receiving facility every time such waste is shipped. IPC appreciates EPA efforts to streamline and eliminate redundant and unnecessary administrative procedures that consume facility resources but which do not compromise the protectiveness or enforceability of the LDR program. IPC looks forward to EPA's issuance of additional streamlined record keeping and reporting rules in the future.

RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.

DCN PH4A011

COMMENTS NY State Dept. of Environ

RESPONDER RC

SUBJECT CLNP

SUBJNUM 011

COMMENT 5. Land Disposal Restrictions General This Department agrees with the EPA on their paperwork reduction initiatives for the LDR. The proposed changes outlined on pages 2372 and 2373 of the January 25, 1996 Federal Register are welcomed. However the revised text of 40 CFR 268.7 (b)(5) retains the references to 40 CFR 268.32 and RCRA 3004 (4). These references appear to be no longer applicable. The references are to the California list which is being eliminated. Section 268.32 is proposed as a renumbered section dealing with mineral processing wastes. To continue in its effort to "clean up" the LDR and remove unnecessary, outdated regulatory language EPA should take this opportunity to remove all references to the California list. There are several of these references remaining in PART 268 which will create confusion for the regulated community. We believe this to be simply an oversight, since EPA has previously stated the California list has been superseded by more specific treatment standards. New York State also believes that EPA should clarify how the California list has been superseded with regard to liquid hazardous waste containing over 50 ppm PCBs, or hazardous waste containing over 1,000 ppm halogenated organic compounds, (HOCs), and which is hazardous for a property that does not involve toxics. It is unclear that this is the case and this is a critical issue, as the California List is still imposed by RCRA 3004(d) and, therefore, can only be superseded by requirements that are at least, equally stringent. PCBs or HOCs as regulated hazardous constituents of a listed waste, or as underlying hazardous constituents of a characteristic non-metal waste would be addressed when the LDR specifies treatment for underlying hazardous constituents to the UTS level. But, for example, how will liquid hazardous waste (e.g., characteristically hazardous for a metal) that does not have PCBs as regulated hazardous constituents and contains over 50 ppm PCBs be regulated under the LDR? With the California list being eliminated from Part 268, New York (which regulates PCB wastes over 50 ppm as hazardous) would like to see in the final rule an explanation of how this has been superseded. For PCBs, is TSCA the answer? It would appear that TSCA would clearly impose requirements when liquid PCB levels exceed 500 ppm (i.e.,

land disposal is prohibited), but what supersedes the California list prohibitions when PCBS levels are in the range of 50-500 ppm? The regulated community in New York, and other states disposing of PCBs in New York, have had many confusing scenarios arise due to the statement by EPA that the entire California list has been superseded.

#### RESPONSE

The Agency continues to believe that all the treatment standards for California List wastes have been superseded by more specific standards (55 FR at 22675; 52 FR at 29993). The Agency believes that the treatment standards for listed hazardous wastes are the most specific. Next would be the characteristic waste treatment standards with their associated treatment standards for underlying hazardous constituents (UHCs).

The Agency stated in the In 1990, the Agency stated its belief that all standards had been superseded at that time with the exceptions of (1) liquid hazardous wastes that contain over 50 ppm PCBs; (2) HOC-containing wastes identified as hazardous by a characteristic property that does not involve HOCs, as for example, an ignitable waste that also contains greater than 1000ppm HOCs; and (3) liquid hazardous wastes that exhibit a characteristic and also contain over 134 mg/l nickel and 130 mg/l of thallium. These three exceptions have now become subject to more specific standards as explained below. All of the wastes in these examples are subject to the LDR requirement that all UHCs reasonably expected to be present in a characteristic hazardous waste at the point of generation must be treated to meet Universal Treatment Standards (UTS) (and, of course, the hazardous characteristic would also have to be treated prior to land disposal).

What is eliminated under this approach, however, is the requirement in some cases to incinerate the waste rather than treat in any way other than impermissible dilution to meet UTS levels. The Agency does not view this as in any way making the regulations less stringent. The Agency sets methods of treatment when the residues cannot be analyzed to see if they meet UTS, or when the technology is clearly far superior to other types of treatment for a particular waste. Neither of these conditions exist for the examples provided by the commenter. In the case of PCBs, they must meet UTS and then be disposed in a TSCA-approved landfill. The Agency believes that regulations under two statutes is as protective as required incineration of the PCBs. While the Agency once believed that it was necessary to require incineration of high-HOC wastes, it is possible that they can be adequately treated-- i.e. treated in a way that destroys or removes these constituents from the waste before disposal -- by other technologies to meet the UTS concentration levels. Therefore the California List treatment standards are superseded and are no longer in effect in the RCRA program.

DCN PH4A016

COMMENTS Public Service Electric &

RESPONDER RC

SUBJECT CLNP

SUBJNUM 016

COMMENT LDR Notification Simplification of LDR Notification Requirements PSE&G supports EPA's proposal to modify the LDR notification requirements by allowing a one-time notification for multiple shipments of the same waste that do not meet treatment standards, from the same generator to the same treatment facility. (61 Fed. Reg. 2363-64) PSE&G applauds the Agency for its interest in eliminating unnecessary regulatory burden, while insuring continued compliance with the LDR requirements and simplification of the LDR process. PSE&G requests the Agency consider elimination of the LDR notification requirement entirely as most wastes are now subject to the LDR program, and incorporate LDR notification information the Agency feels necessary into the Uniform Hazardous Waste Manifest.

#### RESPONSE

The Agency does not agree that the LDR notification should be eliminated at this time.

EPA continues to look for ways to further reduce paperwork burden; however, in order to ensure that the Agency's ability to protect human health and the environment is not compromised by these changes, we are only implementing those changes that have been thoroughly analyzed and which have been previously proposed. As stated previously, the Agency will continue to implement changes to the paperwork requirements where practicable and your suggested changes will be evaluated during this process

DCN PH4A017

COMMENTER Chemical Waste Management

RESPONDER RC

SUBJECT CLNP

SUBJNUM 017

COMMENT IX. Changes to §268.7 (61 Fed. Reg. at 2372) The Agency is

proposing to reduce the LDR Notification/Certification

requirements applicable to generators and treatment facilities.

The Agency is proposing to change §268.7(a)(2), §268.7(a)(9),

§268.7(b)(4), and §268.7(b)(5). Following are CWM's specific

comments on each of these proposed changes. A. §268.7(a)(2)

(61 Fed. Reg. at 2372) Under §268.7(a)(2), as proposed in the

Phase IV LDR rule, a generator that is managing a restricted

waste, and determines that the waste does not meet the

applicable treatment standards is required to notify the

treatment or storage facility in writing and include specific

information. The Agency is proposing to change this requirement

to a one-time notice to each treatment or storage facility

receiving the waste, while also requiring the generator to place

a copy in the file. No further action is necessary until the

waste changes or the waste is sent to a different facility, at

which time a new notice must be sent and a copy placed in the

generator's file. CWM commends the Agency for proposing this

regulatory change to the requirements. Changes such as this

will help to alleviate the overwhelming paperwork burden for

generators and permitted TSDFs .

RESPONSE

The Agency thanks you for your interest in and support of the paperwork burden reduction effort.





DCN PH4A017

COMMENTER Chemical Waste Management

RESPONDER RC

SUBJECT CLNP

SUBJNUM 017

COMMENT B. §268.7(a)(9) (61 Fed. Reg. at 2373) The Agency is proposing that generators managing a lab pack containing hazardous waste that wishes to use the alternative treatment standard for lab packs found at §268.42(c), must continue to provide a notice with each shipment to the treatment facility. In addition, the Agency is reducing the amount of information required with this notice, and is changing the certification statement that must accompany this notice. CWM believes that the proposal to require a notification with each shipment is unnecessary in the case of lab packs that are being managed under the alternative lab pack requirements of §268.42(c). CWM disagrees with the Agency's statement "that it is highly unlikely that lab packs will contain exactly the same hazardous wastes each time they are generated, since they are typically used to consolidate small amounts of a number of various chemical wastes to facilitate handling and treatments. CWM believes that lab packs do contain the same hazardous waste codes that are approved on a profile specific basis under a facilities waste analysis plan. CWM uses a profile to obtain detailed information on a generator's waste which includes the process generating the waste; the physical and chemical parameters of the waste, and whether the waste requires treatment. This information is then used to determine whether the waste can be managed at the facility. For example, an approved lab pack profile to an incineration facility will indicate specific waste codes. An approved lab pack profile may be approved for D001 wastes. Each shipment from that generator may contain different chemical compounds; however, each compound exhibits the characteristic of ignitability. This is an over simplified example, as many profiles contain multiple codes and some shipments may not include every waste code; however, the key is that the lab packs consistently contain the same waste codes or a subset of waste codes approved under a profile. Further, CWM believes that the 268.42 requirement to incinerate lab packs is a clear basis to reduce paperwork, and lends itself well to a one-time notification on a profile specific basis. CWM encourages the

Agency to re-examine this requirement, and to reduce the notification requirements to a one-time notice that is profile specific.

#### RESPONSE

The Agency has reexamined the lab pack issue and has decided to allow a one-time notification for lab packs unless the waste, process or receiving facility changes. The Paperwork Requirements Table 1 has been changed to include a column for lab packs. It should be noted that there are no requirements to identify the waste constituents or subcategories for the hazardous wastes placed in a lab pack.

DCN PH4A017

COMMENTER Chemical Waste Management

RESPONDER RC

SUBJECT CLNP

SUBJNUM 017

COMMENT C. §268.7(b)(4) (61 Fed. Reg. at 2373) The Agency is proposing to reduce the notification requirements for a treatment facility that ships waste or treatment residues to a land disposal facility to a one-time notification. If the waste changes or a new facility is used a new notice must be sent and a copy placed in the files. CWM supports this proposed change; however, CWM believes that the proposed language should be changed to reflect the specific information that is required. CWM recommends that the last sentence in (b)(4) be changed from "The one-time notice for all other waste shall include the requirements:" to reference the paperwork requirement tables for §268.7(b). It is not clear to CWM in the Phase IV rule published on August 22, 1995, which paragraph this table is located in, or what the specific requirements are as the language is currently proposed.

#### RESPONSE

The commenter's suggestion has been considered in revising the final rule.

DCN PH4A017

COMMENTER Chemical Waste Management

RESPONDER RC

SUBJECT CLNP

SUBJNUM 017

COMMENT D. §268.7(b)(5) (61 Fed. Reg. at 2373) The Agency is proposing to reduce the certification requirements for a treatment facility shipping waste or treatment residues to a land disposal facility where the waste has been treated to meet the applicable treatment standards to a one-time notification. CWM supports this proposed change; however, as stated in the comments on 268.7(b)(4), CWM believes that the language should be modified to reference the paperwork requirement table so that the regulated community can identify the specific information which must be included with this notice.

#### RESPONSE

The Agency is not convinced there is a need to modify 268.7(b)(5) as the commenter suggests. Wastes that are subject to paragraph (b)(5) are also subject to (b)(3), which directly references the Paperwork Requirements Table 2, setting out the information needed on the notification.

DCN PH4A017

COMMENTER Chemical Waste Management

RESPONDER RC

SUBJECT CLNP

SUBJNUM 017

COMMENT E. General §268.7 Comments Within the §268.7 paperwork requirement tables located in proposed §268.7(a) & (b), as well as under the current requirements, the Agency requires the identification of the waste code subdivisions/subcategories. In both the proposed and current language the Agency provides an example which states, "(such as D003 reactive cyanide)." CWM questions whether the entire regulatory subdivision/subcategory as it appears in §268.40 must be included on the notification/certification, or whether an abbreviation of the subdivision/subcategory can be used similar to the example the Agency uses in the current and proposed regulatory language. The reason for CWM's question is based on a conversation with EPA personnel shortly after the Ignitable/Corrosive rule was published on May 24, 1993. See 58 Fed. Reg. at 29,860. In this conversation EPA indicated that the complete subdivision/subcategory must be included on the notification/certification form. CWM believes that the complete regulatory subdivision/subcategory description is unnecessary provided that the information provided allows the treatment/disposal facility to determine the appropriate subdivision/subcategory. For example, CWM believes that use of "Reactive Cyanides" should be sufficient information rather than having to include "Reactive Cyanides subcategory based on 261.23(a)(5)". CWM specifically requests that the Agency provide detailed examples to address this issue in the final rule preamble discussion so that the specific requirements are clear to the regulated community. In addition, CWM encourages the Agency to allow the regulated community to use shortened versions of the subdivision/subcategory descriptions.

#### RESPONSE

It is the Agency's interpretation that shortened versions of the subdivision/subcategory descriptions are permitted so long as they can be easily understood.

DCN PH4A019

COMMENTER Westinghouse Electric Cor.

RESPONDER RC

SUBJECT CLNP

SUBJNUM 019

COMMENT Clean Up of Part 268 Regulations Reference: Preamble at Part Two, Section U.B.3, page 2366 The regulatory citations in this preamble part, specifically, Section 268.7(b)(3) and (b)(4) do not correlate with the proposed regulation provided on page 2373. We believe the preamble should have referenced Sections 268.7(b)(4) and (b)(5).

RESPONSE

The commenter is correct. Changes have been made in the final rule.

DCN PH4A019

COMMENTER Westinghouse Electric Cor

RESPONDER RC

SUBJECT CLNP

SUBJNUM 019

COMMENT Proposed Reduction in Paperwork Requirements for the Land

Disposal Restrictions Program Reference: Preamble at Part Two, Section H.D, page 2364 We support EPA's proposal to require a one-time-only LDR notification. The current requirement to provide a notification for each shipment by a generator or treatment facility is unnecessarily burdensome and does not provide commensurate protection of human health or the environment. This change will clarify notification requirements for generators that also treat, store, and/or dispose of their own waste. This situation is common at many facilities Westinghouse manages for the U.S. Department of Energy. For example, most mixed waste is stored until appropriate treatment becomes available. Under current regulations, LDR notifications are required for each on-site movement of waste.

RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.

DCN PH4A031

COMMENTER Laidlaw Environmental Ser

RESPONDER RC

SUBJECT CLNP

SUBJNUM 031

COMMENT Laidlaw strongly supports the Agency's proposals which reduce the recordkeeping and reporting burden for complying with the LDR requirements. 8.1 Laidlaw submits for consideration two additional changes that would ease confusion in the generator and waste management industry's. Part 268.7(a) of 40 CFR contains waste analysis and recordkeeping requirements for generators disposing of waste subject to the LDR requirements. Section 268.7(a)(1) contains the information required to be included on the notification submitted to the TSD to the TSD facility for waste subject to the LDR requirements. Specifically, 268.7(a)(1)(vi) requires the notice to include the date the waste is subject to the prohibitions. The language contained in 268.7(a)(1)(vi) was added by the Phase 11 technical corrections that were published on January 3, 1995, on page 242, column 3. The preamble language on this page states that "Paragraph (vi), with the language that appeared as paragraph (v) before the Phase 11 rule, is being, added in today's amendments." Our research of previous versions of the LDR requirements indicates that the language contained in 268.7(a)(vi) did not exist in this section prior to the Phase 11 rule. Further, this language was not included in the Phase 11 LDR proposed rule that was published on September 14, 1993. Laidlaw questions the Agency's reasoning for including the requirement to provide this information since it serves no apparent usefulness in complying with the LDR requirements. Over the last year, we have received numerous inquiries from waste generators on the reasoning for requesting this information. We also question the legality of requiring this information since there was no published notice of the new requirement or any ability, to make public comment. Laidlaw recommends that the Agency use this opportunity to drop the requirement to provide the information required by 268.7(a)(1)(vi). This information serves no apparent purpose toward insuring compliance with the LDR requirements by our TSD facilities. By dropping this requirement, EPA will be furthering its goal of simplifying the LDR program and reducing the recordkeeping burden of hazardous waste generators and TSD facilities.



**RESPONSE**

The commenter has discovered a mistake in the regulations that is corrected in the final rule.

DCN PH4A032

COMMENTS Eastman Kodak Company

RESPONDER RC

SUBJECT CLNP

SUBJNUM 032

COMMENT We are also strongly in favor of the proposal to reduce the paperwork necessary for notification/certification of compliance with the Land Disposal Restrictions (LDR).

RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.

DCN PH4A032  
COMMENTS Eastman Kodak Company  
RESPONDER RC  
SUBJECT CLNP  
SUBJNUM 032  
COMMENT

Reduce LDR Paperwork for Routine Waste Streams  
Kodak supports the Agency's proposal to eliminate the need for LDR notifications/certifications for routine shipments of the same waste to the same treatment or disposal facility. Over the years both generators and Treatment, Storage and Disposal (TSD) facilities have learned to better understand the implications of the LDR treatment standards. Generators typically create a "waste profile" for a particular waste stream with a TSD facility, long before the first shipment is made. This "waste profile" establishes an understanding of analytical data, waste codes, and the applicable treatment standards. While sending a notification/certification form with the first off-site shipment may serve to confirm this information, subsequent copies have little or no environmental impact (other than killing trees to make the paper they are printed on). In the past, these additional copies have simply become busywork for the generator and TSD facility, and have become a target for paperwork violations of the regulations. We urge the Agency to take this step to focus the RCRA regulations on more substantive issues than a piece of paper, and to continue reducing the paperwork burden on the regulated community. We urge you to adopt the proposed exclusions and LDR paperwork reduction noted above as you finalize the Phase IV LDR rule. In addition, we urge the Agency to continue work to reinvent environmental regulations by further revising the definition of solid waste and looking for other ways of eliminating unnecessary paperwork.

#### RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.

DCN PH4A035  
COMMENTS Metals Industries Recycling  
RESPONDER RC  
SUBJECT CLNP  
SUBJNUM 035  
COMMENT MIRC supports EPA's proposed LDR paperwork reductions.  
RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.

DCN PH4A035

COMMENTS Metals Industries Recycli

RESPONDER RC

SUBJECT CLNP

SUBJNUM 035

COMMENT B. MIRC Supports EPA's Proposed LDR Paperwork Reductions and

Suggests a Conforming Change to the Land-applied Product

Notification Under EPA's current LDR program, generators of

hazardous wastes must determine whether the wastes meet

applicable treatment standards at the point of generation and,

if they do not, they must notify the treatment or storage

facility in writing with each shipment. 40 C.F.R. § 268.7(a).

8.1 Similarly, RCRA treatment facilities are required to send a

notification each time they ship a waste or treatment residue to

land disposal facilities or to different treatment facilities

for further management. Id. § 268.7(b). As part of EPA's 25

percent recordkeeping reduction goal, EPA has proposed to change

these notification requirements to one-time notifications. NURC

strongly supports these proposed amendments to 40 C.F.R. § 268.7

and applauds EPA for its effort to eliminate unnecessary

recordkeeping burdens. MIRC requests that EPA also modify in a

similar fashion the notification requirements under 40 C.F.R. §

268.7(b)(7). Under that subsection, when recyclable materials

are used in a manner constituting disposal pursuant to section

266.20(b), the recycling facility must separately submit with

each shipment of the material a certification (section

268.7(b)(5)) and a notification (section 268.7(b)(4)) to the

Regional Administrator or designated representative. This

"landapplied product" notification is identical to the section

268.7(b)(1) notification except that the recipient of the

notice is the Regional Administrator rather than a treatment or

disposal facility. See 53 Fed. Reg. 31138, 31198 (Aug. 17,

1988) (rationale for notification). As with the section

268.7(b)(4) notification, the paperwork burden far outweighs the

minimal benefits, if any, of requiring a recycling facility to

submit essentially the same certification and notification with

every shipment when the nature of the material or process does

not change from shipment to shipment. Consequently, MIRC

recommends that EPA change the section 268.7(b)(7) notification

requirement to a one-time notification similar to the proposed

change to 40 C.F.R. § 268.7(b)(4). A one-time notification

requirement for 40 C.F.R. § 268.7(b)(7) would greatly reduce the

paperwork burden for recycling facilities while satisfying EPA's

information needs.

## RESPONSE

The commenter's suggestion is beyond the scope of this rulemaking. It will, however, be considered as part of efforts to further reduce paperwork in the future.

DCN PH4A040

COMMENTER Kennecott Energy Co.

RESPONDER RC

SUBJECT CLNP

SUBJNUM 040

COMMENT b. One-time Notification [FR 2345] It appears (from the proposed regulatory language) that EPA intends the condition related to onetime notification to apply whether or not there is land placement. On the other hand, the preamble says "The one-time notification would be submitted by the operator of the land-based unit . . ." Where there is legitimate recycling with no speculative accumulation, and no land placement to raise the possibility of discard, EPA has no authority and no reason to require any notification. If EPA nevertheless requires notification, a one-time, brief submittal should be sufficient. It is believed that, for the majority, if not all, cases, any information provided in the notification would be available in existing operating permits, thus of questionable value. Such a redundant notification requirement might conflict with the Paperwork Reduction Act. In the case of land-based units, notification seems justified so that an agency can evaluate whether there is discard.

#### RESPONSE

The LDR requirements for one-time notifications attach at the point of generation of any hazardous waste destined for eventual land disposal.

DCN PH4A040

COMMENTER Kennecott Energy Co.

RESPONDER RC

SUBJECT CLNP

SUBJNUM 040

COMMENT II. Proposed Reduction in Paperwork Requirements for the Land Disposal Restrictions Program A. Section 268.7 Kennecott agrees with one-time notification of LDR forms and submittal of new forms only when the waste stream changes.

RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.



DCN PH4A044

COMMENTER Battery Council International

RESPONDER NV

SUBJECT CLNP

SUBJNUM 044

COMMENT BC strongly supports the Agency's proposal to reduce paperwork requirements under the Resource Conservation and Recovery Act (RCRA) Land Disposal Restrictions (LDR) program. A one-time notification and certification requirement for materials repeatedly shipped from BC battery manufacturing plants to secondary smelters for reclamation will simplify the tracking of these wastes and reduce paperwork burdens, while still ensuring consistency in waste management and allowing proper RCRA enforcement. 1 Many BC battery manufacturers and secondary smelters have "tolling" arrangements, buy-sell agreements, or otherwise regularly do business with each other. Under these mechanisms, the battery manufacturing plant repeatedly ships the same type of material (and approximately the same volume per shipment) to the secondary smelter for reclamation. The shipped materials include materials described in 40 C.F.R. Part 266, Appendix XI. 2 Recovered lead then is either returned to the manufacturer or sold to another consumer as a product. Recovered plastic from the batteries generally is handled in one of two ways: either the secondary smelter reprocesses the plastic on-site and ships the reprocessed plastic (i.e., molding resin) to the battery manufacturer or consumer for use in a product; or the plastic is shipped to a plastics reprocess or (usually designated by the battery manufacturer) to be made into molding resin and then returned to the battery manufacturer for use in a product. Under the current RCRA regulations, the battery manufacturer (or its shipper/agent) is to complete a separate LDR notification form for each of these shipments. Each form contains essentially the same information as the form sent to the smelter with the previous shipment. Thus, the smelter is not acquiring any new knowledge about the shipped materials. Moreover, smelter operations are not adjusted based on these certifications. The forms thus serve no meaningful purpose. BC estimates that in 1995 approximately 76,000 separate shipments of lead bearing materials were received by U.S. secondary smelters. Under existing rules, each of these should have been accompanied by a LDR certificate. A one-time notification would tremendously

reduce this paperwork, eliminating the need for most of these forms, BC thus strongly supports this proposal. 1/ BC supported this proposed requirement during EPA 's Definition of Solid Waste Task Force Round table discussions. 2/ These include plates and groups, grids, posts, separators, battery casings and certain other lead-bearing materials generated or originally produced by the lead-acid battery manufacturing industry,

#### RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.

DCN PH4A047

COMMENTS Safety-Kleen Corp.

RESPONDER RC

SUBJECT CLNP

SUBJNUM 047

COMMENT C. SAFETY-KLEEN HAS THE FOLLOWING ADMINISTRATIVE AND

PROCEDURAL COMMENTS ON THE PROPOSED SUPPLEMENTAL PHASE IV  
LDR

REGULATION 8. Safety-Kleen supports the change to requiring a one-time LDR notice to treatment and storage facilities for wastes that do not meet the LDR treatment standards, under 40 CFR 268.7(a)(1). The EPA's proposal to require a one-time LDR notification is a significant improvement for reducing paperwork burdens associated with manifesting, but Safety-Kleen believes that this burden could be reduced even further by eliminating the requirement for LDR notification for any waste destined for recycling. The LDR notification requirement should first apply when recycling residues are transported for disposal or treatment. Safety-Kleen encourages and supports all simplifications to the RCRA regulations that ease the paperwork burden on the regulated community. Because Safety-Kleen handles hundreds of thousands of manifests each year, each with an associated LDR notification, we strongly support the Agency's proposal to requiring only a one-time LDR notification for restricted wastes that are sent to storage and treatment facilities. The Agency's proposed conditions on the LDR paperwork management and updates appear to be fair and achievable. The EPA appears to be making the LDR notification revision to the wrong section of the regulations. The preamble states that the one-time notification will apply to wastes "which do not meet the appropriate treatment standards, but the composition of these wastes, or the process generating the wastes, or the treatment facility receiving wastes does not change ..." (61 FR 2363). In the LDR regulations, 40 CFR 268.7(a)(1) applies to "... a waste [that] does not meet the applicable treatment standards..... while 40 CFR 268.7(a)(2) applies to "... waste [that] can be land disposed without further treatment ...". The preamble is clear that the one-time notification would apply to the former category of wastes (i.e., 40 CFR 268.7(a)(1)). However, the proposed regulatory language indicates modifications to 40 CFR 268.7(a)(2). The proposed regulatory language must be changed to modify the appropriate

section of the rules.

#### RESPONSE

The commenter's suggestion that EPA should eliminate the requirement for LDR notification for any waste destined for recycling is beyond the scope of this rulemaking. It will, however, be considered as part of efforts to further reduce paperwork in the future. The commenter's concern about the regulatory language cross-referencing the wrong paragraph must be based on the regulatory language as it appears in the current issue of 40 CFR 268.7, rather than on the regulatory language as rewritten and renumbered in the proposed Phase IV rule. The Agency is finalizing the language as it was proposed, and the cross-referencing is correct based on this regulatory language.

DCN PH4A053

COMMENTS Inco Ltd., Internat'l Met

RESPONDER RC

SUBJECT CLNP

SUBJNUM 053

COMMENT We also support EPA's proposed reduction in paperwork requirements regarding generator notifications to receiving facilities under the Land Disposal Restrictions program but believe a clarification is needed.

#### RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.

DCN PH4A053

COMMENTER Inco Ltd., Internat'l Met

RESPONDER RC

SUBJECT CLNP

SUBJNUM 053

COMMENT III. EPA 's Proposed Reduction in Paperwork Requirements Is

Sensible but Needs To Be Clarified. We support EPA 's proposal to allow one-time notification, rather than shipment-by-shipment notification, when waste that does not meet applicable treatment standards is shipped by a generator (or treatment facility) to the same receiving facility as prior shipments of the same type of waste. However, EPA should clarify the requirement that a new notification must be sent when "the waste . . . change[s]." See proposed Sections 268.7(a)(2) . 268.7(b)(4), 61 Fed. Reg. at 2373/1. The concept of a "change in the waste" is rather vague. An appropriate clarification might be to require a new notification whenever a change in the waste affects the determination of which treatment standards apply to the waste or which treatment standards are not met by the waste as generated.

#### RESPONSE

The Agency agrees that a new notification should be done whenever a change in the waste affects the determination of which treatment standards apply to the waste or which treatment standards are not met by the waste as generated.

DCN PH4A054

COMMENTS RSR Corporation

RESPONDER RC

SUBJECT CLNP

SUBJNUM 054

COMMENT RSR strongly supports the proposed revisions to the notification provisions of 40 C.F.R. Section 268.7. The proposal to require a one-time notification and certification requirement under the Land Disposal Restrictions (LDR) requirements will greatly ease paperwork burdens while ensuring that shipments of secondary materials are appropriately tracked. A similar recordkeeping provision exists today for characteristically hazardous wastes that are decharacterized and shipped to RCRA Subtitle D facilities. This proposed revision also is consistent with EPA's initiative to reduce by 25 percent the paperwork burden on the regulated community. Absent this revision, it will be difficult for EPA to achieve its paperwork reduction goals.

#### RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.

DCN PH4A054

COMMENTS RSR Corporation

RESPONDER RC

SUBJECT CLNP

SUBJNUM 054

COMMENT III. RSR SUPPORTS THE PROPOSED REVISIONS TO 40 C.F.R.

SECTION 268.7 RSR supports the proposed revisions to the notification provisions of 40 C.F.R. Section 268.7. The proposal to require a one-time notification and certification requirement under the Land Disposal Restrictions (LDR) requirements will simplify paperwork burdens while ensuring that shipments of secondary materials are appropriately tracked. The proposed revisions will not compromise protection of human health and the environment or enforcement of RCRA 's provisions. RSR believes the proposed regulatory change is long overdue. Indeed, this revision was one of the "low hanging fruit" that RSR urged EPA to pursue in the redefinition of solid waste roundtable effort in 1994. RSR urges EPA to act quickly on this proposed revision and similar issues raised in the redefinition of solid waste effort. Many battery manufacturers and secondary lead production facilities have so-called "tolling" arrangements, buy-sell agreements, or otherwise regularly ship lead-bearing materials back and forth to one another. Battery manufacturers typically ship the same type of materials (and roughly the same volume per shipment) to a secondary lead production facility for reclamation. These shipped materials include lead-acid batteries, materials on 40 C.F.R. Part 266 Appendix XI, and other lead-bearing materials. Under these arrangements, secondary lead production facilities reclaim the lead and/or plastic from these materials. The lead and plastic is then either resold to the manufacturer or sold to another customer as a product. According to data generated by the Battery Council International (BCI), and cited in BCI 's comments on this proposed rulemaking, in 1995 approximately 76, 000 separate shipments of leadbearing materials were received by U.S. secondary lead production facilities. There is little variation in the types or quantities of these materials. The composition of the materials, the processes generating the materials, and the facility receiving the materials also rarely change. Nonetheless, under the existing provisions of 40 C.F.R. Section 268.7, each of these shipments was required to have been



accompanied by a notification and, in some instances, a certification. In addition, each form sent to the secondary lead production facility contains the same information as the previous form. It is not uncommon for RSR to receive thousands of these forms every month. The forms must be reviewed and retained by RSR personnel, even though they provide little, if any, added protection to human health or the environment. A one-time notification would tremendously reduce this paperwork and the associated burden associated with filling out, reviewing, and retaining the forms. In fact, by EPA's own estimates, the proposed revision could result in an estimated reduction of 1,519,000 hours per year of paperwork burden. This is equivalent to 730 employee years. RSR believes the proposed changes will achieve greater reductions in paperwork burden than those estimated by EPA. EPA can save industry millions of dollars that now are wasted on paperwork requirements that, by EPA's own admission, can be removed without abridging in any way protection of human health and the environment. EPA has taken a similar approach to tracking requirements for characteristically hazardous wastes that are decharacterized and shipped to RCRA Subtitle D facilities. Under that provision, a one-time notice is required to be submitted to the EPA Regional office or authorized State agency. The notice must be updated if the waste or process changes. To RSR's knowledge, there have been no substantive concerns raised with EPA regarding this existing regulatory provision. This proposed revision also is consistent with EPA's initiative to reduce by 25 percent the paperwork burden on the regulated community and with President Clinton's report on Reinventing Environmental Regulation. By EPA's own admission, the LDR program is one of the largest programs in terms of recordkeeping and reporting. Nowhere are EPA's paperwork reduction efforts more sorely needed than in the LDR provisions. EPA clearly can make significant strides towards this 25 percent reduction goal and towards reinventing environmental regulation if it promulgates this proposed revision. Indeed, RSR is concerned that, absent this proposed revision, EPA will be hard pressed to meet this goal. EPA is claiming an overall reduction of 1.6 million hours in LDR paperwork requirements. The General Accounting Office (GAO), however, recently testified before Congress that this reduction is overstated. As explained by GAO in its testimony, in 1995 EPA revised its estimate of the paperwork burden for the LDR program from 755,000 hours to 5

million hours. The effect of this readjustment has resulted in a mistaken impression of the remaining LDR paperwork burden. As explained by GAO: The planned reduction in the paperwork burden of 1.6 million hours for the land disposal restrictions program is based on a reestimated paperwork burden of 5 million hours. Thus, it appears that about one-third of the total burden for that program has actually been reduced, leaving about 3.4 million hours. However, EPA will apply the 1.6 million reduction against the January 1995 baseline of 755,000 hours for the program, giving the mistaken impression that this burden has been eliminated. Moreover, EPA estimates that, even with its projected decreases, EPA's overall paperwork burden will continue to increase to about 117 million hours by the end of fiscal year 1996. This proposed revision thus is critical to ensuring EPA meets its paperwork reduction goals. RSR also supports EPA's implementation requirements associated with this one-time notification provision. It is appropriate that a new notice be sent to a facility if the waste changes, or the process changes, or the receiving treatment facility changes. RSR also supports the proposed requirement that mandates the receiving facility to maintain a copy of the one-time notification. Given the tremendous potential savings in paperwork reduction and burdens this proposed revision offers, and the fact that it would in no way compromise protection of human health or the environment or EPA's enforcement actions, RSR sees no reason barring promulgation of this revision. RSR strongly urges EPA to do so. RSR requests clarification on one issue raised in the rule. In the proposal, EPA states the following: EPA is proposing that when a treatment facility is shipping waste or treatment residue for further management at a land disposal facility or other treatment facility, and the waste, treatment residue or land disposal/treatment facility does not change, then the treatment facility will only be required to submit a one-time notification and certification to the receiving facility. RSR requests clarification that EPA does not intend for the notification or certification to be sent to a RCRA Subtitle D facility, if that type of facility is to receive the waste, and, of course, provided the waste is no longer hazardous. Such a requirement would be inconsistent with the provisions of 40 C.F.R. Section 268.9(d). For the reasons EPA did not require notices/certifications to be sent to Subtitle D facilities under that provision, RSR urges EPA to clarify that the one-time notice is not to be sent to RCRA

Subtitle D facilities, but to EPA Regional offices or authorized State agencies.

RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community. A notification does not need to accompany wastes sent to a RCRA Subtitle D facility. It must, however, be placed in the generator's files in compliance with existing requirements of 268.9.

DCN PH4P008  
COMMENTS Florida DEP  
RESPONDER PV  
SUBJECT CLNP  
SUBJNUM 008  
COMMENT

Pg. 43691, 268.1(e)(4)(ii): This section is a proposed revision to the proposed rule from the March 2, 1995 Federal Register. There is no §268.1(e)(4)(I) that is currently effective. EPA should have published the full text of the proposed changes. Waste water treatments systems can handle flows of several million gallons per day. Ten thousand gallons per day of a characteristic waste is not a de-minimis loss.

RESPONSE

The commenter is referring to language that was deleted from the regulations in the Phase III final rule on April 8, 1996 in response to the Land Disposal Program Flexibility Act of 1996. This comment is, therefore, moot.

DCN PH4P031  
COMMENTS Department of Energy  
RESPONDER  
SUBJECT CLNP  
SUBJNUM 031  
COMMENT

(k) 40 CFR 268.7(b)(3) -- See comment III.A, item 3.c.(1)(e) above concerning the cross-reference in this section to 40 CFR 261.3(e). It appears that this provision [proposed §268.7(b)(3)] should be revised to refer to §261.3(f).

(l) 40 CFR 268.7(b), Paperwork Requirements Table (item 2) -- See comment III.A, item 3.c.(1)(h) above concerning the wording of this item. Should this item be modified to read, "The constituents of concern for F001-F005 and F039 wastes, and underlying hazardous constituents for all characteristically hazardous wastes (as defined by 40 CFR 261.21 - 261.24), unless the waste will be treated and monitored for all constituents (in which case none are required to be listed)" ?

#### RESPONSE

The commenter is correct that the cross-reference should be to 261.3(f). This has been corrected in the final rule. The wording of 40 CFR 268.7(b) has been clarified as suggested by the commenter.

DCN PH4P036  
COMMENTS American Iron & Steel Ins  
RESPONDER RC  
SUBJECT CLNP  
SUBJNUM 036  
COMMENT

In one particular instance, however, AISI suggests that EPA streamline the regulations even further than the Agency proposes. Under the existing 40 C.F.R. § 268.7(a)(4), which would be redesignated 40 C.F.R. § 268.7(a)(5) under the proposed rule, generators treating prohibited wastes, to meet applicable treatment standards, in tanks, containers, or containment buildings regulated under 40 C.F.R. § 262.34 must develop and follow a waste analysis plan ("WAP") and submit that plan to appropriate EPA or state regulatory authorities. In the Phase IV rule, the Agency proposes to delete the requirement that the WAPs be submitted to the regulatory authorities. See 60 Fed. Reg. at 43,678. AISI supports this measure, but believes that the Agency should go further, and delete the requirement to develop and follow a WAP in the first instance. The WAP requirement applies only if the generator treats the waste to achieve the applicable LDR treatment standards. See 55 Fed. Reg. at 22,670 ("EPA does not believe ... that it needs to require waste analysis plans from 90-day generators who treat partially, but do not treat to achieve the treatment standard."). In such an event, however, the generator must certify that the waste is eligible for land disposal. See 40 C.F.R. § 268.7(a)(2). This certification requirement should be sufficient to ensure that the wastes are, in fact, treated to meet applicable treatment standards. Accordingly, the WAP requirement is redundant and should be deleted.

#### RESPONSE

The Agency does not agree with the commenter that the WAP requirement is redundant, and is not making the suggested change to the requirements.

DCN PH4P113  
COMMENTS Chemical Manufacturers Assn  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 113  
COMMENT

IV. IMPROVEMENTS TO THE EXISTING LDR PROGRAM

A. EPA SHOULD GRANT AN EXEMPTION FROM LDR REQUIREMENTS DURING UNINTENTIONAL RELEASES OF HAZARDOUS MATERIALS.

CMA addresses here the issue of whether LDR requirements should apply to unintentional releases of listed and characteristic hazardous wastes. Despite best operating practices and engineering design, there will be times when unintentional non-de minimis spills and emergency releases will occur. Such discharges will trigger emergency responses that may require, for safety reasons, the discharge of hazardous (listed or characteristic) or decharacterized wastes into subtitle C or D surface impoundments. Currently 40 CFR 264.1(g)(8) and 265.1(c)(11) exempt the facility from Part 264/265 emergency response exemptions to eliminate the risk of a regulatory violation during the immediate response to a threatening situation, and thus, provide the facility with the maximum flexibility to address the situation.

CMA recommends that EPA amend 40 CFR 268.1 by adding the following section to subsection(e):

The following materials are not subject to any provisions of Part 268:

(6) Hazardous wastes that are unintentionally discharged, or materials which become hazardous waste after being unintentionally discharged, provided that upon detection, they are promptly treated or contained. After the immediate response is over, further containment, treatment, or disposal subsequent to that performed for emergency treatment or containment of such waste is subject to all applicable

RESPONSE

The comment is beyond the scope of this rulemaking. The Agency will consider this suggestion when making regulatory changes in future rulemakings.

DCN PH4P116  
COMMENTS Oxychem  
RESPONDER RC  
SUBJECT CLNP  
SUBJNUM 116  
COMMENT

Oxychem supports the "clean-up" of Part 268 rules.

RESPONSE

The Agency acknowledges the commenter's support.

DCN PH4A056

COMMENTS Utility Solid Waste Activity Group

RESPONDER RC

SUBJECT CLNP

SUBJNUM 056

COMMENT Finally, EPA has proposed a number of changes to the RCRA LDR program that USWAG supports.

RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.



DCN PH4A056

COMMENTER Utility Solid Waste Activ

RESPONDER RFC

SUBJECT CLNP

SUBJNUM 056

COMMENT Vill. USWAG Supports Simplification of the LDR Notification Requirements. EPA is proposing to modify the LDR notification requirements by allowing a one time notification for multiple shipments of the same waste that do not meet treatment standards from one generator to the same receiving facility. 61 Fed. Reg. at 2363-64. USWAG previously expressed its support for a one time notification for wastes that meet the treatment standards in the interests of regulatory efficiency and the elimination of a redundant paperwork requirement. See USWAG Comments on "Land Disposal Restrictions - Phase IV: Issues Associated with Clean Water Act Treatment Equivalency, and Treatment Standards for Wood Preserving Wastes and Toxicity Characteristic Metal Wastes," Docket No. F-95-PH4P-FFFFF (November 20, 1995). USWAG is fully supportive of both proposals, which will eliminate an unnecessary regulatory burden, facilitate compliance with the LDR requirements, and assist in the streamlining of the LDR program. In fact, because nearly all wastes are now subject to the LDR S, USWAG urges the Agency to eliminate the LDR notification requirement entirely and incorporate whatever information the Agency believes necessary into the hazardous waste manifest.

#### RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community. The issue of eliminating LDR notification in favor of including the same information in the hazardous waste manifest is outside the scope of this rule. That suggestion will be considered in the context of future EPA regulations.

DCN PH4A070

COMMENTS FMC Corporation

RESPONDER RC

SUBJECT CLNP

SUBJNUM 070

COMMENT X. FMC Strongly Supports The Proposed Reduction In LDR

Paperwork, FMC greatly appreciates EPA's efforts to streamline the cumbersome and paper-intensive Land Disposal Restrictions recordkeeping and reporting requirements and strongly supports the proposed paperwork reductions. FMC agrees that there will be significant cost and manpower savings directly attributable to the proposed paperwork reductions. One time notifications instead of notices with each shipment will be a significant reduction in paperwork without any reduction in protection of human health and the environment.

RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.



DCN PH4A084

COMMENTS Chemical Manufacturers As

RESPONDER RC

SUBJECT CLNP

SUBJNUM 084

COMMENT CMA strongly supports the proposed reduction in LDR paperwork. CMA greatly appreciates EPA's efforts to streamline the cumbersome and paper intensive Land Disposal Restrictions record keeping and reporting requirements and strongly supports the proposed paperwork reductions. CMA agrees that there will be significant cost and manpower savings directly attributable to the proposed paperwork reductions. One time notifications instead of notices with each shipment will be a significant reduction in paperwork without any reduction in protection of human health and the environment.

RESPONSE

The Agency appreciates your interest in, and support of our efforts to streamline the LDR program and reduce paperwork burden on the regulated community.

DCN PH4P034  
COMMENTS CMA UIC Task Force  
RESPONDER PMC  
SUBJECT CLNP  
SUBJNUM 034  
COMMENT

Retain existing regulation that exempts listed hazardous wastes from treatment standards applicable to characteristic wastes when the listed waste's treatment standards already address the hazardous constituents at issue.

#### RESPONSE

Section 268.9(b) is retained unchanged in the regulations.

DCN PH4P034  
COMENTER CMA UIC Task Force  
RESPONDER PMC  
SUBJECT CLNP  
SUBJNUM 034  
COMMENT

Further modify the de minimis wastewater exemption to assure that analytical costs for compliance are reasonable and clarify that this exemption is applicable to all Class I wells, not just to those injecting nonhazardous wastes.

#### RESPONSE

In the Phase III Withdrawal Rule published April 8, 1996, a typographical error occurred which indicated that the Agency was withdrawing 268.1(e)--referring to de minimis losses in general--rather than 268.1(e)(4)(ii)--referring to the de minimis losses provision that applied only to underground injection wells injecting decharacterized wastes. Therefore, in the Phase IV final rule the Agency is clarifying that the general de minimis provision of 268.1(e) remains in the regulations and applies to characteristic wastes rather than products or intermediates. No further modification is being made to the provision because the need for such modification has not been demonstrated. This exemption applies to losses of characteristic wastes to wastewater treatment systems.

DCN PH4P020  
COMMENTS Exxon  
RESPONDER PMC  
SUBJECT CLNP  
SUBJNUM 020  
COMMENT

D. De Minimis exemptions for characteristic wastewaters should be expanded

To avoid triggering extensive requirements for low risk facilities, EPA should adopt a de minimis exemption for characteristic wastewaters. This exemption should be in the form of a headworks-type exclusion for characteristic wastewaters whose volume comprises less than 1% of the total flow sent to CWA systems. The condition that UHCs not exceed ten times the UTS levels should be dropped from the Phase IV LDR proposal since the total volume of the streams is so small that the relationship between the UHC level and the UTS level is unimportant. This new exemption would recognize the minimal risk to health and the environment from de minimis streams and not mandate unnecessary investment.

#### RESPONSE

In the Phase IV final rule the Agency is clarifying that the general de minimis provision of 268.1(e) remains in the regulations and applies to characteristic wastes rather than products or intermediates. No further modification is being made to the provision because the need for such expansion has not been demonstrated. This exemption applies to losses of characteristic wastes to wastewater treatment systems.

It is possible that the commenter is writing this in the context of regulations proposed for the Phase III and Phase IV rules that would have applied to wastewaters managed in Clean Water Act (CWA) and CWA-equivalent wastewater treatment systems and Class I nonhazardous waste wells. The proposed regulations (including a special de minimis provision for such facilities) were made moot by the Land Disposal Program Flexibility Act of 1996, as explained in the withdrawal rule on April 8, 1996 (61 FR 15660).

DCN PH4P059  
COMMENTS Exxon Chemicals Americas  
RESPONDER PMC  
SUBJECT CLNP  
SUBJNUM 059  
COMMENT

4. De Minimis Exemptions: ECA Recommends Modifications to the De Minimis Exemption Proposed for Wastewaters in CWA Systems

To avoid requiring facilities to develop extensive procedures and implement capital investments that are not warranted by the low risks being addressed by the proposed LDR Phase III and IV rules, EPA should ensure that de minimis provisions are adequately refined. The first step EPA should take is to ensure that the provision on de minimis losses of characteristic wastes to wastewaters which was included in the proposed LDR Phase III rule is maintained (60 FR 11740; 268.1(e)(4)(I)). This provision indicates that these de minimis losses are not subject to any provision of part 268. The provision referenced is for de minimis losses of characteristic wastes to wastewaters that are defined as:

"losses from normal material handling operations (e.g. spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well-maintained pump packings and seals; sample purgings; and relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; rinsate from empty containers or from containers that are rendered empty by that rinsing; and laboratory wastes not exceeding one per cent of the flow of wastewater into the facility's headworks on an annual basis."

An example of why this de minimis exemption is important is illustrated by one of ECA's plastics plants. This facility has three surface impoundments in a CWA system that receive streams such as cooling water, clean condensates, and stormwater. Because of the nature of these streams, there is no need for biological treatment. Current facilities allow for the capture of any residual plastic pellets that may be discharged and provide hold-up time prior to discharge (which would allow for hydrocarbon recovery in case of a spill). Within the process there is a stream that is 30% methanol and 70% water. Any drop from this stream would, at the point just before it enters the wastewater system, be a D001



stream and would exceed 10 times UTS for methanol even though it was just a drop. There is always the potential that a pump leak could result in some drops of this material entering the sewer system leading to the impoundments. Without the de minimis clause outlined above, and with a narrow point of generation definition, it would be possible that the LDR Phase IV rule could trigger extensive requirements on the surface impoundments (which would presumably be called pre-bio since there is no significant biological treatment) for only a few drops of material.

In addition to the example provided above, some facilities may have minor streams, either continuous or intermittent, that do not meet the definition of de minimis losses indicated above. Again, to avoid triggering extensive requirements for low risk facilities, EPA should add a second de minimis exemption for characteristic wastes. This exemption should be based on the condition that the total volume of the characteristic waste sent to the CWA system is less than 1% of the total flow at the headworks of the wastewater surface impoundment. There should be no condition that underlying hazardous constituents (UHC) not exceed 10 times UTS, since the total volume of the streams is so small and the effort to quantify UHC for small streams can be a substantial burden. In addition to the sampling and analytical costs, the cost of establishing sampling points in hard-piped systems can be very expensive. These costs, in addition to the costs associated with any additional treatment or surface impoundment modifications that might be required, would be disproportionate to any potential environmental benefit that could be achieved. It is important that EPA maintain focus on significant risk areas, versus overly regulating low/no risk cases, where costs far exceed any slight benefit.

## RESPONSE

In the Phase IV final rule the Agency is clarifying that the general de minimis provision of 268.1(e) remains in the regulations and applies to characteristic wastes rather than products or intermediates. No further modification is being made to the provision because the need for such expansion has not been demonstrated. This exemption applies to losses of characteristic wastes to wastewater treatment systems.

It is possible that the commenter is writing this in the context of regulations proposed for the Phase III and Phase IV rules that would have applied to wastewaters managed in Clean Water Act (CWA) and CWA-equivalent wastewater treatment systems and Class I nonhazardous waste wells. The proposed regulations (including a special de minimis provision for such facilities) were made moot by the Land Disposal Program Flexibility Act of 1996, as explained in the withdrawal rule on April 8, 1996 (61 FR 15660).



DCN PH4P008  
COMMENTS Florida DEP  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 008  
COMMENT

The preamble only discusses surface impoundments. There is no discussion of other land disposal units such as spray fields or innovative treatment units such as created wetlands. Are artificial wetlands equivalent to waters of the United States or to surface impoundments? Where is the point of compliance with such units? Are septic tanks (Class V injection wells) considered CWA equivalent zero discharge treatment? EPA only addressed Class I injection wells in the Phase III proposal.

I believe EPA has underestimated the number of facilities managing decharacterized wastes in CWA land disposal systems. In addition, the number of these facilities that also have RCRA permits has been grossly overestimated. (42%pg. 43659) In most cases the "decharacterization" takes place within the pretreatment tanks, not before the waste is placed in the system. What management standards will apply to facilities that have hazardous constituents in their waste water that are not derived from "decharacterized" sources?

EPA need to add a discussion clarifying the relationship between §262.10 (b) and §261.5 (c). For example, Alcoa, a large quantity generator in Polk County Florida manufactures alumina out of a byproduct of phosphate manufacture. The waste water from this process is both corrosive and toxic due to arsenic. The waste water is discharged to a treatment tank system where it is batch treated with lime, which neutralizes the water and binds the arsenic so that the waste is no longer TC toxic when discharged to a surface impoundment. The waste water is not stored prior to treatment. It is stored briefly after treatment long enough for effluent testing purposes. LDRs do not appear to apply to this waste because it is not accumulated per §262.34 prior to treatment. The site has arsenic contaminated ground water in excess of drinking water standards.

This proposal does not discuss WWTUs that have eliminated the discharge of waste water. We have 2 enforcement cases in Florida that involve large petroleum terminals that have permitted spray evaporation systems for handling storm water and (D001/D018) petroleum contact water. The contact water passes through a simple oil/water separator, supposedly removing the ignitability

characteristic, prior to being diluted with storm water. Is this system treating a D001 waste or recycling a D001 waste and treating a D018 residual? At Chevron in Tampa, the diluted waste is sprayed on top of a large tank which has been painted black for evaporation. No secondary containment is provided. Overspray has been seen to occur, but it evaporates prior to hitting the ground. Amerada Hess in Jacksonville has a similar system, except that the tank containing the spray heads is a concrete sump. Soils around the sump are visibly stained from overspray. These systems are NPDES permitted zero discharge units. On at least one occasion in the last year, water collected from the sprayhead at the Chevron terminal in Tampa was still D018 waste. Amerada Hess has not tested their waste yet. Does the treatment standard apply at the sprayhead or at the point the spray reaches the ground? If it applies at the ground, there is no approved method to collect a sample of the effluent for volatile organic compound analysis.

Pg. 43673 Are sludges generated in up line pretreatment tanks and sumps going to be subject to the same standards as the proposed management standards for sludges removed from prebiological CWA surface impoundments?

The present definition of "sludge" is insufficient to distinguish it from "waste water." We have chronic problems with septic haulers who pump out waste water holding tanks for land application without regard to whether the tank holds sewage or industrial waste water. Several years ago EPA signed a national consent order with several major petroleum companies overdischarging floor wash water contaminated with hazardous waste to septic tanks. Not all the waste percolated into the ground. These tanks are periodically emptied of dirt and sludge by septic haulers. The sludges and waste waters are sometimes taken to a POTW, and sometime they are land applied after treatment to raise the pH above 12 for 2 hours.

EPA should redefine some of the wastewater and sludge listings to clarify RCRA applicability, especially if standards are adopted that differentiate between primary, secondary and tertiary treatment. Otherwise the sludges from secondary treatment (as you define it) of electroplating waste waters might not be considered to be listed if the sludge is not characteristically hazardous. That would not accord with EPA's traditional interpretation!

## RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P015  
COMMENTS BP Oil  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 015  
COMMENT

An exemption from Phase III/IV LDR requirements is critically needed for wet weatherflow stormwater impoundments.

BP Oil has submitted previous comments on this issue in the Phase III Land Disposal Restriction (LDR) rulemaking (Comments to Docket No. F-95-PH3P-FFFFF, dated April 28, 1995) and is repeating them because of the critical nature of this issue for our facilities.

BP Oil currently has a wet weather flow stormwater pond at each of its two Midwestern refineries. These refineries, typical for facilities of their age, have "combined" sewers which receive stormwater combined with decharacterized process water during major storm events. We recently constructed large-capacity tanks to replace other surface impoundments at the refineries in order to meet primary sludge, Toxicity Characteristic (TC) waste, and Benzene Waste NESHAP requirements. The remaining combined-flow stormwater impoundments receive wet weather flow during major storm events only and are used infrequently. The replacement tank capacity precedes the impoundments. The impoundments receive flow only during storm events; therefore, they are not primary sludge (F037/F038) impoundments. The influent to the impoundments is not TC waste; the water and the sludges in the impoundments are not TC wastes.

At both refineries, any stormwater entering the impoundments is transferred to the aggressive biological treatment system for treatment prior to discharge. The transfer is made as soon as flow conditions permit, since water levels in the impoundments are kept low to provide needed capacity for the next storm event.

It makes little common sense to spend tens of millions of dollars to construct tanks to replace these impoundments that are used approximately once or twice per year and that represent very low risk to the environment. Space constraints for construction of additional tanks would be an issue at our refineries as well as the cost and problems of pumping the significant quantities of stormwater which must be managed during a storm event if a gravity-flow sewer system cannot be utilized. The cost of installing segregated sewer systems at these refineries is prohibitive. The existing stormwater impoundments provide needed flexibility for handling stormwater flows in a cost-effective

manner. Therefore, EPA should exempt wet weather flow impoundments from the Phase III and Phase IV rules because of the very low risks associated with these facilities and the very high costs of alternative means of stormwater management.

BP Oil supports proposed Option 1 - no additional requirements for non-hazardous surface impoundments under the Phase IV rules. The court's opinion (Chemical Waste Management, Inc. v. EPA, 976F.2d.2 (D.C. Cir. 1992), cert. denied 113 S. Ct. 1961(1993)) clearly indicates that Clean Water Act (CWA) nonhazardous surface impoundments can continue to be used to receive and treat decharacterized wastewater, provided that the waste is treated to RCRA standards. The court did not address potential risks associated with the impoundments themselves and assumed that they would continue to be used for treating decharacterized wastewater.

The proposed Phase III LDR rulemaking requirements would require that wastewaters meet Universal Treatment Standard (UTS) levels at the NPDES discharge point of the CWA system. This requirement is sufficient to meet the findings of the court, and no additional requirements addressing leaks, air emissions, and sludges for these non-hazardous impoundments are needed in the Phase IV rulemaking. Further, as we have supported in previous comments, we urge EPA to determine in the Phase III rulemaking that aggressive biological treatment (ABT) is the BDAT standard for decharacterized petroleum refinery wastewaters.

BP Oil agrees with EPA that proposed Option 3 is not legally or technically justified and that the costs of this option would far exceed benefits.

If Option 2 is selected in spite of the persuasive arguments for Option 1, BP Oil agrees with EPA that the rule should not address leak and sludge issues for biological and postbiological units. The activated sludge in aggressive biological treatment (ABT) impoundments is non-hazardous and meets Universal Treatment Standards (UTS). The American Petroleum Institute (API) submitted data in the Phase III rulemaking which demonstrate that these

levels are being met for organic constituents in petroleum refinery wastewaters and will be submitting additional data in Phase IV comments. In our comments on the Phase III rulemaking, BP Oil submitted toxicity Characteristic Leaching Procedure (TCLP) data on the activated sludge in the ABT impoundment at one of our refineries demonstrating that TCLP metal concentrations are less than UTS levels.

The influent water to biological and post-biological units is not hazardous, and the contents, both sludge and water, are not hazardous. ABT systems are well-mixed in order that biodegradation can take place. The concentration of constituents is consistent throughout the impoundment and generally represents effluent concentrations, e.g. levels less than UTS levels. Therefore, we agree with the Agency that the Phase IV rule need not address sludge and leak issues for biological and post-biological units.

Under Option 2 compliance with existing Clean Air Act (Benzene Waste NESHAAP and Refinery MACT) requirements which are applicable to petroleum refineries should fulfill Phase IV air emission control requirements for refinery CWA non-hazardous surface impoundments.

Clean Air Act (CAA) requirements such as the Benzene Waste NESHAAP (40CFR Part 61, Subpart FF), the New Source Performance Standards (NSPS) for Petroleum Refinery Wastewater (40CFR Part 60, Subpart QQQ), and the pending Refinery MACT requirements (59FR 36130, July 14, 1994) are applicable to non-hazardous surface impoundments at petroleum refineries, and duplicative air emission requirements under the RCRA program are unnecessary. The Agency should defer to the CAA regulations rather than issue overlapping rules under the RCRA regulatory program. The Agency should also make clear that if a refinery or facility is meeting requirements under a CAA standard, such as Benzene Waste NESHAAP, the refinery is not subject to proposed requirements under Option 2, even if individual units are not required to be controlled by the CAA requirements or if the facility itself falls below the triggering levels of the CAA standard. We have submitted similar comments on this issue to the Agency concerning potential revisions to the Subpart CC rules (Docket No. F-95-CE3A-FFFFF, BP Oil comments dated October 10, 1995).

As a general comment, the expansion of the RCRA regulatory program to include air emission requirements has become very complex since the existing and potential RCRA air emission requirements overlap



with existing CAA requirements. As we have commented previously, air emissions are best regulated under CAA programs. If air emissions from hazardous waste treatment, storage, and disposal facilities are a threat to human health and the environment, the section 3004(n) provisions of RCRA are best addressed in CAA programs. We have now come to a situation where hazardous waste regulations are proposed to be applicable to nonhazardous wastes and facilities. Air emission requirements designed for permitted hazardous waste units (which are not applicable to non-hazardous facilities or wastewater treatment facilities under current Subpart CC rules) are now proposed to be applicable to non-hazardous wastes managed in some CWA treatment facilities, e.g. non-hazardous surface impoundments. This makes no common sense. The very low risks to human health and the environment represented by this rulemaking do not warrant the complexity that has developed.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P015  
COMMENTS BP Oil  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 015  
COMMENT

We support the concept of multi-unit groundwater monitoring and self-implementation by facilities subject to groundwater monitoring and corrective action under Phase IV requirements.

Preamble language (60 FR 43760) notes that under the municipal solid waste landfill regulations, section 258.51(b) allows approval of a multi-unit groundwater monitoring system rather than requiring separate groundwater monitoring systems for each unit and that multi-unit monitoring may be protective and less expensive to install and monitor for non-hazardous surface impoundments. BP Oil strongly supports such provisions.

Groundwater monitoring must be conducted under a number of RCRA program requirements including those for permitted and interim status units, post-closure requirements, and under RCRA corrective action requirements. Non-hazardous surface impoundments are classified as solid waste management units (SWMU's) under the corrective action program, and groundwater monitoring will likely be required for many of these units. In addition, state regulatory requirements may already require groundwater monitoring of non-hazardous impoundments.

The addition of more groundwater monitoring requirements under the Phase IV LDR rulemaking is unnecessary. The duplicative and overlapping requirements have already become technically difficult and very costly. For example, at one of our refineries we consistently obtain groundwater monitoring data showing low and "non-detect" levels of constituents for certain monitoring wells.

The data continues to be obtained and reported to authorities quarter after quarter at substantial sampling and analytical costs with little apparent benefit or use. We are working to obtain relief for this situation under current requirements. Adding additional groundwater monitoring requirements in the Phase IV rulemaking only compounds the problem. Site-specific, technically-sound, cost-effective methods of obtaining needed data should be allowable, and multi-unit groundwater monitoring is an example of the flexible approach which is needed.

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that

underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P017  
COMMENTS: Kodak  
RESPONDER: PMC  
SUBJECT: EQUV  
SUBJNUM 017

COMMENT: Kodak also has two other recommendations. We support EPA's reasoning that new regulation of surface impoundments is not necessary because threats to human health and the environment are already adequately minimized.

**Existing Regulations Adequately Minimize Threat from Releases from Surface Impoundments.**

EPA has proposed three options for minimizing threat from releases from surface impoundments. We believe that current regulations already adequately minimize threat, so that Option 1 is the best choice and no additional regulations are needed. Mike Shapiro, Director of EPA's Office of Solid Waste, testified before the House Subcommittee on Commerce, Trade and Hazardous Materials, that the risks from the wastes regulated under the Phase III and Phase IV rules, "are small relative to the risks presented by other environmental conditions or situations . . .," indicating that EPA does not feel there are significant risks associated with the surface impoundments regulated under this rule.

RCRA § 1006 states, "Nothing in this Act shall be construed to apply to . . . any activity or substance which is subject to the Federal Water Pollution Control Act, . . . except to the extent that such application (or regulation) is not inconsistent with the requirements of such Acts." In the decision of the District of Columbia Circuit in *chemical Waste Management v. EPA* (the case requiring the promulgation of this rule) the court recognized that RCRA requires accommodation with the Clean Water Act (CWA) "to the maximum extent practicable." 976 F.2d at 23. Since Option 1 meets the minimize threat standard in RCRA § 3004(m), and it allows surface impoundments to continue to be regulated exclusively by the CWA, it is the best accommodation with the CWA.



Option 2 creates a whole new set of standards that may duplicate or even contradict other regulations. Air regulations that will cover surface impoundments are being set under the Clean Air Act (CAA). This includes New Source Performance Standards (NSPSs), National Emissions Standards for hazardous Air Pollutants (NESHAPs) (Part 61), and Maximum Achievable Control Technology (MACT) standards (Part 63), as well as federally approved state Hazardous Air Pollutant (HAP) programs and State Implementation Plans (SIPs) that address Volatile Organic Compounds (VOCs). Other potential releases are also controlled. For example at Kodak's surface impoundment in Colorado, the surface water discharges are regulated under the CWA, the sludge from the impoundment requires a state beneficial use permit for land application, and the surface impoundments have double wall liners with leak detection, and groundwater monitoring. Additionally, sludge from a non-hazardous surface impoundment would be regulated as a hazardous waste if it has hazardous characteristics, because the sludge is considered a new point of generation for listing determinations. If EPA promulgates any standards for surface impoundments as proposed in Option 2, we believe they should only apply in cases where there are no other federal or state standards. This would avoid duplicative recordkeeping and reporting and the potential for compliance with two standards that are inconsistent.

We oppose Option 3 that requires treatment of all Underlying Hazardous Constituents before entering the surface impoundment as excessive. As long as the treatment in the surface impoundment adequately minimizes threat, treatment before entering the surface impoundment is not necessary.

#### Recommendations

Because Option 1 is the least burdensome way to minimize threat from surface impoundment releases and the best accommodation with the CWA, Kodak recommends that EPA choose Option 1.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity,

reactivity, or toxicity when generated but are no longer characteristic): On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P018  
COMMENTS Mobil Oil  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 018  
COMMENT

EPA Should Forgo the Phase IV Rulemaking in its Entirety  
In the preamble to the March 2, 1995 Phase III LDR proposal, EPA stated "...the Agency is required to set treatment standards for these relatively low risk wastes and disposal practices during the next two years, although there are other actions and projects with which the Agency could provide greater protection of human health and the environment" and "In a time of limited resources, common sense dictates that we deal with higher risk activities first...", 60 Fed. Reg. 11704, col. 2. Moreover, in the President's April 16, 1995 Reinventing Environmental Regulation announcement, the Administration made a commitment to "refocus RCRA on high risk waste."

While Mobil understands that the Agency is bound by the schedule it agreed to in settlement of EDF v. Reilly, and as modified by the decision in Chemical Waste Management v. EPA, it is equally clear that the Agency retains considerable discretion in how it implements these requirements. In particular, nothing in the Chemical Waste Management v. EPA decision requires that the Agency promulgate standards for non-hazardous surface impoundments. Mobil urges EPA to forego the Phase IV rulemaking in its entirety (Option 1 of the Phase IV proposal) and rely on "other Agency programs to address these releases under current rules or future efforts." 60 FR 43659, col. 2.

Moreover, the Agency's objectives established for RCRA "Rifleshot" legislation, which would preclude the need to promulgate either the Phase III or Phase IV regulations, clearly indicate that the Agency is concerned that going beyond Option 1 would essentially subject these types of facilities to excessive and unnecessary regulation. At a minimum, EPA should make the land disposal restrictions in both Phases III and IV consistent with the environmental significance of the very limited risks associated with these activities, taking into consideration the potential high costs that could be involved. We certainly concur with EPA that we are "in a time of limited resources" and Common Sense dictates that we apply those resources where they will achieve the most benefit. The adoption of Option 1 would signify Common Sense.



## RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P018  
COMMENTS Mobil Oil  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 018  
COMMENT

Mobil facilities routinely manage wastewaters that EPA describes as formerly hazardous, decharacterized wastewaters in CWA treatment systems, some of which have land based treatment units. Thus, Mobil has a significant interest in how EPA promulgates land disposal restrictions governing the management/treatment of such wastewaters.

EPA SHOULD FORGO THE PHASE IV RULEMAKING IN ITS ENTIRETY Mobil noted with interest EPA's comments in the Phase III preamble that stated "...the Agency is required to set treatment standards for these relatively low risk wastes and disposal practices during the next two years, although there are other actions and projects with which the Agency could provide greater protection of human health and the environment" and "In a time of limited resources, common sense dictates that we deal with higher risk activities first...", 60 Fed. Reg. 11704, col. 2. Moreover, in the President's April 16, 1995 Reinventing Environmental Regulation announcement, the Administration made a commitment to "refocus RCRA on high risk waste." While Mobil understands that the Agency is bound by the schedule it agreed to in settlement of EDF v. Reilly, and as modified by the decision in Chemical Waste Management v. EPA, it is equally clear that the Agency retains considerable discretion in how it implements these requirements. In particular, nothing in the Chemical Waste Management v. EPA decision requires that the Agency promulgate standards for non-hazardous surface impoundments. Mobil urges EPA to forego the Phase IV rulemaking in its entirety (Option 1 of the Phase IV proposal) and rely on "other Agency programs to address these releases under current rules or future efforts." 60 FR 43659, col. 2. Moreover, the Agency's objectives established for RCRA "Rifleshot" legislation, which would preclude the need to promulgate either the Phase III or Phase IV regulations, clearly indicate that the Agency is concerned that going beyond Option 1 would essentially subject these types of facilities to excessive and unnecessary regulation. At a minimum, EPA should make the land disposal restrictions in both Phases III and IV CONSISTENT with the environmental significance of the very limited risks associated with these activities, taking into consideration the potential high

costs that could be involved. We certainly concur with EPA that we are "in a time of limited resources" and Common Sense dictates that we apply those resources where they will achieve the most benefit. The adoption of Option 1 would signify Common Sense.

RESPONSE:

In the proposed Phase IV rulemaking, published on August 22, 1996, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments (60 FR 43655). As discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that decharacterized wastewaters that are managed in surface impoundments regulated under the Clean Water Act (CWA) or CWA-equivalent systems are no longer prohibited from land disposal once rendered non-hazardous. The wastes addressed by the August 22, 1995 proposed rule (60 FR 43654), which are decharacterized before they enter impoundments, are no longer prohibited wastes under RCRA. Therefore, any cross-media transfer of hazardous constituents cannot be regulated under RCRA. For these reasons, the Agency is not finalizing any of the options discussed in Section I of the August 22, 1995 proposed rule.

DCN PH4P018  
COMMENTS Mobil Oil  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 018  
COMMENT

In addition, the EPA Office of Solid Waste, in its recent proposal regarding listing determinations for refining residuals, indicated that air exposure pathways were not modeled for residuals entering the refinery wastewater treatment system because "the Benzene NESHAP (55 FR 8292, March 7, 1990) [OSW probably intended to cite the Benzene Waste NESHAP which was modified and promulgated in its final form on January 7, 1993, rather than the Benzene NESHAP that covered benzene transfer operations] and the MACT standards (60 FR 43244, August 18, 1995) for volatile organics emissions were considered to be the pertinent regulatory mechanisms for potential air emission sources." Thus, in the current LDR Phase IV rulemaking, also under RCRA/OSW jurisdiction, the Agency should not find a need for any additional regulation of air emissions from land based refinery ABT units or other refinery wastewater surface impoundments.

RESPONSE:

In the proposed Phase IV rulemaking, published on August 22, 1996, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments (60 FR 43655). As discussed in the April 8, 1996 partial withdrawal notice to the LDR Phase III final rule (61 FR 15660), the *Land Disposal Program Flexibility Act of 1996*, signed by the President on March 26, 1996, provides that decharacterized wastewaters that are managed in surface impoundments regulated under the Clean Water Act (CWA) or CWA-equivalent systems are no longer prohibited from land disposal once rendered non-hazardous. The wastes addressed by the August 22, 1995 proposed rule (60 FR 43654), which are decharacterized before they enter impoundments, are no longer prohibited wastes under RCRA. Therefore, any cross-media transfer of hazardous constituents cannot be regulated under RCRA. For these reasons, the Agency is not finalizing any of the options discussed in Section I of the August 22, 1995 proposed rule.

DCN PH4P018  
COMMENTS Mobil Oil  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 018  
COMMENT

EPA Should Exempt Refinery Wet Weather Flow Impoundments from both Phase III and Phase IV LDRs

During storm events, combined refinery process wastewater and stormwater runoff above the capacity of the refinery wastewater treatment plant must be contained for later treatment during dry weather when there is excess wastewater treatment capacity. This process is necessary to avoid overwhelming the wastewater treatment plant during a storm event, resulting in inadequate oil recovery and biological treatment, with consequent possible failure to meet NPDES discharge limits. Many refineries, particularly those that are older, larger and/or in geographical regions which receive high average rainfalls, utilize land based impoundments to provide containment for wet weather flow. Land based wet weather flow impoundments are inherently low risk because:

They only receive and contain wet weather flow during a storm event and the subsequent period required to work-off the contained inventory through the wastewater treatment plant.

Wet weather flow is primarily stormwater and thus contains only low concentrations of UTS constituents. The UTS is only likely to be exceeded for a very short period of time early in a storm event when any hydrocarbon that is trapped in low spots in the sewer is reentrained by stormwater. Even then, facilities are in place to try to recover this hydrocarbon before it enters a land based unit.

The Agency recognized the legitimate need for such land based wet weather flow impoundments when it provided an exemption for such impoundments from the Primary Sludge Listing rule (55 Fed. Reg. 46354, November 2, 1990). Alternatives to continued use of land based wet weather flow impoundments are very expensive and cannot be justified by the minimal risk reduction that would be achieved.

Mobil's other comments can be summarized as follows:

The Agency is not required to promulgate standards for non-hazardous surface impoundments and should not do so.

Phase IV issues for petroleum refiners represent low risk or are already adequately regulated.

- EPA has adequate data demonstrating that risks posed by sludges or leaks from refinery biotreatment impoundments are very low.
- Air emissions from CWA impoundments are adequately addressed

already by the Refinery Wastewater MACT provisions which invoke the existing Benzene Waste NESHAP. No other regulations are needed to

control emissions from refinery CWA impoundments.

EPA should not adopt Option 3 because it is not legally required, is bad environmental policy, and fails any reasonable standard of cost/benefit assessment.

Adoption of the "battery limits" jurisdictional approach (suggested in the Phase III proposal) offers an alternate approach that could accomplish the objectives of Option 1 and administratively accomplish EPA's Reinventing Environmental Regulation RCRA "Rifleshot" LDR legislation objectives.

#### PHASE IV ISSUES FOR PETROLEUM REFINERS REPRESENT LOW RISK OR ARE ALREADY ADEQUATELY REGULATED

In addition to not being required to impose additional controls on non-hazardous impoundments, the Agency can not justify such imposition based on the very limited risk reduction available, especially in view of the high cost involved. However, if the Agency erroneously decides to regulate non-hazardous surface impoundments, it should adopt Option 2.

Mobil concurs with EPA's Option 2 rationale that there is no need to impose controls on sludges that are deposited in land based aggressive biological treatment (ABT) units, because these sludges have received adequate treatment in the ABT unit. TCLP testing of such sludges verifies that they are non-hazardous and do not constitute a threat to groundwater due to leaching.

Similarly, Mobil also concurs with the Agency's Option 2 conclusion that there is no need to address the integrity of these low risk non-hazardous surface impoundments. Any leaks in land based ABT units constitute a very low risk because (1) ABT units are inherently well mixed, and (2) as API data provided the Agency indicates, refinery ABT units provide a level of treatment virtually equivalent to the UTS. Consequently, since ABTs are well mixed, any leak, even one near the inlet, will be made-up of water that has been treated to near UTS standards. Mobil also concurs with EPA's rationale that facilities already

subject to CAA 112 requirements do not need additional controls on air emissions from these low risk surface impoundments. Air emissions from refinery surface impoundments are already adequately regulated by the Petroleum Refining Wastewater MACT (which invokes the Benzene Waste NESHAP (BWN)) and/or NSPS standards. Background data used in the development of the BWN demonstrate very low volatilization of benzene in refinery ABT units and very thorough biological treatment of benzene and other organics. For this reason, the BWN offers one compliance option wherein the refinery ABT, in conjunction with sealing sewers, is the control device for removal and destruction of benzene. Most refiners with land based ABT units have opted to remove benzene (and other organics) at the source due to RCRA TC. Regardless of the BWN compliance option chosen, in its consideration of MACT requirements for Refinery Wastewater treatment, the Agency determined that the controls in place for BWN would also provide substantial control of other volatile organics, and imposed no new requirement.

EPA should clarify in the final Phase IV rule that compliance with the underlying standard (° 112or NSPS) is sufficient to meet Phase IV air requirements, regardless of the specific manner chosen for compliance as allowed in the particular underlying standard.

If EPA decides to pursue the approach outlined as Option 2 in the preamble, specific regulatory language should be proposed for public review and comment before a final rule is promulgated.

#### **EPA SHOULD NOT ADOPT OPTION 3**

Mobil concurs with EPA's assessment that Option 3 is neither legally required nor good environmental policy. Mobil agrees with EPA that "impoundment based wastewater treatment systems can be effective means of treating decharacterized wastewaters, and can do so without undermining core values of RCRA and the LDR program." 60 FR 43677, col. 1. The Agency has received ample data from API that clearly supports this contention relative to such wastewater treatment systems at petroleum refineries. Mobil refineries participated in these data collection efforts.

The Agency clearly recognizes that a decision to impose more

severe regulation of sludge, leaks, or air emissions from land based ABT units would effectively preclude the use of land based ABT units that are providing UTS equivalent treatment. Replacement of such land based ABT systems with tankage based ABT systems would impose significant costs to construct the new tankage based system and close the land based unit. At one Mobil refinery where this option was evaluated, the capital cost associated with the new tankage based ABT system was estimated at \$20 million, with closure of the land based unit estimated to cost another \$5-10 million (depending on closure method). In the era of Common Sense and Reinventing Environmental Regulation, such costs can not be justified in view of the very minor risk reduction achieved. Any new requirements applied to non-hazardous surface impoundments should be subject to the four year retrofit provisions of RCRA section 3005(j)(6).

#### REFINERY WET WEATHER FLOW IMPOUNDMENTS SHOULD BE EXEMPT FROM PHASE

##### III & IV LDRs

During storm events, combined refinery process wastewater and stormwater runoff above the capacity of the refinery wastewater treatment plant must be contained for later treatment during dry weather when there is excess wastewater treatment capacity. This process is necessary to avoid overwhelming the wastewater treatment plant during a storm event, resulting in inadequate oil recovery and biological treatment, with consequent possible failure to meet NPDES discharge limits. The efficacy of the refinery land based ABT will be equally crucial to maintaining its performance relative to achieving UTS equivalency, and thus, a means of diverting combined process wastewater and stormwater (i.e. wet weather flow) during storm events must be maintained. Many refineries, particularly those that are older, larger and/or in geographical regions which receive high average rainfalls, utilize land based impoundments to provide containment for wet weather flow.

Land based wet weather flow impoundments are inherently low risk because:

- o They only receive and contain wet weather flow during a storm event and the subsequent period required to work-off the contained inventory through the wastewater treatment plant.
- o Wet weather flow is primarily stormwater and thus contains only



low concentrations of UTS CONSTITUENTS. The UTS is only likely to be exceeded for a very short period of time early in a storm event when any hydrocarbon that is trapped in low spots in the sewer is reentrained by stormwater. Even then, facilities are in place to try to recover this hydrocarbon before it enters a land based unit. In the event that some small quantity of hydrocarbon does evade recovery and enter the impoundment, procedures are in place to insure prompt removal. Consequently, the wet weather flow contained in the impoundment is a very dilute mixture. Although none of Mobil's wet weather flow impoundments are so permitted (one has an emergency discharge permit), many such impoundments are routinely permitted for direct discharge of what is predominantly stormwater. Because Mobil's wastewater treatment plants were designed to accommodate and work-off such wet weather volumes, and because Mobil has had considerable success in reducing its water use/treatment needs, Mobil has chosen to treat wet weather flow rather than seek a permit to discharge directly.

o The Agency recognized the legitimate need for such land based wet weather flow impoundments when it provided an exemption for such impoundments from the Primary Sludge Listing rule (55 Fed. Reg. 46354, November 2, 1990). In the preamble to that rule, the Agency states:

"In cases where stormwater cannot be collected in storm sewers(e.g., process sewers are used to collect stormwater), stormwater ponds are used to receive surge flow from the process sewers during storm events. Such facilities will route only wet weather flow(mixed process and stormwater) to these segregated ponds. Sludges generated from segregated stormwater ponds that do not receive dry weather flow (i.e., any process wastewaters or oily cooling wastewaters) are not included in today's listing." 55 Fed.Reg. 46363, col. 1.

#### **ADOPTION OF THE "BATTERY LIMITS" JURISDICTIONAL APPROACH OFFERS AN ALTERNATE APPROACH THAT COULD ACCOMPLISH THE OBJECTIVES OF OPTION 1 AND ADMINISTRATIVELY ACCOMPLISH THE OBJECTIVES OF EPA'S PROPOSED RCRA "RIFLESHOT" LDR LEGISLATION**

If a perfect refinery could be designed, built and operated, it would convert all crude oil to valuable products and not generate any wastes. Unfortunately, such perfection has not been achieved, nor is it likely. The inefficiency of various processing steps and equipment leaks result in small quantities of hydrocarbons which were intended to remain in the upgrading process being

inadvertently diverted to process sewers. These hydrocarbons are valuable and historically, even before the advent of environmental regulation, efforts were made to recover these hydrocarbons for reintroduction into the refining process to make petroleum products. Regulatory requirements (the BWN in particular) and pollution prevention incentives have combined to reduce the amount of hydrocarbons that inadvertently reach process sewers, but the basic economic drive toward recovery remains. Hence, efforts by the Agency to define these materials that inadvertently reach the sewer and are recovered in primary oil/water separators as wastes, or more specifically hazardous wastes, have been strenuously resisted by the refining industry. Within the context of RCRA, Mobil and other refiners contend that these materials are not discarded because they are recovered and reprocessed as a part of the refining process. Hence, if they are not discarded, they are not wastes and cannot be hazardous wastes. Mobil and other refiners continue to contend that the point at which discard of wastewater occurs, and hence RCRA jurisdiction begins, is after oil recovery (i.e., wastewaters exiting primary treatment, either

the oil/water separator or dissolved air flotation unit). While Mobil continues to recommend the foregoing position, it is recognized that the Agency has not yet accepted this position. However, in its Phase III proposal EPA outlined and seemed to be willing to consider a "battery limits" alternative suggested by CMA. The "battery limits" approach defines a "point of rejection" where aqueous streams are aggregated for the purposes of determining whether wastes are prohibited from land management. The concept would allow combining a battery of processes involved in production of a related group of products for consideration as a single manufacturing step. Such aggregation need not be considered impermissible dilution because it is "part of the normal process that results in the waste." S. Rep. No. 284, 98th Cong. 1st sess. 17. The Agency's expressed concern that it might be difficult to define "battery limit" boundaries would not logically apply to petroleum refineries. If refinery products can be viewed as "a group of related products" and refinery processes viewed as "a single manufacturing step", the "point of rejection" of such an aggregation would be the outlet of the primary oil/water separation step, where refinery wastewater typically enters the secondary treatment process (usually ABT). Mobil recommends that EPA at least adopt the CMA proposal if it is unable to accept the more general solid waste definition jurisdictional argument in this

case. Such an interpretation would accomplish the objectives of Option 1, as well as the intentions of EPA's proposed RCRA "Rifleshot" legislation on LDRs, while avoiding solid waste definition issues.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P019  
COMMENTS ASARCO Inc.  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 019  
COMMENT

Asarco is concerned with EPA's proposed imposition of management controls under RCRA pertaining to decharacterized wastes and, in particular, characteristic hazardous wastes that have been deactivated through dilution as proposed in Options 2 and 3. Asarco is also concerned with EPA's proposal to replace LDR standards for land disposal of toxicity characteristic ("TC") metal wastes from Toxicity Characteristic Leaching Procedure ("TCLP") levels to Universal Treatment Standards ("UTS") levels. At the outset, Asarco wishes to make clear that this Proposed Rule cannot and must not encompass "surface impoundments," such as tailings ponds, that are excluded from RCRA Subtitle C jurisdiction pursuant to the Bevill Amendment. These units are excluded even though they may involve the co-management of mining and mineral processing wastes (e.g., alkaline tailings and acid plant blowdown). EPA analyzed these circumstances in its 1985 Report to Congress on Extraction and Beneficiation Wastes and determined that RCRA Subtitle C regulations are not warranted. Regulation of such impoundments is beyond EPA's RCRA jurisdiction, and EPA should ensure this rulemaking adequately distinguishes Bevill-excluded impoundment units. Furthermore, EPA should make clear that any Phase IV LDR proposals that may affect non-Bevill mineral processing wastes are outside the scope of this Proposed Rule and will be addressed in the upcoming supplemental rule.

Asarco also endorses the comments of the National Mining Association and the Lead Industries Association regarding this Proposed Rule and incorporates them herein by reference. Asarco is a member of both organizations.

**Proposed Management Controls for Subtitle D Surface Impoundments That Receive Decharacterized Wastes**

In this Proposed Rule, EPA considers three options to control potential cross media releases from surface impoundments that receive decharacterized wastes containing underlying hazardous constituents ("UHCs") above UTS.

Option 1 is the most effective and appropriate method by which potential cross-media releases from RCRA Subtitle D surface

impoundments should be controlled.

Asarco supports Option 1, which would appropriately rely on existing EPA and state programs to address risks posed by potential cross-media releases from surface impoundments containing decharacterized wastes, and would not require EPA to issue LDR requirements. Asarco supports EPA's position in the Proposed Rule that the United States Circuit Court of Appeals for the District of Columbia circuit in *Chemical Waste Management v. EPA*, 976 F.2d 2 (D.C. Cir.1992), cert. denied 113 S.Ct. 1961 (1993) (hereinafter referred to as the "Third Third Opinion"), does not require the Agency to go beyond the Phase III rule to ensure that "removal of UHCs occurs to the same extent in [Clean Water Act ("CWA")] impoundment-based treatment systems as it does in conventional RCRA treatment systems." 60 Fed. Reg.43659. Moreover, as EPA recognizes in its Proposed Rule, existing or forthcoming regulatory mechanisms are sufficient to prevent impoundments from acting as "conduits for extensive cross-media transfers of untreated hazardous constituents" *Id.* An example is the Arizona Aquifer Protection Act. This Act requires that new and existing "surface impoundments, including holding, storage, settling, treatment or disposal pits, ponds and lagoons" be designed, constructed and operated to: (1) insure the greatest degree of discharge reduction achievable through application of the best available demonstrated control technology; and (2) prohibit discharge of pollutants from causing or contributing to a violation of aquifer water quality standards at the applicable point of compliance. All groundwater in the state is classified as drinking water and must be protected to narrative and numeric drinking water standards.

Under Option 2, EPA would create an entirely new, complex system of treatment standards and management controls concerning sludges, air emissions, and leaks for wastes that are no longer hazardous wastes. This would unnecessarily impose burdensome standards on Subtitle D surface impoundments receiving decharacterized waste. As discussed above, existing EPA and state programs are sufficient to control any potential cross-media releases from such impoundments. EPA's RCRA Subtitle C jurisdiction is limited to "hazardous wastes," as defined by Section 1004(5) of the Act, which EPA acknowledges with regard to imposition of controls on sludges from Subtitle D facilities. 42 U.S.C. § 6903(5). Nevertheless, in its

discussion of Option 2, EPA repeatedly states its intention to impose management controls on "nonhazardous wastewater treatment systems that accept decharacterized waste." See, e.g., 60 Fed. Reg. 43663, 43673. However, even assuming EPA's interpretation of the Third Third Opinion is correct with regard to this Proposed Rule, EPA must justify the need for any management controls based on threats to human health and the environment posed by the remaining UHCs present in a decharacterized waste stream. EPA has not done so in this Proposed Rule. EPA has previously stated that the "characteristic approach does not bring wastes into the Subtitle C system which do not present a substantial present or potential hazard to human health or the environment." 55 Fed. Reg. 11798, 11805 (March 29, 1990). Thus, any attempt to regulate a waste that does not pose a threat to human health and the environment, such as that proposed by EPA in Option 2, is not justified and, therefore is inappropriate.

EPA proposes in Option 2 to apply sludge and leak controls only to surface impoundments in which equalization or settling occurs. The mere fact that settling occurs in Subtitle D or CWA-regulated surface impoundments does not mean that any risk exists. For instance, if the decharacterized waste is placed in a pond to settle out solids so that the water can be reused, the UHC may be an organic that will typically not settle. In that case, the sludge would not contain the UHC, and management controls for land disposal of the sludge would not be necessary. The need for such management controls is not uniform. This approach fails to consider site- or facility-specific factors. EPA's arbitrary assumptions regarding the need for these standards could easily result in over-regulation of non-hazardous materials. While EPA correctly proposes to apply sludge management standards only when sludges are removed from a surface impoundment, EPA's arbitrary distinction unnecessarily imposes a significant regulatory burden. This is a burden that is especially unwarranted in light of the fact that existing or future regulations are sufficient to control any potential cross media releases from all three types of Subtitle D and CWA-regulated impoundments.

EPA itself recognizes that the proposed management controls for sludges are unnecessary, acknowledging that no treatment of sludges would even satisfy the equivalency standard pronounced in the Third Third Opinion. As EPA correctly notes in its Proposed Rule, "literal application of an equivalence test would result in no

treatment of these sludges [removed from Subtitle D surface impoundments], since the sludges will be non-hazardous by definition (they cannot be hazardous wastes because they are being generated in Subtitle D surface impoundments), and so would not

require further treatment under the standard Subtitle C approach." 60 Fed. Reg. 43673. Asarco concurs with EPA's assessment and believes there should be no management standards under Subtitle C for land disposal of sludges removed from Subtitle D facilities.

With regard to Option 2 management controls for leaks, EPA would unnecessarily require annual sampling of decharacterized wastewaters in the impoundments to determine if regulated constituents are present at an arbitrarily established trigger level of ten times the Maximum Contaminant Level ("MCL"), regardless of whether a leak from an impoundment has been detected. EPA would require such annual sampling for as long as the unit is receiving decharacterized waste, despite the adequacy of the existing regulatory controls under the CWA, despite the fact that the waste is nonhazardous and despite the fact that state groundwater protection programs may regulate surface impoundments to minimize risks to human health and the environment. Asarco believes such a requirement is unnecessary and burdensome. In fact, such sampling is more burdensome than the counterpart Subtitle C requirements for active surface impoundments. Moreover, in light of the non-hazardous status of the decharacterized waste, this requirement is not justified and is inappropriate.

Option 2 also includes proposed management standards for air emissions from surface impoundments receiving decharacterized waste. Such management controls are unnecessary, as there may be only very limited potential for hazardous air emissions. This limited potential is already adequately addressed by existing controls that are imposed under the Clean Air Act, such as those pertaining to criteria pollutants and the National Emissions Standards for Hazardous Air Pollutants.

Asarco supports EPA's position that Option 3, which would require that decharacterized wastes meet UTS before entering surface impoundments, is unreasonably burdensome and unwarranted. Asarco agrees that this proposal would undermine the utility of impoundment-based treatment systems as effective treatment units



for decharacterized wastewaters. Moreover, in order to fulfill the requirements proposed in Option 3, facilities nationwide would be forced to incur great expense and disrupt necessary and effective wastewater treatment programs. This, in and of itself, would make a proposal that is purportedly aimed to protect human health and the environment counterproductive. Asarco also believes that Option 3 would unnecessarily impose requirements where there is already little or no risk.

In addition, EPA correctly recognizes in its Proposed Rule that RCRA requires some "accommodation" with the CWA regarding impoundment-based treatment systems. 60 Fed. Reg. 43677. Because Option 3 would override any potential for such an accommodation, this proposal is beyond EPA's authority and should be abandoned.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P019  
COMMENTS ASARCO INC.  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 019  
COMMENT

**Proposed Management Controls for Subtitle D Surface Impoundments That Receive  
Decharacterized Wastes**

In this Proposed Rule, EPA considers three options to control potential cross media releases from surface impoundments that receive decharacterized wastes containing underlying hazardous constituents ("UHCs") above UTS.

Option 1 is the most effective and appropriate method by which potential cross-media releases from RCRA Subtitle D surface impoundments should be controlled.

**RESPONSE**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P020  
COMMENTS Exxon Company USA  
RESPONDER HM  
SUBJECT EQUV  
SUBJNUM 020  
COMMENT

3. The point of generation where LDRs attach should be at the point of wastewater discard

Notwithstanding Exxon's support of Option 1 (no additional controls), the point of generation remains a significant outstanding issue from the Phase III LDR proposal. It is unfortunate that it is not resolved at this point since it has the potential to significantly affect applicability of this rule to petroleum refineries. Through API, Exxon continues to challenge EPA's definition of the point of generation for wastewaters. Exxon has joined with other API members and filed a petition for review of the July 28, 1994 Final rule on the Definition of Solid Waste in Petroleum Refineries. Exxon repeats its assertion that wastewater is not a waste until it is discarded. The point of discard occurs downstream of the last unit that recovers valuable product from wastewater, namely the oil-water separator. This is the most logical definition of discard in a petroleum refinery and should be the point of generation where LDRs attach.

RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P020  
COMMENTS Exxon  
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COMMENT

D. De Minimis exemptions for characteristic wastewaters should be expanded

To avoid triggering extensive requirements for low risk facilities, EPA should adopt a de minimis exemption for characteristic wastewaters. This exemption should be in the form of aheadworks-type exclusion for characteristic wastewaters whose volume comprises less than 1% of the total flow sent to CWA systems. The condition that UHCs not exceed tentimes the UTS levels should be dropped from the Phase IV LDR proposal since the total volume of the streams is so small that the relationship between the UHC level and the UTS level is unimportant. This new exemption would recognize the minimal risk to health and the environment from de minimis streams and not mandate unnecessary investment.

#### RESPONSE

The Agency is retaining the de minimis exemption previously promulgated at 40 CFR 268.1(e)(4). In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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The lack of regulatory language describing the three control options in the Phase IV LDR proposal is a matter of great concern to Exxon. Before promulgation of a Phase IV LDR rule, EPA should make regulatory language available for notice and comment in the Federal Register.

The overviews provided for each of the options in the preamble generate many unresolved questions that can only be understood in the context of regulatory language. EPA has provided flowcharts for some of the Option 2 proposals; however, it is a very difficult task to translate these flowcharts into regulatory language. Exxon offers two examples where confusion exists due to the lack of regulatory language. First, there are no specific criteria or definitions given on the different types of surface impoundments potentially subject to control (e.g., primary, secondary, tertiary, pre-biological, biological and post-biological). Second, the details of how surface impoundments are exempted from air emission controls if a facility is subject to a Clean Air Act (CAA) standard are vaguely described. In a petroleum refinery, for example, as many as 21 CAA standards may apply including New Source Performance Standards (40 CFR Part 60), National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61) and National Emission Standards for Hazardous Air Pollutant Source Categories (40 CFR Part 63 or MACTs). If a petroleum refinery or marketing terminal is subject to one of these standards, is that sufficient to preclude the Clean Water Act (CWA) Surface impoundments at that facility from Phase IV LDR controls? Do surface impoundment controls need to be specifically addressed in the CAA standard before an exemption is allowed? Will there be any demonstrations required in order to claim an exemption from controls? These and many other questions make it critical that EPA propose regulatory language for notice and comment.

A. Clarify that facilities subject to MACT standards that address wastewater are not subject to surface impoundment air emission controls

The exemption from surface impoundment air emission controls was not clear in the Phase IV LDR preamble, due in large part to the

absence of regulatory language in the rule. EPA should clarify that facilities that are an "affected source" per 40 CFR Part 63 and that are subject to wastewater standards resulting from 40 CFR Part 63 MACTs are not required to install surface impoundment air emission controls. EPA should clarify that the exclusion applies if the sources are simply subject to the rule. EPA should clarify that any method of compliance with a MACT (e.g., technology-based standards, de minimis thresholds, deferral to other Clean Air Act rules such as the BWN) provides sufficient control and precludes the need for Phase IV LDR requirements.

**B. EPA should expand the Option 2 exemption to Subtitle C Interim Status Surface Impoundments**

In Figure 1 on 60 FR 43622, EPA identifies an exemption from Option 2 controls for "...surface impoundments located at a RCRA Subtitle C Permitted TSDF". Since Surface impoundments located at RCRA Subtitle C Interim Status TSDFs are subject to the same construction requirements (i.e., double liners with leachate collection) as impoundment sat Permitted TSDFs, there is no reason to limit the exclusion to Permitted TSDFs.

Exxon strongly supports EPA's selection of Option 1 (no additional controls) for the Phase IV LDR. Existing regulations and low risk from CWA impoundments managing decharacterized wastes provide sufficient protection of health and the environment. Additionally, the Third Third decision does not require EPA to promulgate additional controls.

**A. The Third Third decision does not require surface impoundment emission controls**

One of the most compelling reasons to support Option 1 is that the Third Third decision does not require additional requirements for surface impoundments receiving de-characterized waste. Exxon supports API's analysis of the legal reasons why the Third Third decision does not require controls for surface impoundments managing decharacterized wastewaters. Given the lowcost benefit of this rule, EPA should exercise maximum discretion and promulgate a rule with minimal additional requirements.

**B. Petroleum refinery water quality has improved significantly as a result of recent rulemakings**

Another important reason not to regulate Clean Water Act (CWA) surface impoundments further is that three rulemakings have significantly improved the quality of petroleum refinery wastewater

and stormwater in the last five years. Additional controls from the Phase IV LDR rulemaking are not needed. The Toxicity Characteristic (TC) rule promulgated on March 25, 1990 resulted in reductions in the level of benzene in refinery wastewater and stormwater. The Primary Sludge Listing promulgated on November 2, 1990 required Exxon and others to perform one-time sludge removal from refinery impoundments and convert them to non-hazardous service under Delay of Closure provisions at 40 CFR 265.113.d-e. In 1994, Exxon's refineries in Baton Rouge, Louisiana and Baytown, Texas removed more than 100,000 Tons of sludge in order to meet Delay of Closure requirements. As part of this conversion to non-hazardous service, many wastewater streams were rerouted away from the stormwater impoundment. The effect of the rerouting was to improve stormwater quality and reduce the risk from stormwater impoundment releases. Finally, the National Emission Standard for Benzene Waste Operations (BWON) promulgated on January 17, 1993 resulted in segregation and treatment of benzene-containing wastewater throughout refineries and petrochemical plants. In the process of complying with these three rules, most other organic compounds that occur with benzene (such as toluene and xylene) in wastewater and stormwater were controlled. Any historic "picture" EPA has of the risks posed by wastewater, stormwater and the units managing these streams is outdated unless it takes into account the improvements achieved by the TC, Primary Sludge and BWON rules.

C. State Subtitle D and Federal spill rules provide another layer of environmental protection

States already regulate subtitle D wastewater and stormwater impoundments wherever they feel regulation is appropriate. Federal regulations promulgated by the Phase IV LDR rule would be in addition to state requirements.

Existing EPA rules for management of spills address both routine and non-routine releases of Underlying Hazardous Constituents (UHCs) into CWA systems. EPA should not promulgate Phase IV LDR controls in order to mitigate spills. "Toxic pollutants" (many of which are UHCs) are defined for CWA systems and are regulated at 40 CFR 122.42 and 401.15. Additionally, CERCLA reporting requirements at 40 CFR 302.6 require reporting of many UHCs if they exceed the reportable quantity designated by the regulation.

The following comments provide a detailed rationale for why stormwater Surface impoundments should not be regulated under the Phase IV LDR. The comments below are equally applicable to

regulation of stormwater impoundments under the Phase III LDR proposed rule.

A. Description of stormwater impoundments at Exxon's refineries and co-located petrochemical plants

Exxon utilizes common sewer systems for conveyance of both process wastewater and stormwater at each of its four refineries (two of which have large co-located petrochemical plants operated by Exxon Chemical Americas that send wastewater and stormwater to the refinery). At Exxon's Montana refinery, annual rainfall is low enough that stormwater impoundments are not required. Other Exxon refineries in Louisiana, Texas and California have large stormwater impoundments that intermittently store stormwater mixed with decharacterized process wastewater.

1. Stormwater surface impoundments receive decharacterized process wastewater

During dry weather, Exxon's refineries and co-located petrochemical plants manage decharacterized process wastewater in their Aggressive Biological Treatment (ABT) units. Decharacterized process wastewater results from the aggregation of small streams of characteristically hazardous wastewater (generally with low levels of benzene) with numerous streams of non-hazardous wastewater. During rain events, this decharacterized process wastewater stream is further aggregated with stormwater and managed in stormwater impoundments (except at Exxon's Montana refinery, as noted above). With these layers of aggregation, both the concentration and mass loadings of UHCs become even lower and the influent to the stormwater impoundment is generally below Universal Treatment Standards (UTS).

2. Stormwater impoundment management strategy calls for impoundments to be empty whenever possible

Because the objective of the stormwater impoundments is to receive rainfall, Exxon operates them at minimum levels whenever possible.

As soon as a rain event ends, the clean stormwater is either directly discharged under a CWA permit or processed through the biological wastewater treatment system.

3. Stormwater generally meets CWA discharge permit parameters without additional biotreatment

The stormwater quality is generally good because of the low concentrations and minimal mass loadings of UHCs in the decharacterized process wastewater. The low UHC concentrations result because only a fraction of the stormwater was decharacterized process wastewater and only a fraction of the decharacterized process wastewater was formerly hazardous. The



formerly hazardous process wastewater usually contains nominal levels of benzene only. Stormwater normally meets CWA discharge permit parameters without any additional biotreatment. This gives the facility the option to directly discharge the stormwater if it meets CWA discharge permit limits or to process the stormwater through the wastewater treatment plant.

4. Summary table of Exxon's impoundment management systems  
The table below summarizes key factors about Exxon's stormwater and wastewater impoundment management systems. Exxon owns and operates approximately 45 acres of stormwater impoundments, 18 acres of ABT impoundments and 400 acres of biological impoundments downstream of ABTs.

Table III.A.4 - Exxon's Refinery Surface Impoundment Management  
TABLE NOT REPEATED HERE, SEE ORIGINAL COMMENT.

The purpose of this section is to present several reasons why stormwater impoundments are unique when compared to other types of impoundments. The uniqueness of stormwater impoundments reduces their risk to health and the environment and decreases the need for additional controls such as liners or leachate collection systems.

1. Water and sludge quality have improved significantly as a result of the Toxicity Characteristic (TC) rule, Primary Sludge Listing and the BWON

As a result of three significant regulations promulgated in the last five years, the quality of refinery and/or co-located petrochemical stormwater and wastewater has improved significantly.

EPA's historical level of concern about stormwater Surface impoundments should be lowered as a result of these regulations. These three regulations are the Toxicity Characteristic (TC) rule, Primary Sludge Listing and the BWON. These regulations have significantly reduced the risk to health and the environment from surface impoundments. Additional controls on Surface impoundments, wastewater or wastewater sludges are neither necessary nor cost-effective.

2. Size of stormwater impoundments

As noted in Table III.A.4 above, Exxon has 45 acres of stormwater impoundments at its four refineries and two co-located petrochemical plants. The sheer size of the impoundments makes any regulation requiring additional controls very costly.

After considering the minimal risk from these impoundments, Exxon urges EPA to not promulgate any additional controls for them.

3. Stormwater impoundments provide surge protection for wastewater

treatment plants and ensure efficacy of biological treatment units. In three of the four Exxon refineries, stormwater impoundments are absolutely necessary in order to operate biological wastewater treatment systems in compliance with CWA permits. Exxon supports EPA's position that stormwater impoundments are important equalizers that are required to maintain the efficacy of biological treatment systems. See 60 FR 11718 on March 2, 1995. Without the stormwater impoundments, large rainfall events would flush biomass out of the wastewater treatment system and reduce the treatment plant's efficiency. Additionally, rapid flushing of biomass from a wastewater treating plant due to the addition of stormwater could compromise a facility's ability to comply with CWA

permit parameters such as Total Suspended Solids (TSS) and Biological Oxygen Demand (BOD).

4. Stormwater impoundments are generally empty so the residence time of UHCs in the impoundments is short. As seen in Table III.A.4, Exxon's stormwater impoundments are generally at minimum levels in order to be available to receive stormwater. Since the impoundments are generally empty, there is no driving force in the form of a liquid level to leach hazardous constituents out of the stormwater impoundment sludge into the groundwater. Additionally, the water is either discharged or biologically treated shortly after being stored in the stormwater impoundment so UHCs have little chance of migrating. The intermittent use of a stormwater surface impoundment provides an excellent rationale for their exemption from any Phase IV LDR leak or sludge management standards. Finally, as seen in Table III.A.4, natural clay liners beneath Exxon's stormwater surface impoundments provide an added level of protection against groundwater contamination.

5. Decharacterized process wastewater constitutes a fraction of the total stormwater and is predominantly non-oily. In the Primary Sludge Listing, EPA provided general information for typical refinery wastewater streams that do not include oil. These streams include cooling water, steam turbine water, boiler blowdown, stripped wastewater and water treatment plant filter backwash. The Exxon Baytown, Texas Complex has estimated, for example, that non-oily wastewaters from these sources constitute over 70% of their daily average flow process wastewater flow. The decharacterized process wastewater results from aggregation of small streams of characteristically hazardous wastewater with

numerous non-hazardous wastewater streams. During rain events, decharacterized process wastewater is further aggregated with stormwater and managed in stormwater impoundments. With these layers of aggregation, the resulting stormwater influent is generally below UTS and the mass loadings of hazardous constituents entering the impoundment are minimal.

Exxon has selected RCRA Subtitle C Delay of Closure as its compliance option for surface impoundments in Baton Rouge, Louisiana and Baytown, Texas. Extensive groundwater monitoring requirements including semi-annual sampling are required up gradient and down gradient of these impoundments. In order to provide some data on the quality of water in these impoundments, we have summarized the two most recent groundwater sampling events at the Baytown, Texas facility for the largest stormwater impoundment below:

Number of down gradient groundwater wells: 26

Number of constituent analyses: 2,164

Number of detectable constituent analyses: 3

(equivalent to 0.14% of the total constituent analyses)

Details of three sample analyses with detectable levels of constituents summarized below:

Constituent	Measured Value	Units	UTS Level	Comparison of Measured Value to UTS
Benzene	0.002	mg/L	0.14	Measured value 70 times lower than UTS
Lead	0.01	mg/L	0.69	Measured value 69 times lower than UTS
Toluene	0.004	mg/L	0.08	Measured value 20 times lower than UTS

As evidenced by the data above, there is no concern with levels of UHCs in the groundwater beneath this stormwater impoundment. The very large number of non-detects and comparisons to UTS are typical of the groundwater beneath Exxon's Delay of Closure impoundments.

6. Stormwater impoundment influent exceed UTS for only short periods, if at all

The ratio of process wastewater to stormwater is largest during the first few minutes of a rain event. It is during this brief period that the concentration of UHCs is typically highest and might temporarily exceed UTS at the inlet to the stormwater impoundment. Exxon's Baton Rouge, Louisiana Complex and Baytown, Texas Complex sample their stormwater impoundment inlet every two hours during a rain event for benzene. The results generally show the first sample exceeding the UTS level of 0.14 mg/L for benzene

with subsequent samples below the 0.14 mg/L UTS level. A composite benzene sample taken every two hours throughout the storm is also below the UTS level. Exxon's California refinery also samples its stormwater impoundment inlet every two hours and does not generally exceed the benzene UTS level for any period of time. Aggregation of the process wastewater with stormwater quickly lowers the concentrations of UHCs below their UTS levels. Certainly, a brief excursion above the UTS levels in the first few moments of a rain event, when considered against backdrop that the stormwater impoundments are generally empty and prohibitively expensive to replace, does not warrant any type of additional controls for the impoundments.

Exxon has a total of eight impoundments that are regulated under the RCRA Subtitle C Program as a result of either the TC rule or the Primary Sludge Listing. Five of these impoundments manage stormwater and three are ABTs. For each of the eight impoundments, Exxon has chosen the Delay of Closure compliance option outlined in 40 CFR 265.113.d-e. To comply with Delay of Closure, Exxon has removed hazardous wastewaters and hazardous sludges from these surface impoundments to the extent practicable. In addition, the impoundments have been converted to non-hazardous service in order to allow their continued operation.

Exxon realizes that the Third Third opinion appears to allow continued use of only subtitle D impoundments that treat non-hazardous wastewaters. Presumably, this is because the court was not familiar with the Delay of Closure provisions.

Nevertheless, Exxon encourages EPA to recognize that an impoundment operating under RCRA Subtitle C Delay of Closure provides a higher level of health and environmental protection than a Subtitle D impoundment. The stringent groundwater monitoring, closure and post-closure care requirements stipulated in 40 CFR Part 265 Subpart G provide protection over and above Subtitle D standards. Exxon requests that surface impoundments operating under Subtitle C Delay of Closure be exempted from additional controls promulgated during the Phase IV LDR.

8. EPA recognized the unique nature of stormwater mixed with process wastewater during the Primary Sludge Listing. Special consideration of stormwater impoundments intermittently managing low levels of process wastewater is not precedent-setting for EPA. In the Primary Sludge Listing, stormwater impoundments receiving predominantly stormwater were exempted from the listing

definition.

The Agency agrees with the commenters that stormwater units that receive process wastewaters in this manner [from sewer systems where stormwater and process wastewater are co-mingled], and do not receive any process wastewaters or oily cooling wastewaters during dry weather flow, do not routinely generate sludges that are similar in composition to the primary treatment sludges subject to today's listings. 55 FR 46374 on November 2, 1990.

The same logic should be used to exempt stormwater impoundments from additional controls under the Phase IV LDR.

Exxon believes that these impoundments should not be regulated under the Phase IV LDR. The analysis below demonstrates that there are no cost effective alternatives to these impoundments.

Replacing stormwater surface impoundments with tanks or retrofitting them to Minimum Technological Requirements (MTR) is prohibitively expensive and might not be feasible. Alternatively, segregation of decharacterized process wastewater from stormwater generally requires a completely new sewer system that is also prohibitively expensive to retrofit into an existing refinery and/or co-located petrochemical plant. Recognizing these large costs and the minimal risk, EPA should allow continued use of stormwater impoundments and not promulgate additional stormwater impoundment controls in the Phase IV LDR.

1. Replacement of stormwater impoundments is not cost effective or feasible.

In 1992, API employed a contractor to estimate the costs for closure of Surface impoundments and their subsequent replacement with tanks. Unit cost factors generic to the petroleum refining industry for stormwater impoundment replacement were estimated by the contractor. Exxon has taken these generic unit cost factors and estimated a one-time cost of \$70 M and ongoing costs of \$4 M/year for the next 30 years to replace the Exxon refinery stormwater impoundments with tanks. These costs do not include the large pumps required to transport stormwater or the independent power supplies necessary to make the large pumps available during a power outage. These costs are prohibitive considering the low risk of stormwater impoundments. The costs are summarized in Table III.C.1 below.

Table III.C.1 - Costs to Close Exxon's Refinery Stormwater Impoundments as Landfills and Subsequent Replacement with Tanks  
Description  
Unit Cost(Rounded)1

**Acreage of Exxon Impoundments**

**Total Cost(Rounded)<sup>1</sup>**

**Landfill Closure (One-time)**

750 k\$/Acre

45

\$35 M

**Tank Replacement (One-time)**

750 k\$/Acre

45

\$35 M

**Total Costs (One-time)**

\$70 M

**Tank operations and maintenance, groundwater monitoring, post closure care(Ongoing for 30 years)**

85 k\$/Acre/Year

45

\$4 M/yr

1 k=1,000 and M=1,000,000a. Real estate limitations could exist In the event stormwater impoundments are required to be replaced and/or closed, there will be an interim period when real estate must be available for both the new tanks and the existing impoundments. The refinery must continue to have an outlet for its stormwater during the period of impoundment closure and replacement. This additional real estate requirement will be difficult to overcome. At each Exxon facility where the Phase IV LDRs might require stormwater impoundments to be replaced, new tanks would consume substantial plot space. The Gulf Coast refineries are surrounded by neighborhoods and the likelihood of increasing the refinery acreage is low.

2. Segregation of decharacterized process wastewater from stormwater is not cost effective

The previously characteristic wastewater streams that produce decharacterized process wastewater contain low levels of TC constituents (generally benzene). The characteristic streams generally have low flowrates but are located throughout a refinery and/or co-located petrochemical plant. They cannot be easily or cheaply segregated from other non-hazardous wastewaters or from stormwater.

On the basis of publicly available cost information from other refineries, Exxon would estimate a cost in excess of \$400 Million for segregation of decharacterized process wastewater from stormwater for our four refineries and two co-located

petrochemical plants. Imposing such large costs to address minimal risks is not reasonable. Additionally, costs of this magnitude seriously threaten the economic viability of these facilities and jeopardize their continued operation. Because of the aggressive nature of biological treatment in an ABT unit, it is unlikely that segregation would measurably improve the quality of water being discharged.

In summary, there is no reasonable alternative to the continued operation of stormwater impoundments. Because neither stormwater impoundment replacement with tanks nor segregation of wastewater from stormwater is cost effective, EPA should not promulgate Phase IV LDRs that mandate additional controls.

IV. EPA should designate Aggressive Biological Treatment units (ABTs) as "Best Demonstrated Available Technology" (BDAT) for process wastewater from refineries and co-located petrochemical plants

Exxon encourages EPA to carefully consider API's comments on this matter. By choosing ABT as BDAT for refinery and petrochemical wastewaters, EPA would adopt a cost-effective and proven technology that meets UTS while minimizing analytical difficulties and monitoring burdens. The combination of ABTs and downstream biological impoundments provides long residence times of wastewater in treatment units, low cost, ease of operation and is more cost effective than tanks in identical service. The CWA permits at refineries and co-located petrochemical plants are already protective of health and the environment largely as a result of the efficiency of these wastewater treatment units.

Designation of ABTs as BDAT helps EPA meet its obligation under RCRA Section 1006(b) to integrate RCRA and CWA requirements.

A. If ABT is designated, the Phase IV LDR compliance point should be moved

Assuming EPA designates ABT as BDAT for refinery and petrochemical wastewaters, facilities should have the ability to move their Phase IV LDR compliance point to the ABT unit inlet. EPA should provide this flexibility in the final Phase IV LDR.

A. If EPA determines that additional surface impoundment controls are required, a four year compliance period should be provided. If EPA decides in the Phase IV LDR that surface impoundments managing decharacterized wastes require additional controls, the full four year compliance period provided in RCRA section 3005(j) should be available. Arguably, since the potential surface

impoundment controls are on non-RCRA impoundments (and therefore not subject to RCRA), EPA can set the compliance period to any length of time. The four year period should begin with the promulgation of the Phase IV LDR. EPA has already determined that RCRA section 3005(j)(6) provides four years for retrofit or closure of impoundments not meeting MTR.57 FR 37218-22 on August 18, 1992. The entire four year period to install the new controls on a surface impoundment will be required by Exxon given the magnitude, expense and technical difficulty of the task.

B. Option 2 groundwater and corrective action management standards should allow a site's qualified groundwater scientist the flexibility to select multi-unit or individual unit groundwater monitoring systems in the event groundwater monitoring of a surface impoundment is required, site specifics require the flexibility to select either an individual unit or multi-unit groundwater monitoring system. Exxon supports EPA's position that the qualified groundwater scientist should have authority to make this selection. There are instances where surface impoundments are closely spaced and the addition of wells between the units to create individual systems adds no value to an up gradient/down gradient analysis. Conversely, there are instances where "interferences" exist between surface impoundments (such as public water bodies, old Solid Waste Management Units or other contaminated property) and the ability to separately delineate the units is essential.

C. EPA should expand the list of corrective action measures to include continued use of surface impoundments under certain conditions

If a release from a surface impoundment is validated, EPA only allows two options according to 60 FR 43672. First, the decharacterized wastestream can be rerouted to a tank. Second, the surface impoundment can be retrofitted with a double liner and leachate collection. Both of these options can be prohibitively expensive and unnecessary.

Containment and removal/treatment of the groundwater should be acceptable as alternative means to allow continued use of an impoundment. Containment mechanisms such as generation of a cone of depression to collect and treat the contaminated groundwater or installation of a slurry wall around an impoundment provide adequate control of contaminated groundwater and do not force expensive tankage or double liner/leachate collection expenditures.



## RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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B. EPA should not modify the treatability group doctrine. In the Phase IV LDR preamble, EPA appears to assert that the treatability group doctrine does not need to be modified as a result of the Third Third decision by stating that the court likewise did not see that hazardous constituents in deposited sludges must be treated. The court in fact did not speak to the principle stated by EPA in the Third Third rule that generation of a new treatability group is considered to be a new point of generation and thus a new point for determining whether a waste is prohibited. 55 FR at 22661-662. Under this principle, unchallenged in the litigation, wastewater treatment sludges not exhibiting a characteristic are not prohibited wastes, notwithstanding that they may derive from prohibited wastewaters.

60 FR 43656 on August 22, 1995.

However, after supporting the treatability group doctrine in these early pages of the Phase IV LDR preamble, EPA overrides the doctrine when describing the Option 2 sludge management standards. If the concentration level of one or more of the UHCs exceeds UTS, then the sludge must be treated by means other than dilution to meet UTS. 60 FR 43675 and Figure 4: Option 2 at 60 FR 43674 on August 22, 1995.

Rather than the trigger for sludge treatment being the TC levels (as would be the case if the treatability group doctrine was followed), EPA has designated UTS levels as the threshold for requiring LDR treatment standards for sludges. Exxon encourages EPA to reconsider this position and maintain the treatability group doctrine. Let characteristic waste testing determine if LDR standards apply. EPA recognizes its option to maintain the doctrine.

EPA also reiterates that, as a legal matter, it can be argued that even no treatment of sludges is equivalent to Subtitle C LDR controls. This is because generation of sludges is usually a new point of generation at which the newly-generated waste is reevaluated to determine if it is subject to the LDR standards. If non-hazardous, the sludges would not be so subject (i.e., would not be prohibited wastes). 60 FR 43673 on August 22, 1995.

#### RESPONSE:

At this time, EPA is not modifying the treatability group doctrine. Wastewater treatment sludges that do not exhibit a characteristic of hazardous waste are not prohibited wastes. The sludges are a newly-generated waste. The newly generated waste must be evaluated independently for a determination of regulatory status.

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated

in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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SUBJNUM 020  
COMMENT

VI. Critical Phase III LDR proposed rule issues should be considered as part of the Phase IV LDR

A. Aggregation of process wastewater is part of refinery and petrochemical processes and should not be considered "RCRA impermissible dilution"

Exxon recommends that EPA carefully examine the historical definition of impermissible dilution in light of the uniqueness of wastewater collection and conveyance systems. If EPA attaches LDRs at multiple points in a facility's wastewater collection system, the result might be that aggregation constitutes impermissible dilution. This position might drive the facility to costly and unnecessary point source segregation.

EPA should recall that many of its RCRA LDR requirements were established for waste management practices other than continuous flow wastewater systems. However, in wastewater systems the distinction between "aggregation" for the purposes of treatment and "dilution" for the purposes of meeting UTS is unclear. Before the RCRA statute even existed, industry aggregated wastewater for the purposes of treatment; therefore, aggregation was not a methodology developed by industry to bypass RCRA standards. To clarify this issue, Exxon recommends that 40 CFR 268.3.b be reinstated to read, "AGGREGATION of wastes that are hazardous because they exhibit a characteristic only, in a treatment system which treats wastes. . . pursuant to a permit issued under. . . the Clean Water Act (CWA). . . is not impermissible dilution."

1. Exxon agrees that the CWA has sufficient protection against dilution. Exxon

supports EPA's statements in the preamble to the Phase III LDR such as EPA also believes that there are adequate constraints in the CWA implementing rules to prevent these end-of-pipe standards from being achieved by means of dilution. 60 FR 11711 on March 2, 1995.

CWA permit writers have the authority to consider excessive levels of water use when setting discharge permit parameters including protection against dilution. This authority should be sufficient protection to preclude additional Phase III or Phase IV LDR requirements relating to dilution.

2. Exxon agrees that aggregation is not for the purposes of

dilution, but for the purposes of treatment

If EPA defines points of generation for decharacterized process wastewater far upstream in a wastewater conveyance system, expensive and unjustified point source segregation could result.

Exxon supports the Phase III LDR preamble language that

... where residues are generated within a unit process, it might be possible to view these streams as still within the normal part of the process that results in the waste. . . and consequently that any routine combination of these streams from the common process would not be impermissible dilution. 60 FR 11716 on March 2, 1995.

Again EPA says such aggregation could. . . be considered to be "part of the normal process that results in the waste." 60 FR 11716 on March 2, 1995.

Because of the level of treatment provided by ABTs, it is unlikely that segregation to avoid impermissible dilution would measurably improve the quality of water discharged by a facility.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

There is one caveat. Characteristic hazardous wastes that are managed in CWA or CWA-equivalent systems, and for which EPA has promulgated a method of treatment as the treatment standard (e.g., high TOC ignitable wastes for which the treatment standard is recovery of organics) remain prohibited unless treated pursuant by the promulgated method.

Aggregation of process wastewaters within refinery and petrochemical processes is not "impermissible dilution" subject to the above-mentioned caveat.

DCN PH4P020  
COMMENTS EXXON COMPANY USA  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 020  
COMMENT

C. ABT unit surface impoundments do not pose any significant risk

Exxon encourages EPA to consider API's comments on this matter. Because of the design of ABTs, UHCs present in wastewater reach their concentration in the ABT unit outlet almost immediately. Should leakage from an ABT unit occur, it would be of treated water. Mixing in an ABT unit is mathematically modeled as a Continuous Stirred Tank Reactor or Perfectly Mixed Flow Reactor. This type of model means that constituent composition and temperature are the same throughout the entire reactor in every direction. EPA recognized the importance of being a well-mixed system in its definition of ABT units. See 40 CFR 261.31.b. If the ABT unit effluent is designated as BDAT technology and ABTs approximate Continuous Stirred Tank Reactors, there should be no concern about water leakage from ABT surface impoundments and EPA should not require tank-based ABTs.

E. Selection of ABT as BDAT for wastewaters alleviates monitoring concerns, ensures proper unit operation and minimizes analytical costs

1. Matrix interferences in wastewater support selection of a technology-based standard

Wastewater is a complex matrix of constituents. Analysis of wastewater is frequently limited by "matrix interferences" which result from the inability of today's analytical methods to distinguish between constituents at low concentration levels. EPA has set UTS at the low ppm and ppb levels for numerous constituents, so it is reasonable to expect "false positive" analytical results that exceed UTS. In order to avoid these concerns, EPA should select a treatment technology such as ABT that has been demonstrated to consistently meet UTS.

2. Monitoring of indicator pollutants is sufficient to demonstrate the efficacy of ABTs

CWA permits typically rely on indicator pollutants to simultaneously represent several constituents of concern in discharge permits. The molecular similarity of many hydrocarbon compounds from a refinery and/or co-located petrochemical plant makes the use of these "surrogates" a reliable method of ensuring acceptable water treatment. Exxon encourages EPA to consider relying on the indicator pollutants measured in a facility CWA discharge permit as demonstrative of a well-operating ABT unit. The substitution of CWA discharge permit parameters for a UTS analysis will result in analytical savings to industry facilities without compromising environmental protection.

#### V. EPA should limit the scope of the Phase IV LDR

EPA is not obligated by the Third Third opinion to consider additional requirements for non-hazardous storage or biological treatment impoundments. As outlined in III.C.1 and IV.F above, the cost of promulgating additional controls to either stormwater or treatment surface impoundments is prohibitive and the risk mitigated is minimal. The high costs coupled with the low risk from these impoundments makes it critical that EPA limit the scope of the Phase IV LDR.

A. The Third Third opinion requires that CWA and RCRA treatment standards be equivalent, not that CWA and RCRA management units be equivalent.

Exxon strongly disagrees with EPA's proposed extension of the Third Third opinion from treatment standards for hazardous constituents to "release standards" for impoundments treating non-hazardous wastes. EPA apparently considers these "release standards" for air, leaks and sludges the major component of the Phase IV LDR. This broad reading clearly contradicts the court's intent, to say nothing of the unnecessary over-regulation of treatment impoundments. For example, the court recognized surface impoundment treatment by stating that

... treatment of solid wastes in a CWA surface impoundment must meet RCRA requirements prior to ultimate discharge into waters of the United States. 976 F.2d at 20. Emphasis added.

The court makes several references to unlined surface impoundments, confirming their continued use for management of non-hazardous decharacterized wastes. Again, the court stated that

Following aggregation, the facilities sometimes place the combined stream in an unlined surface impoundment as part of the CWA treatment train. These impoundments do not meet RCRA Subtitle C standards and they are regulated solely under RCRA Subtitle D. 976 F.2d at 20.

The court again supported the continued use of surface impoundments by concluding that . . . allowing temporary deposit of decharacterized wastes is a reasonable accommodation [between RCRA and CWA] so long as complete circumvention of the treatment standards does not occur. 976 F.2d at 24.

finally, in summarizing whether CWA systems treating decharacterized wastes satisfy the RCRA treatment standards, the court stated that

. . . the result here is unique to CWA systems. Nothing herein permits the placement . . . of hazardous wastes or formerly hazardous wastes which have not yet met section 3004(m)(1) treatment standards into non-Subtitle C surface impoundments except in existing CWA treatment systems which ultimately treat the streams to full section 3004(m)(1) standards. See 976 F.2d at 24. Emphasis added.

In summary, EPA is not obligated by the Third Third opinion to promulgate "leakage standards" for treatment impoundments managing non-hazardous wastes. EPA is required to consider only equivalency between CWA treatment standards and RCRA treatment standards. EPA should minimize the impact of the Phase IV LDR, which addresses minimal risk, by refusing to consider additional surface impoundment controls and promulgating Option 1 under the Phase IV LDR.

#### RESPONSE:

As explained by the Agency in the preamble to the LDR Phase III final rule, biotreatment systems vary in performance both in general and as to specific constituents. The Agency therefore is reluctant to designate ABT as BDAT. The Agency has data related to the performance of ABT from only 10 facilities. The main reason for establishing ABT as BDAT that was provided by commenters to the Agency, during the development of the final Phase III rulemaking, was the elimination of the compliance monitoring burden. The Agency does not believe that reducing monitoring burden is an adequate justification for creating a new technology-specific treatment standard. However, EPA did decide, in promulgating the LDR Phase III final rule, to reduce the monitoring requirements for decharacterized wastes that are managed in a wastewater treatment system involving ABT. These wastes must be monitored annually to ensure compliance with the treatment standards for underlying hazardous constituents.

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As



a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P021  
COMMENTS Georgia-Pacific  
RESPONDER  
SUBJECT EQUV  
SUBJNUM 021  
COMMENT

Support of AF&PA Comments:

AF&PA has supplied comments which recommend the choice of Option 1 as the regulatory basis for the Phase IV rule, should EPA determine that such regulations are required. As indicated above, Georgia-Pacific supports this recommendation and hereby incorporates the AF&PA comments, into this letter. These comments and the information regarding compliance costs provided above demonstrate that the choice of either of the other two options would provide no significant additional environmental benefit but would very substantially increase compliance costs. We urge the Agency to make a reasoned choice in this matter, which is supported by the overall low priority need for additional regulation and low degree of risk represented by continued operation of the Pulp and Paper Industry's good performing Clean Water Act permitted treatment systems.

RESPONSE

The Agency notes the commenter's support for the comments submitted by the American Forest and Paper Association.

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated

in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P021  
COMMENTS Georgia Pacific  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 021  
COMMENT

Each of the LDR Phase IV rulemaking options proposed by EPA would place additional burdens on G-P. Option 1, the utilization of the Phase III rule (as it was proposed) to satisfy the RCRA equivalence standard, would require significantly more testing and recordkeeping in order to track the concentration of underlying hazardous constituents (UHCs) constituents in decharacterized waste streams. The anticipated costs for this testing activity are \$150,000 per year.

Option 2, the intermediate approach, would require the use of additional treatment systems for certain waste streams or the modification of primary clarifiers at existing CWA permitted treatment plants. In addition, sludge treatment from primary clarifiers will be required at some locations. Costs to the Company would amount to \$30 million to \$50 million. Georgia-Pacific does not favor this option.

Option 3 would require substantial modification or replacement of most of Georgia-Pacific's treatment systems. New in-mill sewer systems would be required to separate decharacterized wastes from other streams. Treatment would be required for the separated streams. In some cases, the number of waste streams requiring treatment of UHCs, their location or concern for protecting large areas of the mill for the collection and treatment of decharacterized wastes may make it impractical to provide treatment

in separate units. This would require replacement or modification of the mill's entire treatment system. Costs would be very high, in the range of \$100 to \$400 million for the thirteen plants combined. This approach is not warranted, impractical and cannot be legally required as described in comments filed by the American Forest and Paper association (AF&PA).

To make Option 1 workable EPA must conclude that LDR requirements are met by compliance with CWA permits. To the extent that UTS values exist for substances for which no CWA permit limit has been set by the appropriate agency, EPA must rely on the professional judgment that such limits are not needed and LDR requirements have been satisfied. In addition, for examination of waste streams with regard to whether or not they meet hazardous waste characteristics, EPA must set the reference sample location for pulp and paper making facilities at the mill process unit boundaries outlined in comments filed by the American Forest and Paper association regarding the proposed Phase III rule.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P022  
COMMENTS Phelps Dodge  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 022  
COMMENT

EPA should clarify that the treatment or dilution of characteristic hazardous wastes in RCRA-exempt treatment units is permissible both to remove the characteristic and to meet applicable LDR treatment standards (e.g., Universal Treatment Standards). If this clarification is not made, decharacterized wastes may be required to undergo treatment beyond the applicable LDR treatment standards. Because the treatment or dilution to remove the characteristic may reduce the toxicity of the hazardous constituents below applicable LDR concentration levels, any additional treatment requirements would be redundant and unnecessary.

EPA should clarify the term "nonhazardous waste surface impoundment" as used in the context of EPA's cross-media release proposals.

EPA also should explain how it intends to apply its equivalency proposals to mining facilities. For example, EPA should clarify whether tailing impoundments would qualify as "Clean Water Act ("CWA")-equivalent systems" or "nonhazardous waste surface impoundments."

PDC supports EPA's proposal to determine LDR treatment standard compliance for CWA systems at the ultimate point of discharge (i.e., end-of-pipe). This same approach should apply to CWA-equivalent systems. However, because CWA-equivalent systems and other similar impoundments do not have an ultimate discharge, such systems should be deemed to have satisfied applicable LDR treatment standards upon the demonstration that the systems have applied CWA-equivalent treatment. There should be no requirement to take samples from such systems in order to determine compliance with LDR treatment standards.

With respect to EPA's proposals regarding potential cross-media releases from Surface impoundments managing decharacterized wastes, PDC strongly supports Option 1. Option 1 correctly defers to existing and future federal, state, and local regulatory programs that are specifically designed to address leaks, sludges, and

potential air emissions from Surface impoundments.

Option 2, on the other hand, not only would ignore the statutory requirement under RCRA to ensure accommodation with the CWA, but also would result in duplicative and therefore unnecessary regulation of nonhazardous wastewater management systems.

## II. Treatment or Dilution to Remove a Hazardous Characteristic Should Satisfy LDR Requirements if Treatment Reduces Any Underlying Hazardous Constituents to Levels Below the Universal Treatment Standards.

An apparent assumption underlying EPA's proposal to adopt "equivalency" requirements for CWA and CWA-equivalent systems managing decharacterized wastes is that treatment to remove the hazardous waste characteristic does not necessarily suffice for LDR treatment purposes even if the wastes, after removal of the characteristic, meet the applicable treatment standards (i.e., the Universal Treatment Standards ("UTS")). 60 Fed. Reg. at 43,655. This assumption, however, is not required or supported by the decision in *Chemical Waste management v. EPA* ("CWM"), 976 F.2d 2 (D.C. Cir. 1992), cert. denied, 113 S. Ct. 1961(1993). Rather, the CWM decision arguably suggests that the point at which a decharacterized waste must meet the UTS is after treatment to remove the characteristic. Consequently, if the waste meets the UTS after decharacterization, no further LDR requirements should apply. It is illogical and unnecessary from an environmental and human health perspective to require additional treatment of a decharacterized waste that already meets the applicable LDR treatment standards. In such situations, there would be no standard available to evaluate the effectiveness of any further treatment. Consequently, EPA's proposals essentially result in treatment for the sake of treatment without any environmental or human health benefit resulting from the treatment.

With respect to dilution or treatment to remove the hazardous waste characteristic, the CWM court stated that under RCRA, "dilution of characteristic hazardous wastes may constitute [acceptable LDR] treatment, but only if no hazardous constituents are present following dilution that would endanger human health or the environment." 976 F.2d at 7 (emphasis added). The court implied that compliance with the UTS should be determined after treatment or permitted dilution, not at the point of generation. The CWM court also stated that "where dilution to remove the characteristic meets the definition of treatment under section 3004(m)(1), nothing more is required." 976 F.2d at 23



(emphasis in original). This statement suggests that the court understood that, in certain instances, dilution or treatment to remove the characteristic would satisfy the LDR treatment standard. PDC believes that these instances include situations in which characteristic wastes from related processes are routed to elementary neutralization units or other exempt treatment units for removal of the hazardous waste characteristic. If during removal of the hazardous waste characteristic, the concentrations of underlying hazardous constituents are reduced (i.e., the toxicity of the hazardous constituents are reduced), this should satisfy the applicable LDR treatment standards.

The fact that treatment or dilution to decharacterize a waste may reduce the concentrations of underlying hazardous constituents below the applicable standards (i.e., UTS), is consistent with EPA's interpretation of the principal holdings in CWM with respect to characteristic wastes. According to EPA, the CWM decision requires persons managing decharacterized wastes in centralized wastewater management units to be able to demonstrate "that hazardous constituents are reduced, destroyed, or immobilized to the same extent as they would be pursuant to otherwise-applicable RCRA treatment standards." 60 Fed. Reg. at 43,656 (emphasis added). PDC believes that the "reduction" in the concentration of underlying hazardous constituents during deactivation should be sufficient to satisfy the LDRs.

PDC is concerned with EPA's implication that decharacterized wastes, even if the wastes are treated to remove the hazardous waste characteristic and the treatment reduces the concentration of any hazardous constituents below the concentrations in the UTS, cannot be land disposed until underlying hazardous constituents are destroyed or immobilized. 60 Fed. Reg. at 43,656. This statement suggests that if decharacterized wastes are initially managed in RCRA-exempt units, such as elementary neutralization or totally enclosed treatment units, and management in the unit not only removes the hazardous waste characteristic, but also causes the waste to meet the UTS, the waste still will need to be further treated to ensure that underlying hazardous constituents present before the initial treatment are either immobilized or treated to non-detect. This requirement is insupportable and may require decharacterized wastes to be treated beyond even the constituent-specific concentrations established in the UTS.

PDC therefore requests that EPA amend its proposed Phase III and Phase IV LDR proposals to provide that if treatment of a waste to remove the hazardous waste characteristic causes the waste to meet

the UTS, the waste will be deemed to have met the LDR treatment standards (especially when such standards are set in terms of constituent concentrations) and can be land disposed (whether in a CWA system or not) without any further legal requirements.

**V. Zero-Discharge Mining Impoundments, Including Tailing Impoundments. Should Generally Qualify as CWA-Equivalent Systems.**

EPA states that the term "CWA treatment system" includes CWA-equivalent systems as well as other nonhazardous waste surface impoundments. 60 Fed. Reg. at 43,657. It is unclear in the proposed rule what is meant by "other nonhazardous waste surface impoundments." For example, does the term apply to any surface impoundment used to manage decharacterized wastes, regardless of whether it ultimately discharges to a "water of the United States" or undergoes CWA-equivalent treatment? PDC requests that EPA clarify the term "nonhazardous waste surface impoundment."

It also is unclear whether a tailing impoundment that does not discharge to "waters of the United States" would qualify as a "CWA-equivalent system" or "nonhazardous waste surface impoundment" for purposes of EPA's proposed Phase IV LDR rule. PDC believes that such impoundments should qualify as "CWA-equivalent systems" since they are subject to stringent federal effluent discharge limitations under the CWA that in some instances may require zero-discharge. EPA should clarify how it intends to apply its equivalency proposals to mining facilities.

**VI. Compliance With UTS for Zero-Discharge Facilities Should Be Based Solely on the application of CWA-Equivalent Treatment.**

The Phase III and Phase IV proposals envision that a zero-discharge facility, such as availing impoundment, is permitted to receive decharacterized wastes that exceed the UTS at the point of entry into the facility. However, it is unclear at what point the determination of compliance with the UTS should be made. In the proposed Phase III LDR rule, EPA clarified that compliance with UTS would be determined at the end-of-pipe for surface impoundments that ultimately discharge to "waters of the United States" or to publicly-owned treatment works ("POTW"). See 60 Fed. Reg. at 11,710. This same general concept should apply to CWA equivalent and other nonhazardous wastewater treatment systems. In other words, the point of determining compliance with the UTS should not be made at the point of entry into the treatment train or surface impoundment. However, because of the difficulty of testing for compliance with UTS without a point of discharge from a facility, PDC believes that as long as a zero-discharge facility is

able to demonstrate that it has applied CWA-equivalent treatment, this demonstration should be sufficient to satisfy the LDRs. Consequently, PDC requests that EPA clarify that zero-discharge facilities which receive decharacterized wastes that exceed the UTS at the point of entry are deemed to satisfy the applicable LDR standard i.e., the UTS) if CWA-equivalent treatment has been applied.

**VII. Option 1 Should be Adopted Because it Correctly Defers to Existing and Future Federal, State, or Local Regulatory Programs for Addressing Cross-Media Releases From CWA or CWA-Equivalent Surface Impoundments.**

EPA outlines three options to address the risks posed by cross-media releases of hazardous constituents from surface impoundments used in CWA or CWA-equivalent treatment systems. Option 1 would rely on the end-of-pipe approach established in the proposed Phase III LDR rule to meet the treatment equivalency requirement established in CWM. PDC strongly supports this option, primarily because it is consistent with the CWM decision and would not impose far-reaching RCRA control requirements on facilities that do not actually manage "hazardous waste." Option 1 also correctly defers to existing and future federal, state, or local regulatory programs that are designed to adequately address cross-media releases from surface impoundments. The adoption of duplicative requirements is unnecessary.

With respect to potential releases to groundwater, PDC believes that state groundwater protection programs can be relied on to prevent excessive releases from CWA or CWA-equivalent surface impoundments. For example, Arizona (in which PDC operates several facilities) has adopted a comprehensive aquifer protection permit program that specifically applies to both new and existing surface impoundments, including surface impoundments used as part of a CWA system. A.R.S. § 49-241.B.1. This permit program requires affected facilities to ensure that they are designed, constructed, and operated to ensure the greatest degree of discharge reduction achievable through application of the best available demonstrated control technology (e.g., liners, leak detection systems). A.R.S. § 49-243.B. 1. Affected facilities also are required to ensure that aquifer water quality standards are met at the applicable point of compliance (generally established at a point in the aquifer immediately down gradient of the facility). A.R.S. § 49-243.B.2. Arizona's aquifer water quality standards generally are based on the primary drinking water maximum contaminant levels ("MCLs") adopted by EPA under the federal Safe

Drinking Water Act. A.R.S. § 49-223.A; Ariz. Admin. Code ("A.A.C."), Title 18, Chapter 11, Article 4. Aquifer water quality standards also maybe established for pollutants for which MCLs have not been established or for which the Arizona Department of Environmental Quality finds that the MCL is inappropriate as an aquifer water quality standard. A.R.S. § 49-223. B. Finally, several narrative aquifer water quality standards have been established including a prohibition on discharges to aquifers that would endanger human health. A.A.C. R18-11-405 New Mexico (in which PDC also operates several facilities) also has a comprehensive groundwater protection program. New Mexico's program requires any person who discharges into ground water, directly or indirectly, any contaminant listed in the ground water quality standards or any toxic pollutant to notify the state environmental agency. Within 60 days of the notice, the state environmental agency will inform the person who made the notification whether a discharge plan must be submitted. A discharge plan is approved if it meets the requirements set forth in Section 3-109.C of the New Mexico Water Quality Control commission ("WQCC") regulations. Generally, the approval of a discharge plan may not result in either concentrations in excess of the standards of Section 3-103 or the presence of any toxic pollutant at any place of withdrawal of water for present or reasonably foreseeable future use." WQCC Regs. § 3-109.C.2. The standards established in Section 3-103 in most instances track the federal MCLs. "Toxic pollutant" is deemed as "a water contaminant or combination of water contaminants in concentration(s) which, upon exposure, ingestion, or assimilation either directly from the environment or indirectly by ingestion through food chains, will unreasonably threaten to injure human health, or the health of animals or plants which are commonly hatched, bred, cultivated or protected for use by man for food or economic benefit." WQCC Regs. § 3101.ZZ.

In addition to state groundwater protection programs, federal law (4, RCRA Subtitle D) prohibits any solid waste disposal facility or practice, which would include most mining-related impoundments, that constitutes "open dumping." A solid waste disposal facility or practice is deemed to be "open dumping" if it fails to meet any of the national performance standards of 40 C.F.R. Part 257. One of the national performance standards addresses potential impacts on groundwater. Specifically, the "groundwater" performance standard prohibits all solid waste disposal facilities and practices from "contaminating" an "underground drinking water

source" beyond the "solid waste boundary." 40 C.F.R. § 257.3-4. "Contaminate" means to introduce a substance that would cause either (1) the concentration of that substance in the groundwater to exceed the maximum contaminant levels specified in Appendix I to 40 C.F.R. Part 257, or (2) an increase in the concentration of that substance in the groundwater where the existing concentration of that substance exceeds the maximum contaminant level specified in Appendix I of 40 C.F.R. Part 257. 40 C.F.R. § 257.3-4(c)(2). "Solid waste boundary" means "the outermost perimeter of the solid waste (projected in the horizontal plane) as it would exist at completion of the disposal activity." 40 C.F.R. § 257.3-4(c)(5).

With respect to potential releases of hazardous constituents to sludges in CWA or CWA-equivalent surface impoundments, PDC believes that the appropriate approach is to use EPA's treatability group principle. In other words, once the owner or operator of a CWA or CWA-equivalent surface impoundment decides to remove sludge from the impoundment for land disposal elsewhere, this should be considered as a new point of generation, and the sludge should be reevaluated to determine whether it is subject to the LDRs. In addition to the treatability group principle, removed sludges are regulated under state and federal hazardous and solid waste management programs.

As recognized by EPA (see 60 Fed. Reg. at 43,659-60), PDC believes that the federal Clean Air Act ("CAA") provides sufficient control over potential air emissions from CWA or CWA-equivalent surface impoundments that manage decharacterized wastes. The proposal to require additional air-related requirements would violate RCRA § 1006(b) which requires EPA to accommodate CAA requirements.

VIII. EPA Proposal (Option 2) to Adopt "Equivalency" Requirements for Sludges, Leaks, and Air Emissions from CWA and CWA-Equivalent Surface Impoundments is Inconsistent with the Decision in CWM and Would Ignore Accommodation with the CWA.

EPA freely admits in the preamble to the proposed Phase IV LDR rule that the court in CWM did not explicitly require EPA to adopt management requirements for hazardous constituent releases from CWA or CWA-equivalent surface impoundments. 60 Fed. Reg. at 43,656. Rather, the focus of the court was on the status of the waste stream being managed in and eventually discharged from the surface impoundment, and not on the characteristics of the surface impoundment. 60 Fed. Reg. at 43,656. EPA also points out that the CWM court did not address the treatability group principle by EPA in the Third-Third LDR rule (see 55 Fed. Reg. 22,661-62 (June 1,

1990). Under the treatability group principle, wastewater treatment sludges not exhibiting a characteristic are not prohibited wastes even though they may derive from prohibited wastes.

Notwithstanding the lack of explicit direction from the court, EPA is proposing to adopt extensive controls for sludges, leaks, and air emissions from CWA and CWA-equivalent surface impoundments. EPA supports this decision by arguing that the thrust of the CWM decision was to assure that LDR treatment requirements are not thwarted by cross-media transfers of untreated hazardous constituents, whether by dilution or by escape from treatment units. 60 Fed. Reg. 43,656. These concerns, however, arguably were not raised in the context of a CWA or CWA-equivalent surface impoundment where RCRA requires accommodation with the CWA. EPA also notes that the CWM court distinguished between temporary placement of wastes in surface impoundments and permanent disposal. This distinction, however, focused on the requirements applicable to wastes placed in different types of surface impoundments and not on the characteristics of the surface impoundments.

EPA's proposal also would result, in many instances, in duplicative regulation at the state and federal level. For instance, as noted above, both Arizona and New Mexico, the primary states in which PDC maintains operations, have extensive groundwater protection programs that apply to surface impoundments managing decharacterized wastes. Although EPA indicates that it would attempt to avoid duplication with similar federal, state, or local requirements, this would be very difficult to actually apply on a site-by-site basis. Coordination between already existing programs and RCRA imposed controls would require difficult judgments regarding the similarity of the existing programs to RCRA controls and whether the programs are as stringent as RCRA controls. Ultimately, a site may be required in many instances to comply with both the controls established under Phase IV and other applicable state or federal requirements. PDC therefore urges EPA not to adopt specific control requirements for sludges, leaks, and air emissions from CWA or CWA-equivalent surface impoundments. Rather, EPA should rely on other current and future federal and state programs (i.e., Option 1) to address these issues. The Option 2 proposals not only would ignore accommodation with the CWA, but also would impose RCRA requirements on units that do not manage "hazardous waste."

IX. PDC Concurs With EPA's Decision Not to Recommend Option 3.

Option 3 would require that decharacterized wastes be treated to meet UTS before entry into surface impoundments. However, because of the high costs to affected industries and the lack of accommodation with the CWA, EPA is not recommending this option. PDC concurs with EPA's decision. Option 3 is directly inconsistent with the decision in CWM, which requires at least some accommodation between RCRA and the CWA. As noted by EPA, this option would destroy the accommodation between the CWA and RCRA upheld by the CWM court. Option 3 also would force industry to manage large amounts of wastewaters in prohibitively expensive tanks or other similar systems.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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COMMENTS Union Camp Corporation

RESPONDER SS

SUBJECT EQUV

COMMENT Introduction and Summary The Phase IV Rules consist largely of EPA's preamble discussion and an analysis of three proposed options for addressing the issue of RCRA treatment equivalency for wastes that are decharacterized by dilution and subsequently treated in CWA surface impoundments. Decharacterization by other means than dilution is not subject to proposed management standards (2.4 and 7.4, Technical Support Document, July 1995). Option 1 holds that the Phase III rule (end-of-pipe standards) satisfies equivalency requirements noted by the court in *Chemical Waste Management, Inc. et.al. v. EPA*, 976 F 2d. Option 2 would impose additional Land Disposal Regulations (LDR) requirements on CWA impoundments. Option 3 would preclude use of CWA impoundments to perform RCRA equivalent treatment. EPA rejected Option 3 and stated that it is "neutral between the first and second options" 60 Fed. Reg. 43659, but seeks comment on the three options. EPA has asked for comments on which of the three proposed options for a Phase IV rule it should choose, and for specific comments on how the chosen option might need to be modified. Union Camp Corporation is very concerned about the imposition of Phase IV requirements on our decharacterized wastewaters and surface impoundments. Because of the volume of waste streams and the size of impoundments impacted, it was very worthwhile for our company to understand in great detail the impact the proposal would have on our pulp and paper mills and chemical operations. From our review we believe that the waste streams most impacted in our facilities will be the chemical pulp mill discharges containing black liquor, bleach plant discharges, turpentine separation wastewaters and chemical plant waste streams containing methanol. Even though the proposed Cluster Rule or other Clean Air Act rulemaking will significantly impact the disposition of these wastes in the next several years (Cluster Rule is imminent), Phase IV could impose another significant body of regulation on top of these requirements.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized



wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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COMMENTS Union Camp Corporation

RESPONDER SS

SUBJECT EQUV

COMMENT Therefore, Union Camp's comments on the Phase IV proposal are consolidated around the three basic contentions and presented in the following order. I. Option 1 is the correct option for EPA to choose. We believe that the legal arguments made by AFPA, CMA and others are compelling, and will be paraphrased here. We will present reasons why we believe that Option 2 includes unnecessary regulation. II. Option 3 is unnecessary, extreme and must be rejected. III. The Pulp and Paper and related industry do not pose a significant risk and therefore Option 2 must not be applicable to this industry. We have additional concerns which did not fit into the body of the above arguments and are included in a section titled additional concerns (Section IV).

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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COMMENTS Union Camp Corporation

RESPONDER SS

SUBJECT EQUV

COMMENT G. EPA Correctly Avoids Regulatory Duplication by Deferring to Other Federal Rules That Will Protect Human Health and the Environment Such as the Proposed MACT Requirements for the Pulp and Paper Industry. EPA stated in the Phase IV preamble that "to avoid duplication with other requirements, EPA would defer to other federal rules which establish controls addressing the same situations." 60 Fed. Reg. 43660. EPA is correct to do so for at least two reasons. First, RCRA § 1006(b)(1) requires that the Administrator "shall integrate all provisions of [RCRA] for purposes of administration and enforcement and shall avoid duplication, to the maximum extent practicable, with the appropriate provisions of the Clean Air Act ...." 42 U.S.C. § 6905(b)(1). Second, EPA recognizes that certain "inefficiencies and confusion could occur if Option 2 controls were applied and soon superseded by upcoming Clean Air Act ("CAA") standards" as in the case of the pending MACT standards for the pulp and paper industry. Id. It would make no sense for EPA to impose LDR air emissions standards that are possibly inconsistent with those now being considered by EPA's Office for Air and Radiation.

Thus, EPA's proposal to defer to such rules honors both its statutory requirements and the concept of practical regulation. The Pulp and Paper Industry will soon be under the new requirements of the Cluster Rule which established Maximum Achievable Control Technologies, under the Clean Air Act Amendments of 1990, and Effluent Guidelines, under the Clean Water Act. Requirements will include process changes, management systems, pollution control technologies and environmental testing to address the presence of volatile organics, chlorinated organics, and priority pollutants in the air emissions and wastewaters generated by this industry. MACT requirements will impose restrictions on the emission of hazardous air pollutants from pulp mills and bleach plants. Effluent guidelines for the Pulp and Paper Industry will impose restrictions on the in-plant waste streams and end-of-pipe discharges. Union Camp operates chemical pulp mills and bleached kraft mills which will be impacted by the final Cluster Rule. As well our Chemical Division and Bush, Boake, Allen subsidiary operate chemical plants which have their MACT and effluent guidelines. With this in mind we have the following concerns.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



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COMMENTS Union Camp Corporation

RESPONDER SS

SUBJECT EQUV

COMMENT C. EPA Should Tailor its Phase IV Rule Decision to Each Industry Studied. Though we have stated our contention that Phase IV rules are necessary, a risk assessment makes sense when applied to valid data. EPA has crafted industry-specific RCRA rules for many years. See, e.g., 40 C.F.R. § 261.4 (industry-specific exclusions from definition of solid waste) and attempted to follow that practice in the Phase IV rulemaking. Industry-specific data collected for development of effluent limitations guidelines by EPA's Office of Water was cited in Regulatory Development Document 60 Fed. Reg. 43657. EPA should have been able to assess risks on an industry-specific basis, but it appears from the preamble that EPA did not consistently. For example, EPA's discussion of risk estimates for sludge focuses exclusively on "estimated sludge concentrations in the OCPSF industry." 60 Fed. Reg. 43659. EPA estimated that potential cancer health risks in the OCPSF industry exceeded the Agency's 10-5 threshold. It apparently applied these results to each of the five industries studied, because the Agency does not mention vastly different results it obtained for them. 60 Fed. Reg. 43659. EPA's reliance on only the OCPSF sludge risk estimates to judge whether LDR rules are warranted for the pulp and paper and other industries is erroneous. For one reason, EPA's "sludge data" for the OCPSF industry was not really data at all; rather it was calculated based on a series of assumptions concerning constituent partitioning factors and sludge generation rates.<sup>2</sup> EPA should not rely on estimates when it has direct measurement data available. For another reason, industry specific data for pulp and paper and other industries show that releases from sludge pose no significant health risks.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As

a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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COMMENTS Union Camp Corporation

RESPONDER SS

SUBJECT EQUV

COMMENT E. The Risk Assessment Program Conducted by NCASI Shows That Possible Releases of UHCs From Paper CWASIs and Wastewater Treatment Sludge do not Present Significant Risk to Human Health and the Environment NCASI Wastewater Sampling and Analysis Program. In 1993 NCASI undertook a 10-mill sampling and analysis program to investigate how various LDR regulatory options might affect the pulp and paper industry. NCASI selected 10 mills to represent a wide range of paper production types and wastewater treatment strategies. The mills studied included three bleached kraft facilities, an unbleached kraft mill, a sulphite mill, a de-ink tissue and a de-ink newsprint mill, a wastepaper board and wastepaper corrugated medium mill, and a groundwood newsprint mill. Wastewater samples were taken from the influent and effluent of the active treatment facilities. For mills that use aerated basins following a primary clarifier, samples were taken from the effluent of the primary clarifier and the effluent of the aerated basin or, if so equipped, from the effluent of the settling pond. For mills with activated sludge systems, samples were taken from the effluent of the primary clarifier and from the effluent of the secondary clarifier. Samples were collected twice per day for three days per week for a three weeks. The samples analyzed and the analytical results represent a three day composite sample, for each of three weeks. In all cases, even the high-risk scenario using the ultra-conservative DAFs of 6 and 12, the individual lifetime cancer risk estimates for the baseline case (i.e., no additional Phase IV LDR restrictions) are all less than  $10^{-5}$  and range from  $10^{-6}$  to as high as  $10^{-10}$ . All hazard quotients are well below 1. Thus, using the EPA's  $10^{-5}$  significant-risk threshold, we conclude that releases of UHCs from possible surface impoundment leaks or wastewater sludge pose no significant risk to human health or the environment. The data collected by NCASI in its above referenced 10-mill wastewater sampling and analysis program and from NCASI's 150-mill waste characterization database, substantially broaden and update the effluent limitations data on which EPA relied for its initial risk assessment. Thus, EPA should have substantial confidence in the risk assessment conclusions based on these new data. These analyses, performed using the same techniques employed by EPA,



demonstrate that the individual lifetime cancer risks for pulp and paper industry wastestreams are more than an order of magnitude below the  $10^{-5}$  significant risk level used by EPA for this rulemaking. Similarly, the hazard quotient for each of the constituents found in these wastestreams is orders of magnitude below 1. Thus, EPA should now conclude, that CWA end-of-pipe controls for these wastestreams are all that is necessary for the pulp and paper industry to achieve RCRA equivalency. Any additional controls on these wastestreams would simply constitute treatment for its own sake and would contravene the teachings of HWTC III and CWM.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P024

COMMENTS Union Camp Corporation

RESPONDER SS

SUBJECT EQUV

COMMENT C. Test Method 25D Produces Artifact VOCs That Bias Test

Results. UCC understands through its association the AF&PA that test Method 25D produces artifact VOCs that bias test results.

In summary the AF&PA has told EPA in its Subpart CC comments, that Method 25D is seriously flawed because the method creates VOCs where none otherwise exist. Considering the inherent flaws

in this test method UCC believes, it not prudent to incorporate Method 25D into any possible Phase IV controls. UCC has also

learned that Method 25D exaggerates the amount of volatile organics in particular wastestreams. This would results in

unnecessary regulation, when these wastestreams would not pose a risk from volatilization of organic compounds under ambient

temperatures. This method should not be used for the Phase IV control until these issues can be resolved. ETC's "suggestion"

about banning purportedly nonamenable wastes is an example of proof by assertion. They offer no data. For example, ETC claimed

that "ICR waste streams nonamenable to biological treatment" include "ICR wastes with water insoluble and highly volatile"

F039 constituents ...." 60 Fed. Reg. 11717-18 (March 2, 1995). To illustrate that generalizations such as this are just plain

wrong, NCASI analyzed data it gathered during original research on biodegradability to determine whether water solubility and

volatility are likely to have any effect on amenability of compounds in surface impoundments. NCASI began by conducting a

two-phase study to gather data concerning the biological treatability of 14 organic compounds. In the first phase of this

study NCASI determined biodegradation rate constants for these compounds using bench-scale reactors. In the second phase of the

study the fate of individual compounds was estimated during fullscale treatment using the NOCEPM model, with the bench-scale

biodegradation rate constants entered as a model input. Complete details about this study appear in Summary of Results of

Biotreatability Study of Selected BDAT Compounds NCASI Technical Bulletin which is being submitted in AF&PA LDR Phase IV comment

letter.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems

regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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DCN PH4P024

COMMENTER Union Camp Corporation

RESPONDER SS

SUBJECT EQUV

COMMENT J. UCC agrees with the Agency's proposal to trigger additional requirements for impoundments only when leakage poses a risk to receptors, but believes the appropriate levels of contaminants in groundwater should be based on site specific factors. The Agency has proposed that further actions beyond monitoring would not be required unless a drinking water exceedence is detected by monitoring. UCC agrees that tangible evidence of a release which is of concern should precede capital and operating cost increase. K. UCC agrees with the Agency's proposal to defer leakage issues, where a facility is subject to other programs addressing groundwater quality. UCC also suggests that where an impoundment system has been deemed to not require any action, that the Agency also defer in those cases. UCC agrees, as the Agency notes, that many states have groundwater protection programs that include groundwater monitoring and corrective action. The Agency has stated that, to the extent that state programs require groundwater monitoring and corrective action that include the UTS constituents of concern (or can be modified to cover those constituents) the Agency would defer to those programs. UCC believes that where a State program has made a determination that, due to site specific conditions (impoundment construction, local geology, groundwater usage, etc.), monitoring or corrective action is not required, the Agency should defer to such a program, irrespective of the UTS constituent levels in the impoundment. Such a site specific determination must, by definition, be protective of human health and the environment as that is the bases for such State groundwater protection programs in the first place. If actions are not required under such programs, this regulation should not trump those programs. L. UCC agrees that an annual assessment of wastewaters managed in impacted units is reasonable, but questions the need for four samples for each sampling event. The Agency has proposed to use annual sampling of the wastewaters in the surface impoundment to determine if regulated constituents are present at concentrations that exceed the trigger level. The Agency has proposed that determinations of whether or not a trigger level has been exceeded would be calculated from a minimum of a four-sample set on a four-time per year basis (the Agency notes quarterly). The only basis UCC can determine for

requiring four samples per event is that its origin is in the finalized Subpart CC regulations. The logic under that rule does not hold for wastewaters treated in impoundments (that the wastes are potentially variable). The variability of constituent concentrations in wastewaters in impoundments is slight at best, especially on a short-term sampling event, and requiring four samples per event is unnecessarily burdensome. M. UCC agrees with the Agency's assessment that alternatives to groundwater monitoring should be allowed where site specific conditions warrant it and requests that the Agency address those types of units prior to finalization of the Phase IV regulations. EPA has correctly assessed that there are situations where alternatives to groundwater monitoring should be allowed when groundwater monitoring is not practicable or would not detect early releases. The Agency has noted that they are preparing a rulemaking to deal with those situations, but the inference is that that rulemaking will follow this one rather than being developed concurrently. Subjecting facilities to groundwater monitoring that is ineffectual in advance of the referenced rulemaking is an unnecessary economic burden. EPA should delineate which types of units it envisions falling into that category prior to finalizing this rule and defer the monitoring provisions finalized under this rule for those units. N. UCC believes that the Regional Administrator should be able to allow alternatives to corrective action based on site specific factors. The Agency has set up the leakage requirements such that a specific groundwater monitoring result will dictate mandated corrective action. There are bound to be situations which may not warrant any action, such as situations in which there is no receptor down gradient, which should be considered in determining if capital expenditure is necessary. Further consideration for "no action" would apply in situations, where groundwater in vicinity of CWASIs is not usable for potable water use due to local elevation of natural constituents (some of which may be UHCs) or to low water yield. Since the Agency's rationale for not allowing "no action" as an option is that these provisions are self-implementing, UCC requests that the Agency create a provision which allows, with Administrator review and concurrence, a "no action" option. Subjecting that particular provision to Agency review should give the Agency assurance that the option would only be implemented in situations where it is the appropriate option. O. UCC supports public participation in the remediation selection process as

long as limits are placed on the process timing such that remediation is not unduly delayed. The Agency has included a public participation clause in the proposed process of remedy selection and UCC supports that portion of the proposal.

However, where such participation results in shutting down the process of getting requisite remediation underway, the Agency needs to place reasonable bounds on the process.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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DCN PH4P024

COMMENTS Union Camp Corporation

RESPONDER PMC

SUBJECT EQUV

SUBJNUM 024

COMMENT

I. Option 1 is the correct option for EPA to choose.

A. The CWM Court Held That End-of-Pipe Treatment Standards For CWASIs Satisfy RCRA LDR Requirements.

The CWM Court held that allowing placement of decharacterized wastewater in CWASIs represents a reasonable accommodation of CWA and RCRA objectives, and therefore satisfies RCRA LDR requirements, as long as material exiting CWASIs is treated to the same extent required by RCRA. See 976 F.2d 2, 23. The Court fully appreciated that decharacterized wastewater is held temporarily in unlined CWASIs and eventually exits or "discharges" into navigable waters of the United States or publicly owned treatment works ("POTW"). Id. at 20,24. The Court also recognized that levels of pollutants in decharacterized wastewater passing the exit point, or "end-of-the-pipe," are regulated by National Pollution Discharge Elimination System ("NPDES") permits. Id. at 20.

With full knowledge of how CWA systems operate, the Court required unlined CWASIs to demonstrate end-of-pipe-equivalence to comply with RCRA -- nothing more. The Court articulated its position at two points in its opinion, in each case making it clear that end-of-pipe

treatment standards satisfy statutory LDR requirements:

1. [Decharacterized] wastes may be placed in . . . impoundments that are part of an integrated CWA treatment train. However, in order for true "accommodation" to be accomplished, we find that RCRA treatment requirements cannot be ignored merely because CWA [sic] is implicated .... Thus, we hold that, whenever wastes are put in CWA surface impoundments before they have been treated pursuant to RCRA to reduce the toxicity of all hazardous constituents, these wastes must be so treated before exiting the CWA treatment facilities. In other words, CWA facilities must remove the characteristic and decrease the toxicity of the waste's hazardous constituents to the same degree that treatment outside a

CWA system would.

Id. at 22 (emphasis added).

2. [D]echaracterized waste [containing hazardous constituents] may be placed in a surface impoundment if and only if the resulting CWA treatment fully complies with §3004(m)(1). In other words, the material that comes out of CWA treatment facilities that employ surface impoundments must remove the hazardous constituents to the same extent that any other treatment facility that complies with RCRA does.

Id. at 23 (emphasis added).

As noted above, the CWM sanctioned the Option I approach by making it clear that EPA could meet its obligations under RCRA § 3004(m) by providing that the § 3004(m) standard must be met at the CWA system discharge point. EPA is not required to impose the same treatment standards on wastes managed in CWA systems as those that are managed elsewhere; it is simply obliged to ensure that wastes managed in CWA systems meet the §3004(m) minimize threat standard at the CWA discharge point. The CWAs permit or pretreatment requirements, which require, at the least, application of the best practicable control technology currently available (CWA § 301(b)), supplemented by § 268.48 standards for constituents not covered by the CWA requirements, clearly meet that standard.

The court's litmus test for equivalency is that treatment must meet the requirements of the statute.

The court held that: "the new CWA dilution permission is valid where the waste is decharacterized prior to placement in a CWA surface impoundment and subsequently treated in full conformity with section 3004(m)(1) standards." 976 F.2d at 19.

The end-of-pipe standards proposed in Phase III fully satisfy that standard, and EPA should go no further.

#### **B. The CWM Court Did Not Require LDR Regulations Addressing The Sludge That Forms In CWASIs.**

The Court made an informed decision not to require EPA to promulgate special LDR regulations addressing sludge that is formed in CWASIs. Instead, the Court held that sludge generated from the treatment of decharacterized wastewater in CWASIs is covered by RCRA Subtitle C only if the sludge itself is a hazardous waste. Id. at 24, note 10.

Briefs submitted by the litigants in the CWM proceeding made the Court well aware that treating decharacterized wastewater in CWASIs



results in the precipitation of sludge. See NRDC Petitioners Brief at 64, (Metal-bearing wastewater can evaporate to reconcentrate toxic metals.); Industry Intervenor's Brief at 29 (Treatment in CWASIs removes metals by precipitation.); Industry Intervenor's Brief at 31 (Precipitation of metals into sludge occurs in surface impoundments.); EPA Response Brief at 69 (Treatment of wastewater in CWASIs normally results in the precipitation of metal hydroxide sludges.); EPA Response Brief at 91 (Low TOC ignitable wastes managed in wastewater treatment systems generate non-hazardous sludges.).

In support of its position that RCRA's accommodation provision (§ 1006(b)(1)) allows placement of decharacterized wastewater in CWASIs, EPA argued that its Subtitle C regulations would satisfy the RCRA objective of protecting groundwater from toxic constituents of sludge: NRDC Petitioners argue . . . RCRA's groundwater protection standard is not satisfied by CWA regulation of discharges to surface water. NRDC Br. at 64-68. It is true that CWA rules do not explicitly protect groundwater; this is not to say, however, that EPA is precluded under RCRA from balancing CWA and RCRA objectives in integrating the RCRA dilution prohibition and the CWA rules. First, if a regulated hazardous waste --e.g., a toxic sludge -- precipitates out from non-hazardous wastewaters disposed in the surface impoundment, then that unit becomes subject to subtitle C regulation. 55 Fed.Reg. 39,409, 39,410/3 (Sept. 27, 1990). NRDC Petitioners' assertion that such hazardous sludges could be generated in these impoundments and escape subtitle C is thus simply incorrect. Compare NRDC Br. at 64 EPA Response Brief at 68-69.

In its discussion of accommodation of CWA and RCRA pursuant to RCRA § 1006(b)(1), the Court wholeheartedly embraced EPA's position. It held that allowing placement of decharacterized waste in CWASIs is a reasonable accommodation, in part, because RCRA Subtitle C will protect the environment from threats posed by hazardous sludge that may precipitate during treatment. See 976 F.2d at 24, note 10. In the Court's words.

[A]s the EPA concedes in its brief, if the stream entering the surface impoundment is not decharacterized, then RCRA requires the impoundment to meet subtitle C requirements. Similarly, any hazardous precipitate or other hazardous material generated during CWA treatment must be managed in accord with subtitle C. *Id.* (emphasis added).

The text of the opinion, read in conjunction with the briefs submitted to the Court, therefore shows that the Court carefully

considered the issue of sludge precipitation and decided that regulation of sludge is required only if it is a listed or characteristic hazardous waste. If the Court wanted to impose LDR requirements for non-hazardous sludge, it certainly would have made its intentions clear.

**D. The CWM Court Did Not Require LDR Regulations Addressing Leakage From CWASIs.**

The CWM Court focused its analysis exclusively on high volume wastewater that typically passes through CWASIs into navigable waters and POTWs. See 976 F.2d at 24. With respect to such wastewater the Court determined, as discussed above, that end-of-pipe-equivalence satisfies RCRA LDR requirements. The Court did not assess the issue of potential leakage from CWASIs, let alone mandate special LDR requirements to address it.

Briefs submitted by the litigants in the CWM proceeding made the Court well aware that the CWASIs had the potential to leak. The NRDC Petitioners continually referred to CWASIs as "unlined" surface impoundments, a term which the Court used to discuss CWASI's in its opinion. Compare NRDC Petitioners Brief at 26, 59, 60 with 976 F.2d at 20. Obviously, the term "unlined" implies the possibility that CWASI's may leak. Likewise, the Court accepted at face value assertions made by EPA and Industry Intervenors that imposing LDR rules on CWASIs would require "major revamping" of CWA treatment systems, in part because CWASIs cannot qualify for "no-migration variances" that would allow them to receive hazardous waste. Compare Industry Intervenors Brief at 33-35 and EPA Response Brief at 64-67 with 976 F.2d at 21. EPA went so far as to assert that sludges produced during treatment in CWASIs "typically leach low, relatively minimal levels of metals" -- a position not inconsistent with the NRDC Petitioners claim that toxic metals can leach from CWA surface impoundments into groundwater. Compare EPA Response Brief at 69 with NRDC Petitioners Brief at 64-68.

After a full opportunity to review assertions concerning leakage presented by the litigants, the Court decided to say nothing about it. Perhaps the Court concluded that RCRA's accommodation provision (§ 1006(b)(1)) gave EPA discretion to decline to address leakage in light of the massive disruption and minor environmental benefits that would result. Whatever the Court's reasoning, the fact that it decided not to require LDR rules addressing leakage is unmistakable. Accordingly, EPA cannot invoke the CWM opinion to justify Phase IV regulations.

**F. Sludges Generated in CWASIs Comprise a New Treatability**

Group; Therefore are not Covered by LDRs Unless the Sludges are Characteristic Hazardous Waste.

As part of the final Third-Third Rule, EPA developed specific "decision rules" (hereinafter, "treatability group rules"), which make absolutely clear that non-hazardous sludge generated during treatment of characteristic wastewater is not "prohibited waste" and not subject to LDR regulations. See 55 Fed. Reg. 22520, 22661-662 (June 1, 1990). Nobody challenged the Agency's conclusion in the CWM litigation. In its Phase IV proposal, EPA aptly observes that the CWM court did not address -- let alone remand or vacate -- the treatability group rules, which, in EPA's own words, mandate that "wastewater treatment sludges not exhibiting a characteristic are not prohibited wastes, notwithstanding that they may derive from prohibited wastewaters." 60 Fed. Reg. 43654, 43656, col.3 (August 22, 1995). Therefore, the treatability group rules clearly place non-hazardous sludge beyond the scope of the Phase IV rulemaking. Moreover, the rules shed light on why the CWM Court did not require EPA to develop special LDR regulations for sludge. The D.C. Circuit carefully read the Third-Third Rule, including EPA's explicit discussion of its treatability group concept, and concluded that LDR regulations don't apply to sludge. It therefore held that RCRA equivalency could be achieved through the treatment of wastewater only. In EPA's own words.

[The CWM Court did not say] that hazardous constituents in deposited sludges must be treated. The court in fact did not speak to the principle stated by EPA in the Third Third rule that generation of a new treatability group is considered to be a new point of generation and thus a new point for determining whether a waste is prohibited. 55 FR at 22661-662. Under this principle, unchallenged in the litigation, wastewater treatment sludges not exhibiting a characteristic are not prohibited wastes, notwithstanding that they may derive from prohibited wastewaters 60 Fed. Reg. at 43656, col 3.

Therefore EPA must exclude sludge from the Phase IV rule just to comply with its own treatability group rules as well as the CWM opinion.

H. EPA Has Already Regulated Hazardous Air Emissions from Waste Treatment Systems in Other Statutes of the Clean Air Act. Additional Regulation is Under RCRA is Not Required..

EPA must not ignore the strong regulatory initiative already in place for the control of hazardous air emissions. The amended Clean Air Act provides explicit regulation of hazardous air

pollutants(HAPs) in title III. The Agency has stated repeatedly that overlapping regulatory requirements for Part 268 are not required by the Court, nor intended in this proposed rulemaking (60 FR page 43659, 43660 and other pages). Union Camp agrees with this position. In title III section 112 of the Clean Air Act, and through Maximum Achievable Control Technology (MACT) rules, the Agency has determined controls of HAPs, and has the ability to regulate any subsequent "residual risks" even after MACT requirements have been installed. EPA must also consider the huge cost and environmental penalties of redundant Clean Air Act and Land-ban requirements.

Title III of the amended Clean Air Act has provided ample and repeated opportunity for EPA to regulate emissions of volatile hazardous air pollutants. In section 112(b)(1), the Agency has listed

189 air pollutants to be specifically controlled. This list includes many of the pollutants EPA may attempt to control under this proposal. In section 112(d) of the Clean Air Act, the Agency must establish lists of industry types and categories that have, or will have hazardous air emission standards placed upon them. These standards are based on the maximum emissions reduction achieved in practice by the best performing 12% (or less) of the industrial group or category for existing sources. The result of the MACT is typically a requirement to reduce emissions of hazardous pollutants by 90% or more.

For example, volatile hazardous emissions in the proposed Pulp and Paper industry MACT, at least 90% of the volatile HAPs must be captured. These must then be further treated in a device with 98% destruction efficiency. In the Hazardous Organic NESHAP (HON) final MACT rule, volatile HAPs must be controlled in process and wastewater operations to at least 98% reduction. In the proposed lead smelter MACT total hydrocarbon HAPs must be treated in a high-temperature afterburner with a scrubber. This will affect at

least 98% control. Many other final and proposed MACTs have similar high removal and destruction efficiencies. These MACTs will cover virtually every major and most minor types of industrial and process categories, (see 56FR 9315). These categories were established based on emissions magnitude, and potential environmental impact. The most important categories will be addressed first. EPA must not overlay this stringent regulatory framework with a conflicting or additional requirements. The Agency

and the public would be better served if the MACT and other title III processes were allowed to proceed unencumbered by contradictory RCRA impediments.

Section 112(f) of title III of the Clean Air Act serves as a "backstop" for control of hazardous air emissions. In this section, EPA is obliged to evaluate the residual risk remaining after MACTs have been in place. The Agency must apply risk assessment methods to calculate the significant public health emissions that may remain. EPA must also propose recommendations to address the risk for any industrial category it finds is appropriate. This "fix" is self-implementing, if Congress does not act on the recommendations, then the Agency may promulgate standards with an ample margin of safety to address the problem. The initial 112(f) report on residual risk is due by November 15, 1996. EPA must not require overlapping and additional control requirements for hazardous air pollutants when section 112(f) has provided for a system for evaluation of these pollutants, and discrete rulemaking as needed.

/ENDC8

As a specific example, EPA must not apply RCRA subpart CC to waste streams neutralized upstream of surface impoundments. The risks (and controls if appropriate) will be addressed under title III of the Clean Air Act. To do so through LDR is poor policy, and a waste of scarce Agency and public resources.

I. The Pulp and Paper and Other Industry are Either Already Covered by a Rule for the Control of Hazardous Air Pollutants, or; Have Been Considered for Control and Rejected by EPA.

EPA acknowledges that if a source is already controlled by other regulations for the release of hazardous air pollutants, then no further regulation may be necessary. This is known as "Option 1" of the proposed land-ban rules. As previously stated Union Camp believes Option 1 is an appropriate selection. Union Camp has shown where title III of the Clean Air Act effectively accomplishes the objective of control of hazardous air emissions through MACTs, followed by evaluation of residual risk. This section will discuss specifically how the Pulp and Paper and other specific industries are either covered by an air rule, or were considered for control but rejected for cause by EPA.

The Pulp and Paper NESHAP, (known as "the Cluster Rule") was proposed on December 17, 1993. This rule was preceded by an EPA data-gathering effort including questionnaires, sampling and comment solicitation. The paper industry also supplied EPA with

volumes of data in support of this rule-making. The intent of the Agency was to simultaneously consider the effects on air, water and

solid-waste from this "Cluster" rulemaking effort. The proposed rule considered all these aspects, but especially the air and water media. The Agency held a series of public meetings during the drafting of the proposed rule to explain their findings and solicit input.

During the early stages of the Cluster rulemaking, EPA surveyed data from Pulp and Paper mills relative to HAPs and especially methanol, in wastewater. Methanol is the overwhelmingly prevalent HAP at a pulp and paper mill, accounting for at least 96% and in most cases 99%, of the HAPs emitted. Because of this, the Agency allowed for the measurement of the HAP methanol (or chlorine from the bleaching process), as this was the only pollutant found and measured in significant amounts. (see NCASI Reports "Industry-Supported MACT Sampling Program," 1993-94, six volumes.). EPA had considered setting a methanol in wastewater limit of 100ppm, based on the presence of methanol in the process, and that the 100ppm was consistent with other rulemaking targets such as the HON. This initial level of 100ppm was a concern to the industry, and was the focus of a special NCASI condensate characterization study. The pulp and paper industry was concerned that the 100ppm was an inappropriate threshold due to the lack of information available to the Agency at that time, and the consequences of control to that level.

Methanol, which is a product of chemical digestion of wood, is often found in condensates associated with spent wood pulping liquor concentration, and in some areas where condensates and process waters are recycled. Lessor amounts of methanol are associated with other areas of a pulp mill, and became concentrated as a facility conserves water and closes up its production cycle. Due to large amounts of water used and recycled in the process of making paper, a treatment threshold of 100ppm was inappropriate and counter-productive to conservation of heat and water.

For example, in unbleached paper mills, water is efficiently recycled throughout the process. Condensates are reused for their heat and ability to wash pulp. As a result, the water in some pulpmill and even paper mill general sewers could reach the 100ppm threshold. The flow of these streams is thousands of gallons per minute. Had the Agency required steam stripping on this large dilute flow (steam stripping is the control technology required by the Pulp and Paper MACT), the cost would have been enormous. A mill would have had to construct a steam stripper the

size of a Saturn Rocket and install a separate boiler to supply the steam. Fossil fuel would in many cases provide the heat to the boiler, with the requisite emissions increase of criteria pollutants.

The overheads from the stripper must go to a boiler for further destruction. The wet gas has no heat value and would have required even more fuel to maintain boiler operation. Additionally, it is doubtful that a steam stripper could even remove methanol to lower than 100ppm. The capital and operating costs would have been enormous and the resulting increase in the products of combustion not worth the estimated decrease in methanol. Upon learning of the consequences of this threshold, EPA considered and rejected controlling emissions from wastewater streams down to 100ppm. As a result, EPA made two important changes to the proposed Cluster Rule. The first was to allow an option of routing the HAPs to a well-operated biological treatment system. The second, was to propose a higher treatment threshold of 500ppm methanol. In the proposed Cluster rule, a source may elect to handle waste streams containing 500ppm or greater in a biological treatment system. This would bring nearly the entire wastewater treatment train under the ambit of the Cluster Rule. The Agency believed that a wastewater treatment system would effectively destroy and not just strip HAPs. Methanol, which is the predominant volatile hazardous air pollutant is highly soluble in water. Low concentrations of methanol typically found in mill wastewaters would have little "driving force" to volatilize from the wastewater mixture. EPA models, and industry supplied data found in the Cluster docket indicate that overall loss of methanol from the biological treatment system is expected to be less than 0.1 % of the total (NCASI Report, Table 5a at page 7, Douglas Barton, Cluster Rule Water Docket). A treatment system option was a valid pathway for Cluster compliance. The biological system must have high methanol treatment efficiency and demonstrate this ability through testing and reporting (see 58 FR, page 66177 et seq., proposed 40 CFR 63.446).

If a biological treatment system is not used for the destruction of methanol, then a pulp and papermill must treat 500 ppm streams in another fashion. In the proposed rule, a source may route streams above the threshold to a steam stripper, then to a combustion device such as a boiler or thermal oxidizer. Conveyances for the vapors must be leak-free, with specific testing and reporting to ensure compliance (see 58 FR, page 66177 et seq.). In any case, a pulp and paper mill must identify its HAP



containing wastewater streams, then treat and control them to a very high degree. For example, the proposed Cluster rule would require treatment of such other pulping component streams as turpentine decanter underflow, non-condensable gas system condensates, other condensates above the threshold; as well as air emissions from numerous processes like brownstock washers, black liquor storage tanks, digester systems, chip steaming vessels and others. Control areas in a pulp bleaching component include pulp bleaching stages, bleached pulp storage chests, filtrate storage tanks and others.

Effluent from the bleach plant, once it is sewerred, was considered for control but rejected by EPA due to its low HAP concentrations and extremely high cost (see 58 FR pg. 66140). The 500 ppm threshold was proposed based on what EPA believes is technically achievable, cost-effective and reflects operation at the best performing pulp and paper mills. Although the Cluster Rule is not yet final, the Agency must not obstruct this process by setting an arbitrary standard under Part 268 of 100 ppm. This will plunge facilities back into the untenable position of treating enormous quantities of water at huge cost penalties, with no environmental justification. In fact, this would negate the purpose of the Cluster Rule, i.e. addressing one environmental medium at the expense of another.

As the Pulp and Paper mills have their proposed Cluster, and many organic chemical plants have their final HON; MACT standards are being developed for solid wood products, printing and publishing, papermaking, industrial boilers and miscellaneous chemical production. These and other MACTs will require new controls for hazardous air pollutants. The rulemakings for these processes are still in the workgroup and data gathering stages. Specific requirements are not known. However, the Agency should not get ahead of itself. The rulemakings must proceed based on the appropriate "floor" determinations of the workgroups. This industry-by-industry review envisioned by Congress is more efficient and effective than arbitrarily assigning a 100ppm standard to wastewaters in any MACT. EPA must allow the air regulatory process to progress as planned by the Clean Air Act. This rulemaking framework is sufficient control for hazardous air emissions under both the Clean Air Act and RCRA. The Agency must not attempt to graft a patchwork of conflicting limits through Part 268 onto the CAA and other RCRA sections.

**J. The Pulp and Paper Industry's Compliance With the Proposed Cluster Rule's Effluent Guidelines Will Protect Human Health and**

the Environment by Requiring Process Changes, Management Systems and Pollution Control Technologies.

Authorized by the Clean Water Act to establish the best available technology economically achievable (BAT), EPA established limits in the Cluster Rule which would enforce technologies that minimize the generation of pollutants and the bioaccumulation potential of pollutants present in effluents at trace levels through process changes.

To arrive at these chemicals of concern and discharge limitations, the Agency completed an extensive study of the paper industry wastewaters apparently used in the Phase IV TSD (understood in the effluent guidelines development as the long-term and short-term studies.) As described in the "Proposed Development Document for the Pulp, Paper and Paperboard Category Effluent Limitations Guidelines" 443 specific pollutants were the subject of extensive study during the development of the Cluster Rule. Through the evaluation of the processes which form the pollutants, the Agency made a determination concerning which pollutants should be subject to further regulations in BAT.

For mills engaged in bleaching of pulps, the Agency identified and chose to regulate dioxin and furan (2,3,7,8-TCDD and 2,3,7,8-TCDF), four volatile organic compounds (methyl ethyl ketone, methylene chloride, chloroform and acetone) and 12 chlorinated phenolic compounds. The list of chemicals was not greater because the Agency reasoned that regulating the 12 chlorinated organics will essentially regulate many other similar compounds. Chloroform and other volatile compounds will be regulated at a point very close to their originate because of their potential to volatilize to the atmosphere during transport, storage and treatment. For the other constituents, it

was necessary for the Agency to set limitations close to their point of origin because of dilution effects further away from the generating processes. As a result, EPA will require bleached kraft paper mills to comply with production based limitations for 18 toxic pollutants at or near their point of originate (in the bleach plant effluent) and not at the effluent of Clean Water Act treatment system.

Due to the restrictions on the bleach plant effluents upon implementation of Cluster Rule, bleach plant process changes will be required. Those mills now bleaching with elemental chlorine must convert their processes to alternate chemicals. With this process change, bleached kraft mills should be able to achieve below detection levels for most of the Cluster Rule parameters and

near detection level for the remainder. This means that volatile organic compounds and priority pollutants from the pulp and paper industry's bleaching processes will be reduced at their source through installation of best available technology.

As well the Agency is proposing under the Cluster Rule that specific best management practices must be instituted as a condition in pulp and paper mill NPDES permits. Through physical changes made to pulp mill spill control and collection systems and through instituting management practices, mills will tighten up their processes to minimize discharge to Clean Water Act systems of spilled black liquor. Though presently covered under the elementary neutralization exclusion, weak black liquor and black liquor, depending on the point of generation are corrosive.

And limited data which we have suggests that they contain several UHCs above the UTS and VOCs greater than 100 ppmw. However, when Cluster Rule BMPs are in place, we expect that wastestreams previously containing spent black liquor will be recovered or not exhibit the corrosive characteristic at the point of generation.

EPA is in the process of developing guidance under the Cluster Rule dealing with the implementation of black liquor spill prevention and control practices through best management practices planning.

It is anticipated that control systems will be recommended that depend on pH or conductivity measurements in spill collection sumps to divert to recovery spills, leaks, drips and drabs of black liquor. Depending on the individual mill's recovery capacity, even very dilute spent liquors streams could be recovered, minimizing their discharge into CWA systems.

Because EPA's risk assessment justification for the phase IV rule to apply to the pulp and paper industry was based on data generated during the Cluster Rule development, the efforts to regulate will be duplicative. The development of the Cluster Rule was understandably more thorough in its generation and review of data, and evaluation of process and treatment technologies, than was Phase IV. Therefore, we strongly recommend that the Agency adopt Option I and allow the process changes under Cluster Rule to take effect.

Under the proposed Option 3, decharacterized wastes would have to be treated to meet UTS before they enter into CWA surface impoundments. 60 Fed. Reg. 43655, 43675. UCC is thankful to learn that "EPA is not in favor of the third option, as it is likely to disrupt treatment needed for compliance with the CWA limitations and standards, and impose high costs without targeting risks adequately." 60 Fed. Reg. 43655. UCC believes that EPA is entirely

correct with its opinion that Option 3 would disrupt CWA treatment without environmental benefit. Option 3 would ignore useful treatment that occurs in paper, chemical and other industry surface impoundments and "force modifications at facilities that do, as well as those that do not, pose risks from leaks, air emissions, and sludges." 60 Fed. Reg. 43659.

Option 3 would render RCRA § 1006(b) null, because it would destroy the integration of RCRA and other acts administered by EPA as the Congress ordered. Finally, it would ignore the CWM Court's finding that "under RCRA diluted formerly characteristic wastes may be placed in Subtitle D surface impoundments that are part of an integrated CWA treatment train ... before they have been treated pursuant to RCRA ...." 976 F.2d 2 at 22. Based on these reasons, UCC believes EPA's rejection of Option 3 is not only correct but required.

**A. Subpart CC Requirements Should not be Extended to CWASIs Under Option 2 of the Phase IV LDRs.**

Union Camp believes that Subpart CC requirements should not be extended to wastewater treatment impoundments under Option 2 of the Phase IV LDR, because the Subpart CC regulations have not been finalized and are subject to modifications pending the EPA's response to issues raised during the comment period.

Additionally, the EPA needs to identify and eliminate organic compounds which are not VOCs. That is, organic compounds that do not volatilize and/or are readily biodegradable should be identified and eliminated as VOCs in waste determinations. VOCs from nonhazardous wastes also need to be addressed. VOCs from nonhazardous wastes should not be included in calculating organic removal efficiency.

Cost for compliance of the Phase IV VOC releases would be extremely high and unjustified. For example based on the estimate of \$7.21 per square meter provided in the Phase IV RIA, it would cost \$3,200,000 to install a floating cover to control air emissions from Savannah's wastewater treatment surface impoundment. This is only one facility out of a number in our corporation that may be subject to this additional unjustifiable cost. As can be seen, the cover requirement may have a major impact on the cost of this rule to the pulp and paper industry.

**B. EPA has Twice Delayed the Effective Date of Subpart CC so That it can Reassess Fundamental Elements of That Rule Including the Underlying Test Method. EPA Should Not, Therefore, Base the Phase IV Air Emission Risk Assessment or Control Measures on the Subpart CC Rules.**

EPA's Phase IV risk assessment concerning air emissions, "relied on existing analyses conducted to support the RCRA Subpart CC regulation of air emissions from hazardous wastewater treatment units." RIA at 2-51. These include the regulatory impact analysis for Subpart CC and the background information document ("BID"). But the Subpart CC rules are presently undergoing both EPA administrative review and judicial review in large part because of flaws in EPA's risk assessment and technical background document which underlie the Subpart CC 100 ppmw regulatory threshold, test Method 25D, and other issues affecting the applicability of the Subpart CC rules. Because of these outstanding issues, the Agency has twice postponed the effective date of the Subpart CC rules. 60 Fed. Reg. 26828 (May 19, 1995), 60 Fed. Reg. 56952 (Nov. 13, 1995). In addition, EPA published on August 14, 1995 a proposed rule and notice of data availability concerning changes to fundamental aspects of the Subpart CC rule including waste determination procedures and the applicability of the rule to units that operate air emission controls under the Clean Air Act ("CAA"). 60 Fed. Reg. 41870. In that Federal Register notice, EPA announced that it "is planning to publish a technical correction notice to the rule . . . and may also propose additional changes to the rule in the near future." Id. In view of EPA's on-going administrative review process, the related judicial review of the Subpart CC rules, and fundamental flaws in the underlying Risk Assessment and test methodology -- which we discuss below -- EPA should not base any Phase IV Rule decisions on the Subpart CC rule or its underlying analyses.

D. Inground Concrete Tanks should not be in SI category  
UCC recommends that concrete inground tanks be explicitly excluded from the definition of surface impoundments being covered by the Phase IV rule. The surface impoundment definition needs clarification to ensure concrete inground tanks are not included under the phase IV rule management standards. The background document describes and illustrates on several occasions "typical" surface impoundments with side slopes and some with liners. We believe strongly that EPA should not place the concrete inground tank in the same category as a surface impoundment. Wastewater being treated in primary containment units is not a hazardous waste, but only a wastewater with a UHC above UTS level. The placement of an concrete inground tank at the same classification or "threat to environment" level is totally unjustified with the nature of the wastewater.

Although these tanks may not meet the court based decision on the

RCRA tank definition, they are indeed tanks. Releases if any from these concrete tanks through construction joints are small in comparison to releases from earthen clay soil based impoundments, which have the full liquid layer as the surface area exposed to the soil. This fact should be taken into consideration in the risk analysis and economic cost analysis. All types of industries as well as local municipalities using concrete inground tanks for primary treatment operations could be affected by this decision. Millions of dollars by industry have already been invested in these units under the Clean Water Act. Municipal POTWs also receiving decharacterized wastewater via dilution may also be affected by this rule at a high economic burden, when budgets are already strained. The inability of the regulated community including municipalities to continue using treatment systems currently in place, many meeting mandated government construction specifications, would create an extreme economic burden for them.

**G. Surface Impoundments at Interim Status and Permitted TSDFs Should be Exempted from All Phase IV Management Standards.**

UCC agrees with EPA that permitted TSDFs should be totally exempted. During the RCRA Part B permitting process the Subtitle D wastewater surface impoundments receiving non-hazardous wastewater constituents will be inspected to determine if they are causing unacceptable environmental impact via emissions to the air, runoff to surface waters, and seepage into the soil and ground water (§3004(u)). Such inspections will determine if any additional monitoring and/or corrective action is needed for the impoundments on a case-by-case basis. These inspections and subsequent later activities, as needed, assure that the impoundments are being operated in environmentally acceptable manners, according to agency interpretations.

Interim status facilities should be provided the same total exemption as permitted TSDFs, since the same amount of inspections with follow-up monitoring and/or corrective action, as needed, will be conducted during the Part B permitting process or can be conducted under §3008(h). UCC does not believe it to be practical to force interim status facilities to comply with Phase IV requirements if the regulatory agency has the authority to inspect the facility and to request site-specific corrective action measures based on those inspections and any further monitoring. UCC believes total exemption from all Phase IV management standards should be provided for both interim status and permitted TSDFs.

UCC also believes that facilities undergoing corrective action under Consent Orders or other state, federal or local actions should also be exempted from Phase IV corrective action management standards. States may have their own corrective action programs and therefore should be allowed to address corrective action issues in lieu of federal action.

**Q. Additional comments on Sludge**

UCC believes that EPA's proposed requirement for annual sludge removal from CWASIs is extreme and not necessary. Frequent sludge removal may increase releases since it stirs up material and may damage liners of the impoundment. Air releases and leakage may also increase and carry through of some constituents may occur. Another concern with the sampling is that the treatment facility may require a shut down to facilitate the safe sampling of sludge. The shut down may cause disruption of a sites treatment operation. Cost for the collection and disruption of plant treatment should be considered in the Cost Analysis. After sampling sludge, analysis for UHC is required. Tests for some UHC are not available, unpredictable or extremely expensive.

Another concern with the sampling is that the treatment facility may require a shut down to facilitate the safe sampling of sludge. The shut down may cause disruption of a sites treatment operation. Cost for the collection and disruption of plant treatment should be considered in the Cost Analysis. After sampling sludge, analysis for UHC is required. Tests for some UHC are not available, unpredictable or extremely expensive.

Sludge (p. 43673 2 col) EPA says sludge in place to a release pathway separate from the leaks pathway. We agree with this and also feel sludges in place would tend to retard any leakage due to the build up of sludge and other fine particles.

**S.** EPA should use scientific knowledge to determine trigger levels for corrective action for UTS constituents which do not have MCLs or State risk-based levels.

Water quality-based limits are developed to protect human health and aquatic-life. Section 304(a)(1) of the Clean Water Act (CWA) requires that the Environmental Protection Agency develop and update water quality criteria (WQC). These criteria are to reflect the latest scientific knowledge on the kind and extent of all identifiable effects of pollutants for the protection of aquatic-life and human health from the presence of pollutants in any body of water, including ground water (Quality Criteria for Water, 1986, EPA).

For UHCs that do not have MCLs or State or tribal risk-based numbers, EPA is proposing that the UTS level be used for the regulated constituent to trigger corrective action requirements [p.43669, 2nd column, 1st paragraph] EPA is proposing that the ground water monitoring and correction action regulations for municipal solid waste landfills (MSWLFs) under the Subtitle D program be adopted with minor modifications for the monitoring and remediation of surface impoundments subject to the LDR Phase IV proposed rule-making. EPA states in the preamble that it believes that the ground water monitoring and corrective action standards in the MSWLF rule are appropriate and protective of surface impoundments subject to LDR Phase IV. However, EPA is adopting only self-implementing portions of the MSWLF ground water monitoring and correction action requirements.

Section 258.55(I) of those requirements states that these ground-water protection standards shall be appropriate health-based levels that satisfy the following criteria:

- (a) The level is derived in a manner consistent with Agency guidelines for assessing the health risks of environmental pollutants (51 FR 33992, 34006, 34014, 34028, September 24, 1986).
- (b) The level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR Part 792) or equivalent;
- (c) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) with the  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$  range; and
- (d) For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime.

(For purposes of that subpart, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.)

EPA stated that in light of the self-implementing nature of these specific standards for leaks for surface impoundments, EPA decided not to adopt the provisions of 268.55(I) which address site specific protection standards [P. 43672, 3rd column, 1st paragraph]

As presented in the "Technical Support Document - Options for Management Standards for Leaks, Sludges, and Air Emissions from Surface Impoundments Accepting Decharacterized Wastes (page 7-20)", MCLs were identified by EPA as a trigger level because they are a reasonable benchmark of risk posed to human health at a drinking



water source. Under the Safe Drinking Water Act, EPA is required to publish maximum contaminant level goals (MCLGs) for contaminants which may have an adverse human health effect. Since MCLs and MCLGs are required to be set at a level which allows an adequate margin of safety, pollutants with no MCLs or MCLGs have not been identified by EPA as posing the significant risks identified for the others.

Therefore, if Option 2 is chosen, it is recommended that EPA not defer to the UTS level for constituents for which MCLs have not been established, and that corrective action not be required until an MCL or an alternative ground water protection standard has been established by EPA or the State. As opposed to defaulting to the UTS, EPA should adopt the provisions of 268.55(I) for determining if corrective action is warranted for UTS constituents without MCLs.

T. Subpart CC requirements should not be extended to small quantity generators (SQGs) under LDR Phase IV.

Union Camp believes that Subpart CC requirements should not be extended to SQGs. In the preamble to Subpart CC, EPA acknowledges that generators subject to 262.34(d) or (e) are not subject to Subpart CC (p.62902, 2nd column). However, under Phase IV, SQGs will be brought into this regulatory arena based on VOC concentrations at the point of generation. In keeping with its original intent, EPA should maintain the SQG exemption from Subpart CC requirements.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P024  
COMMENTS Union Camp Corporation  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 024  
COMMENT

E. The Court Did Not Assess The Application Of LDR Treatment Standards To Air Emissions From Material Placed In CWASIs  
EPA can find no support for across-the-board Phase IV air emission rules in the CWM opinion for the simple reason that, with one limited exception, the opinion did not discuss controlling air emissions from materials placed in CWASI's. The Court confined its discussion of air emissions to the portion of its holding that vacated EPA's deactivation standard for ignitable wastes on the grounds that diluting ignitable wastes emits high levels of VOCs. See 976 F.2d at 16-17. The Court never addressed whether LDR treatment requirements must cover air emissions from decharacterized corrosive or reactive waste managed in a CWASI.

As this analysis of the CWM decision shows, the D.C. Circuit confined its pronouncements about RCRA equivalency to wastewaters. EPA recognizes the Court's narrow focus when it said in the preamble "the focus here is on the wastewaters being treated, and the amount hazardous constituents removed from those wastewaters, not other types of wastes (like sludges) or other types of releases." 60 Fed. Reg. 43656. Thus, EPA's Option I is the correct course; the Agency need not promulgate LDR requirements beyond those proposed in the Phase III rules, which meet both the Court's conclusion that "RCRA requires some accommodation with [the] Clean Water Act" and also ensure that "what leaves a CWA treatment facility can be no more toxic than if the waste streams were individually treated pursuant to the RCRA treatment standards." CWM, 976F.2d at 20.

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As

a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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DCN PH4P024

COMMENTS Union Camp Corporation

RESPONDER SS

SUBJECT EQUV

SUBJNUM 024

COMMENT

A. A De Minimis Exception to the LDRs is Appropriate and Reasonable.

Existing LDR regulations have for some time incorporated a de minimis exception for certain low risk/low quantity waste streams. See e.g., 40 C.F.R. § 268.1(e)(4) (losses to wastewater treatment systems of certain commercial chemical products) and (e)(5) (laboratory wastes). EPA proposed in its Phase III rules a similar exception for material handling losses, leaks, discharges from safety showers, rinsate from empty containers and for characteristic wastes injected into class 1 non-hazardous wells. In its comments on the Phase III rules, UCC urged EPA to extend the de minimis exception to decharacterized waste streams that are managed in CWA surface impoundments. UCC is gratified to see that EPA has proposed just such an exception in § 268.1 (e)(4)(ii), 60 Fed. Reg. 43691. The proposed de minimis exception is essential for practical implementation of any Option 2 rules the Agency might adopt and places decharacterized wastewaters handled in CWA surface impoundments on an equal footing with those injected into Class 1 wells, laboratory wastes, and the like.

#### RESPONSE:

The Agency is retaining the de minimis exemption previously promulgated at 40 CFR 268.1(e)(4). In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P024  
COMMENTS Union Camp Corporation  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 024  
COMMENT

EPA stated that Phase III comments were not reviewed by the time this Phase IV notice was issued. It is imperative that all comments be reviewed before a final Phase IV rule is promulgated. A final decision regarding upgrading or replacement of impoundments could be influenced by effluent quality, air emission, groundwater quality or sludge quality issues. In addition, the compliance time allowances for both Phases should be consistent if not coincident. Further UCC recommends that Phase IV be re-proposed after Phase III is finalized.

**RESPONSE:**

EPA had the opportunity to review and consider all comments submitted to the Agency in response to both the Phase III and Phase IV proposed rules prior to the promulgation of today's final rule. In addition, EPA proposed and received and considered public comments in response to one additional proposed rulemaking and a notice of data availability, since publication of the Phase IV proposed rule. EPA published a Supplemental Proposed Rule on January 25, 1996 (61 FR 2338). A notice of data availability related to some issues proposed in the August 22, 1994 proposed rule was published on May 10, 1996.

Given the fact that the Agency published a supplemental proposal, a notice of data availability, and a partial withdrawal related to the proposed requirements, and given the fact that EPA promulgated Phase III LDR requirements on April 8, 1996 (61 FR 15566), EPA disagrees with the commenter's assertion that Phase IV should be re-proposed. After considering all comments and data provided to EPA in response to the Phase III and Phase IV proposed rules, the Phase IV supplemental proposed rule, and the Notice of Data Availability, the Agency believes that sufficient consideration has been given to the issues raised in the proposed rule that allows for promulgation of the Phase IV rule at this time. In addition, the Agency believes there are no discrepancies between or undue burdens caused by the compliance schedules for the Phase III and Phase IV requirements.

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the

wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P024  
COMMENTS Union Camp Corporation  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 024  
COMMENT

A. A De Minimis Exception to the LDRs is Appropriate and Reasonable.

Existing LDR regulations have for some time incorporated a de minimis exception for certain low risk/low quantity waste streams. See e.g., 40 C.F.R. § 268.1(e)(4) (losses to wastewater treatment systems of certain commercial chemical products) and (e)(5) (laboratory wastes). EPA proposed in its Phase III rules a similar exception for material handling losses, leaks, discharges from safety showers, rinsate from empty containers and for characteristic wastes injected into class 1 non-hazardous wells. In its comments on the Phase III rules, UCC urged EPA to extend the de minimis exception to decharacterized waste streams that are managed in CWA surface impoundments. UCC is gratified to see that EPA has proposed just such an exception in § 268.1 (e)(4)(ii), 60 Fed. Reg. 43691. The proposed de minimis exception is essential for practical implementation of any Option 2 rules the Agency might adopt and places decharacterized wastewaters handled in CWA surface impoundments on an equal footing with those injected into Class 1 wells, laboratory wastes, and the like.

RESPONSE:

The Agency is retaining the de minimis exemption previously promulgated at 40 CFR 268.1(e)(4). In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P025  
COMMENTS Magma Copper Co.  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 025  
COMMENT

Magma believes Option 1 is adequate to control potential cross-media releases from RCRA Subtitle D surface impoundments. EPA offers for comment three options for controlling potential cross-media releases from surface impoundments that receive decharacterized wastes which contain underlying hazardous constituents ("UHCs") above UTS. Option 1 would not require EPA to promulgate LDR requirements, but instead would rely on existing federal and state programs to address risks posed by potential cross-media releases from surface impoundments containing decharacterized wastes.

Magma supports Option 1 because EPA and state agencies have successfully implemented water quality programs to ensure that surface impoundments present no threat to human health and the environment. More specifically, Magma has operations located in Arizona and Nevada. Both of these states have comprehensive programs that address seepage from mining-related surface impoundments as well as sludges that may be formed in these impoundments. These state rules are contained in aquifer protection and mining-specific programs (Arizona and Nevada, respectively), rather than in RCRA programs, and therefore apply regardless of whether an impoundment receives wastes from mineral extraction and beneficiation, mineral processing, or a combination of the two. Based on Magma's experience, state programs are effective in addressing potential impacts from seepage and sludges from its CWA impoundments.

The Arizona Aquifer Protection program focuses specifically on any "discharge" to the ground or to an aquifer that has the potential to violate the state's Aquifer Water Quality Standards.

The authorizing statute includes the presumption that "mine tailings piles and ponds" are discharging facilities that require Aquifer Protection Permits. (ARS 49.241.B.6). In order to receive an Aquifer Protection Permit, a facility must demonstrate that it will meet Aquifer Water Quality Standards. Facilities must employ the Best Available Demonstrated Control Technology in order to meet the standards, and verification monitoring must be conducted. These requirements apply through the closure of the facility, thereby subjecting any seepage from the tailings remaining in the

impoundment (i.e., "sludges") to these same standards. The co-disposal of acid plant blowdown (a mineral processing waste exhibiting a hazardous characteristic) and mill tailings (a "Bevill-exempt" beneficiation waste) through a totally enclosed treatment facility was specifically considered in the Aquifer Protection Permitting process for Magma's San Manuel operations. The state of Nevada has regulations that specifically address ground water impacts from mining facilities. These rules require permit. for mining impoundments managing production-related fluids. These units must be designed, operated and closed such that any seepage will not violate primary or secondary drinking water standards. Nevada rules require tailings solids to be subjected to a leach test to ensure that seepage from an impoundment will not release contaminants in concentrations that would violate these standards. As with the Arizona program, the "RCRA status" of the wastes has no bearing on Nevada's regulatory decisions regarding the applicability of the program or the measure required to meet ground water standards.

EPA recognizes in this Proposed Rule that existing or forthcoming regulatory mechanisms will adequately prevent impoundments from becoming "conduits for extensive cross-media transfers of untreated hazardous constituents." *Id.* Furthermore, as acknowledged by the Agency, the Phase III LDR requirements are legally sufficient to ensure that "removal of UHCs occurs to the same extent in CWA impoundment-based treatment systems as it does in conventional RCRA treatment systems." 60 Fed. Reg. at 43659. See *Chemical Waste Management v. EPA*, 976 F. 2d 2 (D.C.Cir. 1992), cert. denied 113 S.Ct. 1961 (1993) (hereinafter referred to as the "CWM Decision"). Magma opposes Option 2, which entails unduly burdensome standards, but agrees with the EPA that Option 3 is disruptive and unnecessary.

Option 2 would impose unreasonably onerous management controls on Subtitle D surface impoundments receiving decharacterized waste. Furthermore, EPA does not identify with any specificity why it believes Option 2 is necessary. EPA merely asserts that a certain "subset of situations" is not addressed by existing requirements or those under development. 60 Fed. Reg. at 43659. The Option 2 proposal, therefore, constitutes an over-inclusive, broad based approach to fill unspecified, and perhaps nonexistent, regulatory gaps.

Magma concurs with EPA that Option 3 is an unduly burdensome and unwarranted alternative since facilities could be forced to disrupt their wastewater treatment systems in order to achieve compliance

with the requirements imposed by this option. Magma also agrees with EPA that by requiring that decharacterized wastes meet UTS before entering surface impoundments, Option 3 would frustrate the benefits of treatment-based impoundment systems. This is particularly disturbing in light of the fact that the requirements would be uniformly imposed even where little risk exists.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P028  
COMMENTS Texas Utilities Services  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 028  
COMMENT

Texas Utilities believes the proposed controls on air emissions, leaks, and sludges from surface impoundments managing decharacterized wastes would have a significant impact on our operations. As a result of operating 24 power plants with 54 boilers, Texas Utilities is familiar with the problem of managing wastes resulting from the periodic cleaning of boiler steam tubes in order to more efficiently produce electricity. Currently, these boiler cleaning wastes are treated by containment in a tank for disposal off site. Subsequent wastes of the boiler tubes to remove the cleaning solution residue are collected, as a diluted solution, in surface impoundments near the boiler.

Three treatment alternatives for surface impoundments have been proposed. Option 1 would rely on the end-of-the-pipe controls contained in the Clean Water Act management standards in order to treat the wastes. Clean Water Act controls are protective of the environment for the treatment of discharges. Releases to air or groundwater should be treated in accordance with existing state and federal standards. A need has not been demonstrated for additional controls. Texas Utilities would urge adoption of Option 1.

The additional controls on sludges, surface impoundment integrity, and air emissions that EPA is contemplating in Option 2 are necessary. Texas Utilities opposes Option 2 which would result in needless expenditures by the regulated community.

TU opposes Option 3, which would prohibit the placement of decharacterized wastewaters in surface impoundments unless the waste is first treated to comply with treatment standards.

This option is not judicially mandated, is cost-prohibitive, and would provide only de minimis additional environmental protection.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the

wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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DCN PH4P029  
COMMENTS Acrylonitrile Group  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 029  
COMMENT

The AN Group then supported, with the CMA, a risk assessment by Gradient Corporation. We believe the findings of this report further point to an unrealistically high estimate of risk by the Agency (660 fold for the air pathway). Improper methodology and obsolete and incomplete data have resulted in an Agency risk estimate which is insupportable.

The Agency noted in the Phase IV preamble that the risks involved with this rulemaking "have the potential to vary from insignificant to significant" (60 FR 43659), and that the Agency is "required to address these issues at this time although there may have been higher environmental priorities if EPA had sole discretion to order its agenda." (60 FR 43656).

We urge the Agency to take the Gradient study into full consideration, and forego any further rulemaking by choosing Option 1. These truly insignificant risks do not warrant any further resource expenditures from either the Agency or Industry.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P030

COMMENTER National Petroleum Refiners

RESPONDER PMC

SUBJECT EQUV

SUBJNUM 030

COMMENT

1. Existing Clean Water Act controls are sufficient protection of human health and the environment, and therefore EPA should select Option I, which requires no additional controls.

The Clean Water Act (CWA) regulates surface impoundments and the Safe Drinking Water Act (SDWA) regulates injection wells very effectively because, according to EPA's proposal and comments to Congress, the risk not covered by these existing controls is very low. EPA's data analysis supports the 1990 determination by the Agency recognizing the value of treatment and disposal by the CWA and SDWA.

NPRA supports the legal analysis of API, which states that the Third Third decision does not require additional requirements for surface impoundments. Given the high cost of compliance with the LDR rulemakings of \$800 million per year and the minimal benefits, EPA should select Option I for this rulemaking.

HR 2036 will restore EPA's original regulatory determination that RCRA wastes that are no longer hazardous need not be treated as if they were hazardous. HR2036 restores the coordination between RCRA, CWA, and SDWA and validates EPA's original decision.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated

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DCN PH4P030  
COMMENTS National Petroleum Refine  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 029  
COMMENT

2. Recent EPA rulemakings have significantly improved the environmental management of all media at refineries and petrochemical facilities. These regulations have in turn reduced the risk to human health and the environment from surface impoundments resulting in negligible risks.

The Toxicity Characteristic (TC) rule, promulgated on March 25, 1990, significantly reduced benzene and other hazardous constituents in wastewater.

The Primary Sludge Listing rule, promulgated on November 2, 1990, required sludge removal and converted impoundments to non-hazardous service under closure provisions of 40 CFR 265.113.d-e.

The National Emission Standard for Benzene Waste Operations (BWON), promulgated on January 17, 1993, resulted in the segregation and treatment of benzene containing wastewater. In the process complying with the BWON, most other organic constituents such as toluene and xylene were also controlled in the wastewater stripping prior to entering a surface impoundment.

The SOCM HON rule, promulgated on February 28, 1994, has reduced hazardous air pollutants from wastewater and other sources at the petrochemical plant.

The RFG rule, promulgated on December 14, 1993, requires refineries to reduce the benzene content in gasoline. This change in gasoline also results in the reductions of emission of benzene at refineries. In addition, the gasoline distribution MACT rule, promulgated on July 28, 1995, reduces the emissions of benzene and other air toxics from the refinery. Both of these rulemakings have significantly lowered the existing baseline emissions of air toxics from the refinery. The new air toxic emission baseline has been reduced to a level that any additional regulation of air toxics as proposed by EPA in Options 2 and 3 cannot be justified as being cost effective.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems

regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P030  
COMMENTS National Petroleum Refine  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 029  
COMMENT

3. The scope of Phase IV rulemaking should not include any additional requirements for surface impoundments.

Stormwater impoundments are very low risk and additional controls proposed under this rulemaking cannot be justified as being cost-effective.

Treatment impoundments managing non-hazardous wastewaters are recognized in the Third Third opinion as integral CWA units.

Stormwater impoundments are important equalizers that are required to maintain the efficacy of biological treatment systems and ensure that the refinery is in compliance with CWA permits. Stormwater impoundments also provide surge protection for wastewater treatment plants and thus prevent the rapid flushing of biomass from the wastewater treatment plant. As an integral part of the CWA treatment system, stormwater impoundments should not be regulated as RCRA units.

The management strategy for a stormwater impoundment requires it to be empty whenever possible so that it can receive stormwater.

Therefore, the residence time of Underlying Hazardous Constituents (UHCs) is low and the water driving force(head) is also low.

Further, decharacterized process wastewater constitutes only a fraction of the total storm water and is predominantly non-oily.

These factors limit the possibility of UHCs migrating out of the stormwater impoundment.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not

apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

There is one caveat. For characteristic hazardous wastes that are managed in CWA or CWA-equivalent systems, and for which EPA has promulgated a method of treatment as the treatment standard (e.g., high TOC ignitable wastes for which the treatment standard is recovery of organics) remain prohibited unless treated pursuant to the promulgated method.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P030  
COMMENTS National Petroleum Refine  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 029  
COMMENT

4. Advanced biological treatment (ABT) should be designated as Best Demonstrated Available Technology (BDAT) for wastewater and wastewater sludges from refineries and co-located petrochemical plants.

The combination of ABTs and downstream geological impoundments provides long residence times of wastewater in treatment units, low cost, ease of operation, and a cost effective approach to maintaining compliance with the CWA permits.

ABT is a proven cost effective technology that meets the Universal Treatment standards (UTS) and minimizes analytical difficulties and monitoring burdens.

The CWA permits at refineries and petrochemical plants using ABT are protective of human health and the environment.

**RESPONSE:**

As explained by the Agency in the preamble to the LDR Phase III final rule, biotreatment systems vary in performance both in general and as to specific constituents. The Agency therefore is reluctant to designate ABT as BDAT. The Agency has data related to the performance of ABT from only 10 facilities. The main reason for establishing ABT as BDAT that was provided by commenters to the Agency, during the development of the final Phase III rulemaking, was the elimination of the compliance monitoring burden. The Agency does not believe that reducing monitoring burden is an adequate justification for creating a new technology-specific treatment standard. However, EPA did decide, in promulgating the LDR Phase III final rule, to reduce the monitoring requirements for decharacterized wastes that are managed in a wastewater treatment system involving ABT. These wastes must be monitored annually to ensure compliance with the treatment standards for underlying hazardous constituents.

DCN PH4P031

COMMENTS Department of Energy

RESPONDER

SUBJECT EQUV

SUBJNUM 031

COMMENT

I.F. Overview of Options

1. p. 43659, col. 2 -- After outlining the three regulatory options being considered by EPA (i.e., for addressing cross-media transfer of hazardous constituents), the Agency states that none of the options would apply to units which satisfy the Minimum Technology Requirements [MTRs] or the statutory no-migration standard.

With respect to the applicability of the three options, DOE supports EPA's intention to exclude units that satisfy MTRs or the no-migration standard. Waste management units meeting MTRs or the no-migration standard are designed and operated to prevent releases of hazardous constituents to the environment, even when they manage wastes containing higher concentrations of hazardous constituents than are likely to be present in decharacterized wastes. For this reason, it should not be necessary to impose additional controls on such units under the LDR Phase IV rule.

RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.



However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P031  
COMMENTS Department of Energy  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 031  
COMMENT

1. DOE provided a number of comments (submitted to EPA on May 1, 1995) in response to the Land Disposal Restrictions (LDR) Phase III proposed rule. Several of these comments are pertinent, and therefore reiterated, in regards to topics addressed in the LDR Phase IV proposal.

On March 2, 1995, EPA published the LDR Phase III proposed rule [60 FR 11702]. In part, the preamble discussed potential regulatory approaches being considered by EPA that would address, through controls on cross-media transfers of hazardous constituents, the issue as to whether treatment received by decharacterized wastes in Clean Water Act (CWA) and CWA-equivalent impoundment-based wastewater treatment systems would be equivalent to the RCRA §3004(m) treatment standard. DOE offered several comments in regards to the discussions on cross-media transfer and equivalency issues. Some of these comments are reiterated in this response to the LDR Phase IV proposed rule.

Specific DOE comments made in response to the LDR Phase III proposed rule that are reiterated herein concern: (1) the advisability of adopting, under RCRA Subtitle C (Hazardous Waste Management) authority, regulations applicable to nonhazardous waste management units, especially when existing or forthcoming regulatory programs under other statutes may provide adequate control; and (2) support for applying the change of treatability group principle to sludges generated by impoundment-based CWA wastewater treatment systems that receive decharacterized wastes.

2. With respect to the options presented in the LDR Phase IV proposed rule for addressing potential cross-media releases of hazardous constituents (from surface impoundments managing decharacterized wastes), DOE encourages EPA to choose the regulatory scheme referred to as Option 1.

EPA explains that (based on available information) decharacterized waste streams may contain hazardous constituents at concentration levels of concern, and that such hazardous constituents could potentially be released from surface impoundments handling these waste streams. The Agency also points out that the risks due to cross-media releases could vary from insignificant to significant.

Hence, EPA is considering three regulatory options to address the potential for cross-media transfer of hazardous constituents. Under Option 1, no separate LDR regulations would be issued. Rather, other Agency programs (either existing or future) would be relied upon to address releases. Under Option 2, controls would be promulgated under the LDR program which would apply only to situations where releases pose excessive risks, and the risks are not adequately minimized as a result of other existing or currently planned EPA requirements. Under Option 3, LDR regulations would be adopted that require all decharacterized wastes to be treated to meet Universal Treatment Standards (UTS) before entering any CWA wastewater treatment system surface impoundment.

One of the Department's primary concerns with respect to establishing new requirements to control potential cross-media transfer of hazardous constituents, is that these new requirements not overlap or conflict with standards developed pursuant to other regulatory programs (e.g., RCRA Subtitle D, CWA, Clean Air Act (CAA) requirements). DOE acknowledges that all three options proposed by EPA, if carefully implemented, could avoid dual regulation (and the Department supports this aspect of the options). However, as is indicated more fully in the specific comments below, DOE prefers Option 1 over Option 2 because of concerns about the complexity of the regulatory framework that would be required to implement Option 2, and the Cost of implementation. In fact, DOE believes that the complexity associated with implementing Option 2 would likely compel members of the regulated community, including some DOE sites, to treat decharacterized wastes to meet UTS prior to placing them in surface impoundments, just to avoid the confusion (and accompanying potential for noncompliance). Furthermore, DOE prefers Option 1 over Option 3 because the Department agrees with EPA's assessment that Option 3 would destroy any accommodation between the CWA and RCRA (which the court in *Chemical Waste Management v. EPA* expressly recognized as congressionally intended) and would be very costly to implement, without proportionate risk reduction.

I. Options to Ensure That Underlying Hazardous Constituents in Decharacterized Wastes are Substantially Treated Rather Than Released Via Leaks, Sludges, and Air Emissions from Surface Impoundments

I.B. Background

1. pp. 43655, col. 2 - 43657, col. 2 -- EPA explains that portions of the LDR Treatment Standards promulgated in the Third Third rule (55 FR 22520; 06/01/90) were vacated and remanded by the

District of Columbia Court of Appeals in *Chemical Waste Management, Inc. v. EPA*, 976 F. 2d 2, cert. denied 113 S.Ct. 1961 (1992). EPA indicates that one of the Court's holdings was that "situations where characteristic hazardous wastes are diluted, no longer exhibit a characteristic(s), and are then managed in centralized wastewater management land disposal units (i.e., subtitle D surface impoundments or injection wells) are legal only if it can be demonstrated that hazardous constituents are reduced, destroyed, or immobilized [in the centralized wastewater management system] to the same extent as they would be pursuant to otherwise-applicable RCRA treatment standards." EPA refers to this as an "equivalency demonstration". In the proposed LDR Phase III rule, EPA suggested standards to address one portion of the equivalency demonstration issue (i.e., treatment standards for end-of-pipe discharges from CWA and CWA-equivalent wastewater treatment systems were proposed). Pursuant to a settlement agreement regarding the court's mandate, the Agency is also required to address a remaining issue associated with equivalency of CWA and CWA-equivalent wastewater treatment systems (i.e., options are being considered for regulating cross-media transfer of hazardous constituents from CWA treatment systems to assure that RCRA treatment requirements are not thwarted).

a. In response to the LDR Phase III proposed rule, DOE expressed concern that, although the preamble language indicated that the final rule will apply only in situations where decharacterized wastes are being managed in CWA, CWA-equivalent (including zero-discharge), or other non-hazardous wastewater treatment systems involving surface impoundments, the actual scope encompassed by the proposed regulatory language was much broader. As a result of the breadth of the proposed regulatory language, DOE is concerned that the treatment standards established by the LDR Phase III rule for end-of-pipe discharges from CWA, CWA-equivalent and other non-hazardous wastewater treatment systems receiving decharacterized wastes might be applied to outputs from certain integral facilities of the DOE Savannah River Site's (SRS) treatment system for mixed high-level wastes. These integral facilities are CWA-permitted facilities without liquid discharges that could be construed as administering CWA-equivalent treatment. Because the LDR Phase III rule has not yet been finalized, and the proposed LDR Phase IV rule sets additional requirements to control releases of hazardous constituents via air emissions, sludges and leaks from the same wastewater treatment systems as were addressed by the LDR Phase III proposed rule, DOE is now concerned that the

LDR Phase IV final rule could also be applied in the case of the CWA-permitted integral facilities of the SRS mixed high-level waste treatment system. It is DOE's understanding that this concern may be alleviated by a clarification that EPA intends to include in the LDR Phase III final rule, but since DOE is not yet aware of the exact nature of the clarification, the Department offers below, and in Attachment A, additional information concerning the SRS situation. Alternatives that EPA might adopt to allay DOE's concerns are also provided.

Since EPA has stated in preamble language that the LDR Phase III and Phase IV rules are intended to apply to CWA and CWA-equivalent wastewater treatment facilities utilizing surface impoundments, DOE suggests the three alternatives described below for EPA's consideration as possible ways to achieve the clarification requested above. DOE requests that EPA adopt combination of the first two alternatives in order to comprehensively address the Department's concerns.

**Alternative 1 -- Clarify the Regulatory Language Defining the Scope of the LDR Phase III RULE**

DOE suggests that the language proposed for codification in 40 CFR 268.39(b) by the LDR PHASE III notice of proposed rulemaking (60 FR 11742) be changed to clearly state that decharacterized wastes managed in surface impoundments are the wastes to which the new restrictions from land disposal apply. The following modifications are recommended:

§268.39 Waste specific prohibitions -- spent aluminum potliners, carbamates and organobromine wastes.

\* \* \*

(b) On [Insert date two years from date of publication of the final rule], characteristic decharacterized wastes that are managed in systems a surface impoundment whose discharge is regulated under the Clean Water Act (CWA), or decharacterized wastes that are managed by zero dischargers in surface impoundments that engage in CWA-equivalent treatment before ultimate land disposal, are ...

\* \* \*

**Alternative 2 -- Specifically exclude certain CWA and CWA-equivalent wastewater treatment facilities from the LDR Phase III and Phase IV rules**

DOE suggests that EPA also consider specifically excluding from the LDR Phase III and Phase IV rules (regardless of which Phase IV option EPA chooses to adopt) facilities like the SRS Saltstone

Processing and Disposal Facilities that are permitted under State-implemented CWA AND solid waste disposal legislation, but that have no surface impoundments, no "end-of-pipe" discharge to surface waters or to publicly owned treatment works (POTWs), and no permitted outfall locations. It appears that EPA does not intend such facilities to be regulated by either the LDR Phase III or the LDR Phase IV rules. Nevertheless, since EPA has not specifically proposed excluding facilities of this type, DOE is uncomfortable that future interpretations of applicability may somehow result in the inappropriate application of LDR controls. For this reason, DOE requests that EPA consider incorporating specific exclusions in both the LDR Phase III and LDR PHASE IV final rules.

Alternative 3 -- Adopt the proposed LDR Phase IV, Option 1  
The proposed LDR Phase IV rule offers three options for adding (to the end-of-pipe standards proposed by the LDR Phase III rule) controls on hazardous constituent releases in air emissions, sludges and leaks from CWA and CWA-equivalent surface impoundments that manage decharacterized wastes. Under Option 1, EPA proposes that no added controls be mandated. Instead, existing or forthcoming regulatory mechanisms which tend to protect against releases would be relied upon. Included among the federal and State regulations which the proposed LDR PHASE IV preamble describes as possibly providing control of excessive releases from surface impoundments receiving decharacterized wastes are those under RCRA §3004(u) requiring that corrective action be performed to remediate releases of hazardous constituents from solid Waste Management units at permitted RCRA treatment, storage, or disposal facilities (TSDFs) [60 FR43659, col. 3]. The preamble notes that surface impoundments which manage Decharacterized Wastes at RCRA TSDFs would meet the definition of a solid waste management unit. A similar approach, with regard to surface impoundments receiving decharacterized wastes at RCRA TSDFs, is also proposed as a component of Option 2 [see 60 FR 43660, col. 3 - 43661, col. 1].

The SRS is operated as a RCRA TSDF under a site-wide permit. As such, all solid Waste Management units at the SRS site (including those located within the Saltstone Processing and Disposal Facilities) are subject to corrective action requirements under RCRA §3004(u). Therefore, although the SRS Saltstone Facilities are not impoundment based, if EPA chooses to implement the proposed LDR Phase IV rule, Option 1, it appears that such SRS Facilities would not be subjected to added controls for the purpose of

containing certain hazardous constituent releases. For this reason, DOE supports the adoption of Option 1 in order to alleviate concerns about the applicability of the LDR Phase IV rule to the SRS Saltstone Facilities.

The adoption by EPA of the proposed LDR Phase IV rule, Option 1 would similarly alleviate DOE's concerns about added controls on the SRS Saltstone Processing and Disposal Facilities if State environmental controls on facilities that receive decharacterized wastes, such as groundwater monitoring for hazardous constituents and cleanup authorities, were recognized as a basis for not subjecting the Saltstone Facilities to such added controls. EPA mentions this approach in the proposed LDR Phase IV rule, Option 1 preamble [60 FR 43660, cols. 1&2]. The Saltstone Processing and Disposal Facilities operate, respectively, under a SCDHEC Industrial Wastewater treatment Facility permit and a SCDHEC Industrial Solid Waste Disposal Facility permit. These permits require periodic Toxicity Characteristic Leaching Procedure (TCLP) analyses to insure that no hazardous waste is placed into the concrete vaults. Equally important, the State requires that ground water monitoring wells be installed around the disposal vaults. This monitoring is routinely performed to identify potential releases from the vaults. If releases are identified, corrective measures must be investigated. Therefore, the SCDHEC permit conditions require the SRS Saltstone Facilities to routinely demonstrate compliance with State requirements that the proposed LDR Phase IV rule preamble recognizes as potentially sufficient to satisfy the need for added controls on CWA and CWA-equivalent wastewater management systems in order to contain certain hazardous constituent releases. Hence, DOE urges EPA to adopt the proposed LDR Phase IV, Option 1, with recognition of the South Carolina wastewater treatment operating standards as sufficient to provide any necessary added controls. This would alleviate DOE's concerns about the applicability of the LDR Phase IV rule to the SRS Saltstone Facilities.

**I.C. Applicability of Potential Approaches to "Industrial D" Management Units**

1. p. 43657, col. 2 — EPA states that the three options being considered in the proposed rule to ensure that underlying hazardous constituents in decharacterized wastes are substantially treated rather than released via leaks, sludges and air emissions from surface impoundments will specifically apply to Subtitle D (nonhazardous) surface impoundments that receive decharacterized wastes.

As DOE has indicated in response to previous LDR-related notices, the Department is concerned with the potential proliferation of overlapping regulatory requirements developed pursuant to different statutory authorities. The occurrence of such overlapping environmental requirements under separate regulatory programs should be avoided to minimize confusion within the regulated community and to eliminate conflicting standards. With this concern in mind, DOE continues to encourage EPA not to impose RCRA Subtitle C requirements on waste management units which are not managing hazardous wastes. Instead, if regulations on leaks, air emissions and sludges from Subtitle D surface impoundments managing decharacterized wastes are deemed necessary to ensure treatment of underlying hazardous constituents, DOE believes these regulations should be implemented under RCRA Subtitle D (40 CFR part 258, or another appropriate Subtitle D set of regulations) for leaks and the Clean Air Act (CAA) for volatilization, rather than in the LDR program under RCRA Subtitle C (40 CFR part 268).

require an evaluation in accordance with RCRA corrective action regulations to determine whether releases from those units pose a threat to human health and the environment. Considering the coverage offered by these other regulatory programs (i.e., CAA, RCRA Corrective Action, State environmental programs, and others), DOE believes Option 1 will provide protection that is basically comparable to Option 2 -- but will be less costly to implement because of the reliance on existing and planned regulations standard.

THIS TEXT IS IN THE WRONG PLACE!

I.G. Option 1

1. p. 43659, col. 2 -- EPA describes Option 1, which relies on the end-of-pipe standards proposed in the LDR Phase III rule to satisfy the requirement articulated by the court in CWM v. EPA, that treatment of decharacterized wastes in impoundment-based CWA wastewater management systems to address underlying hazardous constituents (UHCs) must be equivalent to treatment that would otherwise be administered under RCRA. EPA also describes how federal and State regulations may otherwise provide for control of excessive releases due to air emissions, sludges and leaks from surface impoundments receiving decharacterized wastes.

As DOE has commented in response to previous notices regarding the LDR program, the Department is concerned that proliferation of overlapping regulatory requirements (stemming from various



statutory authorities) should be avoided to minimize confusion within the regulated community and to eliminate conflicting standards. DOE has also previously urged EPA not to establish equivalency demonstration requirements in response to CWM v. EPA that go beyond demonstrating end-of-pipe equivalence. Consistent with these earlier comments, DOE now supports Option 1 (i.e., not to issue additional requirements under the LDR program, but rather to rely on other federal and State regulatory programs). As EPA indicated in the preamble, a number of other federal and State regulations already provide environmental controls on surface impoundments that receive nonhazardous wastewaters. For example, there are CAA regulations that have been promulgated or are under development which impose controls on hazardous air pollutants (e.g., the Hazardous Organics National Emission Standards for Hazardous Air Pollutants (NESHAP)) and would apply to certain CWA impoundment-based treatment systems. Furthermore, surface impoundments that manage decharacterized wastes are solid waste management units when they are co-located with a unit subject to a RCRA permit. In this case, all releases from such units will require an evaluation in accordance with RCRA corrective action regulations to determine whether releases from those units pose a threat to human health and the environment. Considering the coverage offered by these other regulatory programs (i.e., CAA, RCRA Corrective Action, State environmental programs, and others), DOE believes Option 1 will provide protection that is basically comparable to Option 2 -- but will be less costly to implement because of the reliance on existing and planned regulations.

I.H. Option 2

1. p. 43660, col. 2 -- EPA lists seven objectives that the Agency tried to accomplish in defining regulatory Option 2 for controlling leaks, sludges and air emissions from impoundment-based CWA wastewater treatment systems. Included among this list are the following three objectives: focus controls on those situations that present risks that amount to significant permanent disposal; avoid duplication with other EPA requirements; and, minimize implementation burden.

DOE approves of EPA's efforts to avoid duplication of other requirements, as indicated in the preceding comments. The Department also appreciates EPA's efforts to focus only on higher risk situations. However, it appears that the Agency's effort to minimize implementation burdens may fail in regards to this option. In fact, DOE believes that the implementation approaches associated

with Option 2 could be expensive, and so complex that members of the regulated community, including some DOE sites, would likely elect to treat decharacterized wastes to meet UTS prior to placing them in surface impoundments (just to avoid the confusion and the accompanying potential for noncompliance). More specific information about this concern is provided below.

#### I.H.2 Applicability

1. p. 43660, col. 3 --EPA explains that the management standards being considered under Option 2 (for leaks, sludges and air emissions from surface impoundments accepting decharacterized waste) would be applicable to certain facilities (or wastes) which are not addressed by other EPA regulatory programs or which do not meet proposed criteria for screening out low risk situations. Since EPA is not proposing actual regulatory language, it is unclear exactly how Option 2 would be implemented. However, it appears that implementation could greatly complicate the management and treatment of decharacterized waste streams, especially in the area of deferrals to existing regulatory requirements, or requirements under development. For example, EPA states for air emissions that:

- Standards (unspecified) regulating total volatile organics will be considered to adequately cover air emissions of UHCs. •
- Facilities subject to CAA standards for hazardous air pollutants will not be covered by Option 2. •
- Facilities subject to CAA standards that are under development will not be covered by Option 2.

DOE requests clarification as to how EPA will evaluate individual impoundment-based CWA WASTEWATER treatment systems to determine whether any of these deferrals apply. Will each facility be required to make its own determination and file a certification?

If so, how will individual facilities know whether they will be covered by standards that are still being developed?

Will EPA adopt additional standards under the LDR program for facilities that are not eligible for deferrals? If so, will facilities have the option to demonstrate compliance with such LDR standards in lieu of seeking deferrals, even though they may qualify for deferrals? DOE believes that determining whether deferrals are available to facilities could become a complex process. Therefore, facilities may feel compelled to comply with promulgated LDR standards instead of seeking deferrals, in order to ensure proper compliance and avoid mistakes involving regulatory interpretation.

DOE has similar concerns about deferrals related to sludges and

releases to ground water.

In addition to deferring regulation of facilities to other programs, EPA mentions that it expects to exclude certain wastes and waste management facilities from control under Option 2 LDR regulations because such wastes and facilities present low risk. DOE supports this concept, but again, it is unclear how these criteria for screening out low risk situations will be specifically implemented. For example, will the exclusions all be self-implementing so that facilities to which the Phase IV rule applies will simply need to maintain adequate records on-site to demonstrate applicability? Or will facilities be required to submit certification either with or without supporting documentation?

Because of the concerns stated above, DOE encourages EPA not to choose Option 2 for regulating surface impoundments that receive decharacterized wastes. While Option 2 attempts to focus the applicability of proposed management standards on a smaller subset of situations (i.e., by excluding wastes and facilities that do not present excessive risk, and deferring wastes and facilities covered by other regulatory programs), DOE believes any advantages of this approach could be lost because both regulators and the regulated community would be confounded by the complicated implementation scheme. Further, if the implementation scheme turns out to be as complex as DOE believes it could, adopting Option 2 would seem to contradict EPA's goals to "simplify and streamline" the LDR program in order to make it more efficient and easier to implement. It is also questionable whether the development of such a complicated regulatory framework is warranted when considering the overall environmental risks associated with the management of decharacterized waste in CWA treatment systems.

b. DOE requests clarification of the sentence which reads:

"However, substantive requirements, borrowed from [40 CFR Part 264, Subpart CC], could apply to surface impoundments receiving prohibited, decharacterized wastes." In the sentence that immediately precedes this one in the preamble, EPA states that Subpart CC rules would not apply directly to surface impoundments covered by LDR Phase IV. Does this mean that, if EPA goes forward with Option 2, the Agency will promulgate LDR regulations in 40 CFR Part 268 which essentially copy certain sections of 40 CFR Part 264, Subpart CC? Or, will selected sections of the Subpart CC regulations be referenced? DOE suggests that, if EPA goes forward with a regulatory approach that applies certain

requirements from Subpart CC to surface impoundments covered by the LDR Phase IV rules, referencing pertinent sections of Subpart CC would be preferable to creating a duplicate set of regulations.

**I.H.4.c. Surface impoundment management standards**

1. p. 43669, col. 2 -- Initially in section I.H.4.c of the preamble, EPA states that "[t]he Agency is proposing to use annual sampling of the wastewaters in the surface impoundment to determine if regulated constituents (i.e., UHCs) are present at concentrations that exceed the trigger level" (emphasis added). EPA states that UHCs are to be determined by characterizing each new decharacterized wastewater at its point of generation. Later, EPA states that "[t]o determine if a trigger level has been exceeded, the owner or operator would calculate an annualized average concentration for each regulated constituent identified" (emphasis added). It is further explained that a minimum of four sampling events (i.e., quarterly) would be required for calculating the annualized average concentration.

If EPA chooses Option 2 for regulating surface impoundments that manage Decharacterized Wastes, DOE requests that EPA clarify in the final rule whether impoundment sampling will be required annually, or four times per year (i.e., quarterly) in order to support calculation of an annualized average. DOE suggests that, rather than quarterly, each facility be required to sample in a manner and at a frequency which appropriately reflects the nature of the wastewaters and operations undertaken at the facility, and that an annualized average (based on such sampling) be used to evaluate whether the trigger levels have been exceeded.

**I.H.4.d. Ground water and corrective action management standards**

**I.H.4.d.i. MSWLF rule**

1. p. 43670, cols. 1&2 -- EPA proposes to adopt only the self implementing provisions of the Municipal Solid Waste Landfill (MSWLF) rule, but seeks comment on whether the multi-unit provision (allowing state approval of a multi-unit ground-water monitoring system based on site-specific considerations) and any other site-specific provisions in the MSWLF rule should be allowed to be self-implemented.

DOE agrees that multi-unit monitoring may be the most efficient and reasonable approach in circumstances involving closely spaced surface impoundments. Therefore, if EPA chooses Option 2 to regulate surface impoundments that manage decharacterized wastes, DOE would support including regulatory language flexible enough to allow facilities to use multi-unit ground-water monitoring when appropriate (i.e., when such a ground-water monitoring system is as

protective of human health and the environment as an individual monitoring system). Furthermore, DOE would favor making such regulations self-implementing.

I.H.4.d.ii. Ground water monitoring

1. p.43670, col. 2 -- EPA proposes to require that, within one year of triggering groundwater monitoring, the owner/operator install a ground water monitoring system and begin monitoring. DOE believes that designing, installing and beginning operation of a ground water monitoring system within one year of detection of regulated levels of hazardous constituents in a surface impoundment will be difficult for federal facilities for budgetary reasons.

Federal facilities need at least one year to allocate funding for new activities. Therefore, DOE suggests that EPA allow owner/operators to submit requests for extensions beyond the one year limit for installing a ground water monitoring system. Alternatively, EPA could allow the ground water monitoring system installation schedule to be negotiated on a case-by-case basis.

2. p. 43671, cols. 1 & 2 -- EPA indicates that owner/operators would be required to move directly to an assessment of corrective measures upon detecting statistically significant levels of UHCs above the constituent-specific ground water protection standards as determined by 40 CFR 258.55(h) of the MSWLF rule.

DOE believes that the ground-water monitoring program under Option 2 (if implemented) should provide an opportunity for rebuttal of the presumption that assessment of corrective measures is required upon detecting UHCs in the ground water at statistically significant levels above the constituent-specific ground water protection standards as determined by § 258.55(h). Incorporating such a provision would be consistent with regulations proposed by EPA for corrective action of solid waste management units (SWMUs) at hazardous waste management facilities [see Preamble to Proposed 40 CFR Part 264, Subpart S, 55 FR 30798, 30814, cols. 2 & 3 (07/27/90)]. Under the proposed Subpart S regulations, permittees of RCRA treatment, storage and disposal facilities would be allowed to rebut the presumption that a corrective measure study is required when action levels are exceeded in ground water. For example, a rebuttal might be successful if the permittee established that the contamination did not result from leaks in the surface impoundment, or that risk from the constituents being released was within an acceptable range. DOE favors basing corrective action decisions on the potential for threats to human health and the environment.

I.H.4.d.iii. Integration of Option 2 with existing programs

1. p. 43671, col. 3 -- EPA observes that many of the facilities that would be subject to the requirements of Option 2 will be undergoing ground water monitoring and corrective action under existing state or federal authorities. The Agency states that it will defer to such programs if they are substantially similar to the Option 2 ground water and corrective action management standards (i.e., the programs include the UTS constituents of concern, and have substantially similar requirements regarding the monitoring wells and the frequency of monitoring).

EPA has not proposed a mechanism whereby facilities can ascertain whether ongoing ground-water monitoring and/or corrective actions are "substantially similar" to the Option 2 program. DOE requests that the final LDR Phase IV rule provide clarification as to what constitutes a finding of substantial similarity (i.e., identify the associated criteria), and how and by whom a determination will be made that existing ground water monitoring and corrective action requirements at a facility are substantially similar. Since DOE funds are limited, the Department is especially concerned about how new ground water monitoring requirements will be integrated with the existing requirements under CERCLA, consent orders, and compliance agreements at DOE facilities.

2. p. 43672, col. 1 -- EPA requests comment on whether, as an alternative to requiring facilities to commence directly with a corrective measures assessment upon detecting UHCs in the surface impoundment (at levels "above regulatory concern"), the requirement should be to undertake a detection monitoring program. Under this alternative, if trigger levels were exceeded in the surface impoundment, groundwater monitoring would be required for a set of indicator parameters that provide a reliable indication of the presence of hazardous constituents. The focus of the initial ground water monitoring, therefore, would be the detection of releases, rather than the detection of site-specific UHCs that are regulated.

DOE would support a program that allowed confirmation of a release before requiring assessment of corrective measures.

I.I Option 3

1. p. 43675, col. 3 -- EPA indicates that a third option, Option 3, for addressing the potential problem of releases of hazardous constituents from decharacterized wastes in surface impoundments would be to require wastes to meet UTS for the UHCs before entering the impoundment (unless the impoundment met MTRs or was qualified for a "no-migration" exemption). EPA expresses its view that

Option 3 should not be the exclusive approach for reasons of law and policy.

DOE agrees that treatment of characteristic wastes to meet UTS for UHCs should not be adopted as the exclusive method for addressing the potential problem of releases of hazardous constituents from decharacterized wastes in surface impoundments. As EPA has stated, adoption of the approach presented by Option 3 would be contrary to the position held by the D.C. Circuit (in *CWM v. EPA*) that "RCRA requires some accommodation with the CWA." Also, requiring all treatment of characteristic wastes to occur upstream of CWA, CWA-equivalent and other nonhazardous impoundment-based wastewater treatment systems reduces flexibility of Waste Management operations. As previously stated, DOE favors Option 1.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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3. DOE suggests that EPA publish for comment a supplemental notice of proposed rulemaking indicating the option selected for addressing cross-media transfers of hazardous constituents from impoundment-based CWA, CWA-equivalent and other nonhazardous wastewater treatment systems covered under the LDR Phase IV rule. The supplemental notice should include EPA's suggested regulatory language for implementing the selected option. While DOE recognizes that EPA may not be legally required to solicit public comment on actual proposed regulatory language for implementing the selected option for addressing cross-media transfers from the surface impoundments covered by LDR Phase IV, the Department believes that EPA and the regulated community would benefit if EPA sought such comment. Providing the regulated community with the opportunity to examine and respond to proposed regulatory language would serve to reduce or minimize problems with the implementation of any new requirements.

RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may



result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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I.H.3. Proposed Management Standards for Air Emissions

1. p. 43663, col. 3 -- EPA explains that Option 2 would borrow requirements from 40 CFR Part 264, Subpart CC regulations to develop standards for air emissions from surface impoundments in CWA, CWA-equivalent, or other nonhazardous wastewater treatment systems accepting decharacterized wastes. The proposed air emission standards would apply only if the decharacterized waste (containing UHCs above UTS at the point of generation) placed in the unit is determined to have an average volatile organic concentration greater than or equal to 100 ppmw based on the organic composition of the waste at the point of generation.

a. In previous comments, DOE has expressed concern about extending the applicability of RCRA Subtitle C air emission controls to nonhazardous waste management facilities, such as surface impoundments in CWA, CWA-equivalent or other nonhazardous wastewater treatment systems, as part of the LDR Phase IV rule. DOE continues to question whether EPA has authority under RCRA Subtitle C to impose controls on air emissions from nonhazardous waste management facilities.

As was stated in the Department's earlier comments on the LDR Phase III proposed rule, EPA promulgated 40 CFR Parts 264, Subpart CC and 265, Subpart CC based on specific authority to regulate air emissions from hazardous waste treatment, storage and disposal facilities (TSDFs) granted by the Hazardous and Solid Waste Amendments of 1984, which added §3004(n) [Air emissions] to RCRA Subtitle C. Additionally, EPA had determined that existing and future Federal standards under the CAA and State air standards would not adequately address the control of organic emissions from such TSDFs [59 FR 62906, col. 2-3 (Dec. 6, 1994)].

Similar circumstances are not present to justify adopting controls on surface impoundments in CWA, CWA-equivalent, or other nonhazardous wastewater treatment facilities that receive only nonhazardous and decharacterized wastes. To the contrary, on its face, RCRA §3004(n) does not apply to the nonhazardous waste management facilities which will be the subject of the LDR Phase IV rule. Further, the court in CWM v. EPA made no ruling requiring EPA to conclude that Congress intended RCRA §3004(n) to extend to

nonhazardous waste management facilities. Meanwhile, §112 of the CAA establishes authority whereby EPA can regulate hazardous air emissions from nonhazardous waste management facilities, and RCRA §1006(b) requires EPA to coordinate its regulations under RCRA with the CAA, and to avoid duplication, to the maximum extent practicable. Based on this analysis, DOE continues to believe that EPA may not be authorized by RCRA Subtitle C to impose requirements on surface impoundments in CWA, CWA-equivalent and other nonhazardous wastewater treatment facilities simply because they receive decharacterized wastes. Therefore, DOE again urges EPA to defer regulation of air emissions from such surface impoundments to the appropriate CAA regulatory program.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

Risks from air emissions will be considered in this study. The commenter is correct in noting that Parts 264 and 265, subparts CC, of 40 CFR regulate certain air emissions from hazardous waste management units such as surface impoundments, as well as all units downstream from the point of introduction of a specific hazardous waste, until such time that treatment of the volatile organic chemicals occurs. The subpart CC requirements are limited to specific volatile organic chemicals present at greater than 100 ppmw in these hazardous wastes. EPA cannot predict at this time whether additional volatile or semi-volatile organics not addressed by the subpart CC requirements may pose a potential risk to human health and the environment. EPA may

consider additional requirements for air emissions from hazardous waste management units if such requirements are indicated by the risk assessment.

**NOTE TO EPA:** Do we need to respond to commenter's assertion that RCRA §3004(n) does not apply to non-hazardous waste management facilities?

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COMMENTS Department of Energy  
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I.H.7. Sampling and Analysis

1. p. 43675, cols. 2 & 3 -- EPA states that sampling and analysis requirements under Option 2 would not be burdensome, and that generator knowledge could be used in lieu of sampling and analysis. Section I.D.3.c is indicated as discussing what constitutes acceptable generator knowledge. DOE supports allowing generator knowledge as an alternative to sampling and analysis. For that reason, the Department is interested in EPA guidance on what constitutes acceptable generator knowledge. Since the LDR Phase IV proposed rule contains no section I.D.3.c providing such guidance, DOE requests that, if Option 2 is chosen, EPA include in the preamble to the final rule, the guidance it intended to put in section I.D.3.c. of the proposed rule preamble.

RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

The Agency previously provided guidance on what constitutes generator knowledge in the Phase II proposed rule at 58 FR 48111 (September 14, 1993).

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4. DOE suggests that, in order to avoid possible confusion, EPA define the term "decharacterized wastes," since receipt of such wastes designates the surface impoundments to which the LDR Phase IV rule applies.

DOE suggests that the terms "decharacterized wastes" and "decharacterization" may not be entirely self-explanatory.

Therefore, since these terms are repeatedly used in the preamble of the LDR Phase IV proposed rule to delineate the surface impoundments to which the proposed rule will apply, DOE believes it would be helpful to the regulated community if one or both terms were defined, either in 40 CFR 260.10 or 40 CFR 268.2.

RESPONSE:

EPA uses the term "decharacterized" in describing wastes that no longer exhibit one or more of the characteristics of hazardous waste. Decharacterized wastes are wastes that have been treated, permissibly diluted, aggregated or otherwise altered so that the waste no longer exhibits a hazardous waste characteristic (e.g., decharacterized). The hazardous waste characteristics are defined in 40 CFR Part 261, subpart C. Given EPA's general use of the term to describe a broad universe of wastes (rather than using the term to designate a specific waste type), and given that the Agency received no other comments pointing out any ambiguities with the term, the Agency does not feel compelled to define the term within the Code of Federal Regulations at this time.

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



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DOE supports allowing generator knowledge as an alternative to sampling and analysis. For that reason, the Department is interested in EPA guidance on what constitutes acceptable generator knowledge. Since the LDR Phase IV proposed rule contains no section I.D.3.c providing such guidance, DOE requests that, if Option 2 is chosen, EPA include in the preamble to the final rule, the guidance it intended to put in section I.D.3.c. of the proposed rule preamble.

RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

The Agency previously provided guidance on what constitutes generator knowledge in the Phase II proposed rule at 58 FR 48111 (September 14, 1993).

DCN PH4P033

COMMENTER CMA Carbon Disulfide Panel

RESPONDER PMC

SUBJECT EQUV

SUBJNUM 033

COMMENT

The Panel urges EPA to adopt Option 1 as set forth in the proposed rule -- not promulgated land disposal restrictions (LDR) requirements for air emissions, leaks to ground water, sludges, or wastewater discharges. EPA has acknowledged that the phase IV rule addresses relatively minor risks.<sup>2</sup> Implementing Option 1 would fully address these minor risks.

Moreover, *Chemical Waste Management v. EPA* <sup>3</sup> requires EPA to select Option 1. At the very least, Option 1 is consistent with the *Chemical Waste Management* decision. In addition, and as discussed in the comments separately submitted by CMA, the equivalency of existing and forthcoming Clean Air Act and Clean Water Act regulatory programs will ensure the protectiveness of Option 1.

Finally, if EPA nonetheless decides to adopt Option 2, the Panel urges EPA to make the modifications to Option 2 proposed by CMA in its comments.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such

regulation.

DCN PH4P034  
COMMENTS CMA  
RESPONDER  
SUBJECT EQUV  
SUBJNUM 034  
COMMENT

**Minimize the Impact of the Phase IV Proposed Rule  
on Facilities with Approved No Migration  
Exemptions**

CMA member companies operate approximately 120 Class I injection wells, two thirds of which inject hazardous waste and have obtained no migration exemptions. The cost of petition modification has become an enormous burden for injection well operators. The average cost to complete the no migration exemption process has been \$876,000 with almost half of the facilities incurring costs exceeding a million dollars. Many of these petitions were modified due to changes in regulatory requirements such as are contemplated in today's rule. These modifications have resulted in an additional \$206,000 per facility on average. The costs reported herein do not reflect the costs incurred by the Agency to review and process the petitions. The UIC Group believes that many of the petition modifications that have been required, and might be required, are not only unnecessary, but are unwarranted to satisfy the intent of the no migration exemption provisions. EPA should recognize the strong scientific and technical foundation on which the Agency has based its conclusions that injection into Class I wells is a safe and effective waste management tool. Class I wells are thoroughly regulated, particularly those wells that have completed the no migration exemption process. EPA should not waste resources to further regulate these Class I wells, since EPA's own comprehensive comparative risk assessment determined that injection of waste is virtually the safest form of

disposal and is safer than landfilling the waste, incinerating the waste, or even storing the waste in a tank. Restrictions on Decharacterized Wastes Should Not Affect Facilities With Approved No Migration Exemptions. EPA has the authority and has already committed to allowing facilities that have obtained no migration exemptions to be exempt from specific further regulations. EPA and the UIC Group agreed to settle a lawsuit by signing a settlement agreement which confirms that facilities with approved no migration exemption that does not change the waste stream injected will not be affected by LDRs which affect decharacterized wastes. Given the fact that the entire waste stream was evaluated during the petition process, approved no migration petitions address any characteristic wastes that may be rendered nonhazardous prior to injection. Consequently, it is unnecessary to layer additional requirements onto these facilities. Even though EPA continues the process of refining the LDR program, the injectate has not changed and the conclusions of the no migration petitions remain valid. Changes to the definition of the point of generation and to the definition of characteristically hazardous wastes should not force the facilities that have approved no migration petitions to submit additional modifications. These additional modifications provide no extra protection or benefit to the environment. In short, it is clear that: "...characteristic wastes that cease to exhibit a characteristic prior to injection are exempted from the land disposal prohibitions to the same extent as hazardous waste injection into Class I wells with Agency-approved no-migration exemptions, regardless of whether the applicable waste codes for the characteristic are specified in the final petition's approval. No further demonstration would be required for characteristic wastes that are rendered nonhazardous prior to injection absent the introduction of a new constituent not already considered in the demonstration." The Phase IV proposal should not result in the need for facilities to modify

petitions even though the injected waste has not changed and the waste at the point of injection is not characteristically hazardous. EPA can prevent this misuse of public and private funds by clarifying that the LDRs do not affect Class I wells that inject decharacterized wastes and that have obtained no migration exemptions. The proposed requirement to impose additional regulatory burdens for newly-identified TC metal wastes is especially disconcerting because EPA is merely requiring an alternative extraction procedure and is not changing the constituents of concern. In the Third Third LDR rule, EPA established treatment standards for wastes that were characteristically hazardous wastes as determined by the Extraction Procedure (EP). EPA now requires use of the Toxic Characteristic Leaching Procedure (TCLP) to determine whether wastes containing metals are characteristically hazardous. The change in extraction procedures will result in some additional wastes being captured by the LDRs that previously had been evaluated and had been determined to be nonhazardous. These wastes will become regulated even though EPA has not changed the constituents of concern, but rather the method used to determine the concentration present, and is now proposing to regulate these wastes as newly-listed wastes. Fundamentally, wastes that are hazardous due to elevated levels of metal constituents were evaluated during the petition process based upon the definition that was current at the time of petition preparation. The injectate, at the point of disposal, was analyzed for metals and that analysis was included in the petitions. Requiring modifications of petitions due to the minor changes in analytical procedures will not result in greater protection of human health and the environment but will result in additional expenditures by both facilities and EPA. As previously discussed, the petition modification process is costly with the average petition modification price of \$206,300. These facilities have already demonstrated that the injected waste will remain safely confined within the injection zone, beneath the confining zone, and

separated from the lowermost source of any potentially usable groundwater. Approved petitions have already addressed the potential for migration of hazardous constituents from the injection zone. The change proposed in the applicability of treatment standards to waste streams already described in the no migration petitions does not affect the technical basis for the petition approval; therefore, it is unnecessary to require petition modifications. This type of regulatory scenario, refinements to the LDRs that result in additional waste codes that are applicable to the injectate even though there has been no change in the injectate, was anticipated, and both CMA and EPA agreed that petition modifications would not be required. EPA should, therefore, clarify in the Phase IV rule that the prohibitions for newly-listed wastes will not result in the need to modify approved no migration exemptions for those facilities at which the waste streams injected have not changed. Absent a Change in the Waste Injected, Facilities with Approved No Migration Exemptions Should, at a Minimum, be Entitled to Add Waste Codes for Newly-Identified or Characteristic Wastes as Nonsubstantive Revisions. In some cases, facilities with approved exemptions describing the waste streams inject either newly-listed wastes or characteristic wastes that are not decharacterized prior to injection. These facilities have not changed the waste streams injected; however, the Agency has proposed to change the basis for the applicability of waste codes. In such cases, EPA may prefer to ensure that the approved exemption reflects all of the waste codes that actually apply to the waste at the point of injection. This is merely a paperwork change that does not raise technical issues that warrant the need to modify the petition and to review the basis for granting the exemption. No migration petitions include detailed descriptions of the injectate including chemical analysis to identify hazardous constituents. Although some petitions may not include detailed descriptions of the individual streams that are aggregated to form the

injectate, these petitions do include descriptions of the pretreatment systems, identification of the source of the various streams and, using the definitions applicable at the time of petition preparation, identification of the applicable waste codes for individual waste streams. The evaluation of the potential for migration from the injection zone is appropriately based upon the concentrations present in the injectate and not in the individual streams that are aggregated prior to injection. The injectate is typically a wastewater, and even if it is considered a nonwastewater for LDR purposes it is aqueous, and the determination of metals present in the injectate is based on analysis of an aliquot from the waste rather than analysis of the extract from a leaching procedure. Therefore a change in the extraction procedure used to determine the applicability of waste codes to the individual streams, will, at most, have a trivial impact on the evaluation of the potential for the injectate migrating from the injection zone. EPA should therefore confirm that, absent a change in the wastes injected, facilities with approved petitions should be able to add the waste codes by nonsubstantive revision.

#### **CMA Supports Changes in Notification Requirements that Reduce the Reporting Burden for Facilities Disposing of Waste into Injection Wells with Approved No Migration Exemptions.**

EPA is proposing to modify existing regulatory language to clarify the existing notification requirements, and generally simplify the requirements for generators of hazardous waste. These changes will replace the existing language in 40 C.F.R. §268.7. Specifically, for Class I injection well operators, EPA is proposing to simplify the notification requirements. Under the current regulations (promulgated in the Phase II rule and not yet published in the C.F.R.), notifications are required to include the waste code and regulated constituents for all restricted wastes. The Phase IV proposal would eliminate the requirement that regulated constituents be identified on the LDR notification for wastes injected pursuant to no



migration exemptions. This is appropriate since the no migration petition includes a description of the waste stream and the hazardous constituents in the waste stream. The requirement to further analyze and report information about the waste streams would not protect the environment but would result in added costs for analytical support and documentation. This change will save considerable time and analytical costs without sacrificing protection of human health and the environment and is supported by the UIC Group. Further, the UIC Group recommends that EPA finalize the proposed improvements to the existing LDRs program separately from the rest of the LDR Phase IV proposal. EPA Should Ensure Adequate Time for Compliance Most of the facilities that currently inject newly-identified wastes will attempt to continue to inject these streams and will apply for either a no migration exemption or a modification of a no migration exemption. The no migration exemption review process has taken an average of three years to complete. Similarly, the installation of on-site treatment, source reduction, and/or recycling facilities may take several years to complete, especially if it is necessary to obtain permits before installation. Off-site management options may be logistically infeasible or require the construction of on-site facilities to make them feasible. The construction of transfer facilities may require permits resulting in operation delays of several years. Therefore, EPA should provide adequate time to achieve compliance with the Phase IV requirements. Due to the uncertainty of the outcome of issues described in preambles of the Phase III and Phase IV proposals, such as the point of generation definition, facilities remain confused as to the applicability of these proposed prohibitions. Compliance options are expensive (typically in the millions of dollars per facility); even preparation of an exemption request can cost between \$250,000 and \$1.5 million. Committing large expenditures based upon proposed rules which are subject to change before promulgation results in unnecessary (and sometimes

significant) costs to companies. Therefore, even though all of the options described above have long lead times, most companies will await the publication of regulations to begin pursuing compliance options. A more reasonable approach to achieving compliance would be for EPA to allow facilities which submit an exemption request within a reasonable time frame (e.g. within 90 days after the effective date of the LDRs) to continue to operate until two years after a determination is made by EPA whether to grant an exemption. This is permissible within the LDR framework for characteristically hazardous wastes, because although EPA is calling these wastes newly-listed, EPA is actually making technical corrections to clarify the applicability based upon alternative analytical procedures and making technical corrections which will modify the implementation of existing restrictions. The Most Recent Revision of the De Minimis Wastewater Exemption Needs Further Modification to Assure Reasonable Analytical Costs for Compliance and Should be Applicable to All Class I Wells not Just to Those Injecting Nonhazardous Wastes. The UIC Group supports EPA efforts to define a de minimis volume exemption. EPA should grant the exemption, but modify it to reduce the analytical burden. The proposed exemption requires facilities to identify and quantify the level of underlying hazardous constituents (UHCs) in characteristic wastes streams. Each characteristically hazardous waste stream would need to be sampled to identify if the underlying hazardous constituents are present at levels less than ten times the treatment standards found at §268.48. For each sample collected the analytical costs would be approximately \$1,500. As an example, one member's facility has completed a sampling round to evaluate the impact of the Phase III and Phase IV proposals for characteristically hazardous wastes at their site. This single round of sampling, analytical, and evaluation of data collected cost \$46,000. Additional costs were incurred to install sampling connection points into hard-piped

systems. EPA could achieve the goal of only allowing relatively dilute streams to be considered for the de minimis volume exemption by simply requiring the waste stream at the point of generation to contain at least 90 percent water by weight instead of specifying a hazardous constituent concentration. Determining the percent water weight is much less costly. This requirement in conjunction with limiting the combined volume to less than one percent of the total flow at the wellhead on an annualized basis achieves the goal of ensuring that the de minimis volume provision applies only to relatively dilute wastes that are relatively small in the aggregate. This change in analytical criteria also assures that the applicability of the provision can be determined easily for both compliance and enforcement purposes. The de minimis provision as proposed in Phase IV would apply only to nonhazardous injection wells. This is contrary to what we believe is EPA's intent which is to provide relief for minor waste streams at both hazardous and nonhazardous Class I injection well facilities. This is an unnecessary restriction in applicability because Class I wells that inject hazardous waste must obtain no migration exemptions which include a demonstration that the technology is environmentally protective whereas surface impoundments and Class I wells injecting nonhazardous waste are not subject to this onerous demonstration requirement.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR

43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P034  
COMMENTS CMA UIC Task Force  
RESPONDER HM  
SUBJECT EQUV  
SUBJNUM 034  
COMMENT

**Listed Wastes Should not be Subject to Treatment Standards Applicable to Characteristic Wastes.**

EPA intends to retain the current rule stated in 40 C.F.R. §268.9(b): that the treatment standards for characteristic wastes do not apply if the treatment standard for the listed waste addresses the hazardous constituent at issue. The Phase III proposal included a modification to 40 C.F.R. §268.9(b) which would have subjected all listed wastes that are characteristically hazardous to treatment standards applicable to characteristic waste. The Phase IV proposal correctly utilizes limited resources, assuring that listed wastes are not subject to the double jeopardy of being evaluated for compliance with both the UTS treatment requirements for the listed waste's constituents and the underlying hazardous constituents. Further, this minimizes the need to break into hard-piped systems in order to sample characteristically hazardous wastes simply to identify underlying hazardous constituents for those pipe systems that transport listed wastes.

**Residues from Pretreatment of Injected Wastes are Newly-Identified Wastes and are Therefore Only Subject to Treatment Requirements for Characteristic Wastes if They Themselves Exhibit Hazardous Characteristics.**

In the Third Third rule, EPA established the principle that the generation of a new treatability group is considered a new point of generation and thus a new point for determining whether a waste is prohibited. In the Phase IV proposal EPA uses this principle to evaluate wastewater treatment sludges generated in Subtitle D surface impoundments. Under this principle wastewater treatment sludges not exhibiting a characteristic are not prohibited wastes, even though the sludges may be derived from characteristically hazardous waste streams. Instead the newly-generated waste is evaluated to determine if it is subject to the LDR standards. The Phase IV proposal does not, however, directly address the LDR status of residual solids from Class I injection well systems. The UIC Group has been advised in discussions with the EPA that residual solids from Class I injection well systems will also be considered to be newly-generated wastes under the "change in treatability group principle." Under this interpretation, such solids will be subject to treatment requirements for characteristic wastes only if they themselves exhibit the hazardous characteristic. This verbal understanding is consistent with the approach taken by EPA in the preamble of the Phase IV proposed rules. The UIC Group urges EPA to clarify that the residues from Class I pretreatment systems are

newly-generated wastes and are not subject to LDR requirements unless they are themselves hazardous wastes.

Nonwastewater Residuals from Treatment of Mixtures of Aggregated Waste Streams, Irrespective of the Individual Stream's Treatability Group, Should be Considered as Newly-Generated Waste.

CMA member companies continue to be concerned about sludges that are generated from waste streams that are considered nonwastewaters. Due to either the total organic carbon or total suspended solids content many wastewater streams are classified as nonwastewaters for LDR purposes. Because a residual solid is a nonwastewater for LDR purposes, it could be argued that no change in treatability group occurs and that the residual solids which include sludges, filters, filter cakes, etc. are subject to the same treatment standards as the liquid streams. The UIC Group believes that these streams are also newly-generated and should be evaluated based upon the concentration of constituents in the waste rather than relying on the characteristics of the individual streams that were aggregated and then treated to form the sludges.

The aggregation of streams prior to injection allows for both chemical and physical changes to occur in the combined waste stream. Catalyst fines may be present which will allow for further reaction of the unreacted raw materials and polymerization of monomers. Additionally, salts may

form as a result of mixing streams of various pH and chemical matrices. The settled sludge will contain a different matrix than does the wastewater influent.

Residues are also different from the wastewater streams because they are collected on various media which become part of the residue waste matrix. These media can include materials such as

diatomaceous earth and wound fiber cartridges. The constituents adhering to the filter media will be more similar in nature to the sludge residue than to the wastewater influent. These residues are unlikely to be pumpable materials; whereas, the wastewater influent is pumpable. The organic

constituents in the residues are more likely to be longer-chained organics and are less likely to be volatile. The residues are also more likely to contain higher concentrations of metals and salts than is the wastewater.

Because the residues generated in Class I pretreatment systems are fundamentally different than the wastewaters (which may be considered as nonwastewaters for LDR purposes), EPA should clarify that these waste streams are newly-generated and are only subject to LDR provisions applicable to characteristic wastes if the residues themselves are characteristically hazardous. EPA should not create another mechanism that requires waste codes to be applicable to wastes derived from hazardous wastes, thereby bringing in large volumes of nonhazardous waste into the perverse universe of regulation as hazardous wastes.

## RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that

underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P034  
COMENTER CMA UIC Task Force  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 034  
COMMENT

Clarify that LDRs do not apply to decharacterized wastes injected at facilities with approved no migration exemptions.

RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P034  
COMMENTS CMA  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 034  
COMMENT

**EPA Should Appropriately Limit the Circumstances Under Which Treatment to Address Underlying Hazardous Constituents in Characteristic Wastes is Required.**

The UIC Group has already stated its concern that requiring segregation and treatment of characteristic streams to meet UTS levels is not only unnecessary but actually may increase the risk to human health and the environment.

The UIC Group recommended in the Phase III comments that EPA identify threat levels based upon health-based levels modified by an appropriate dilution/attenuation factor reflecting a reasonable mismanagement scenario. EPA recognizes in the Phase IV proposal that constituents at UTS levels may not present risks that warrant regulatory concern. Specifically EPA states that "MCLs are a reasonable benchmark of risk posed to human health from a drinking water source," and proposes not to require controls on surface impoundment leakage unless levels of hazardous constituents exceed MCLs by a factor of 10 (a reasonable dilution/attenuation factor according to

EPA). The UIC Group supports EPA's intent to require treatment only if it is necessary to minimize an actual threat to human health or the environment. In the context of injected wastes, if the commingled wastes already are at a hazardous constituent level which will minimize threats,

treatment to further reduce the mass of constituents will neither reduce the volume of waste injected nor produce any meaningful reduction in toxicity. Therefore treatment to remove underlying hazardous constituents prior to injection is unnecessary to protect human health and the environment.

**RESPONSE**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR

43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P035

COMMENTS Utility Solid Waste Activities Group

RESPONDER HM

SUBJECT EQUV

COMMENT 3. The CWM Opinion Does Not Require EPA To Impose Regulatory Standards on Sludges USWAG is especially troubled by the Option 2 proposal for subjecting sludge to the LDRs. The CWM opinion does not suggest, let alone require, that EPA alter its "treatability group principle" and impose regulatory standards on the sludges generated during treatment of wastes in CWA systems. The "treatability group principle" provides that a waste that has changed its form during treatment, e.g., from a wastewater to a nonwastewater, is sufficiently different in character and characteristics from the original waste that its potential threat to the environment should be assessed anew, and that such newly generated forms of the waste should only be subject to hazardous waste regulation if they themselves exhibit a characteristic. See 55 Fed. Reg. 22520, 22661-62 (June 1, 1990). This principle was not challenged in the CWM litigation and thus was not addressed in that decision. There is no reason for EPA to assume that the Court reached out to decide an issue that was not before it and to infer a requirement to impose LDR regulations on sludges generated in CWA systems managing decharacterized wastes. EPA itself recognizes this point and also questions its legal basis for abandoning this concept in the Phase IV rule. 60 Fed. Reg. at 43673. More fundamentally, the change in treatability group principle reflects the reality of many treatment systems as well as the fact that the chemistry, and thus the threat posed to the environment, of constituents bound up in a solid are substantially different from those same constituents present in a wastewater and therefore must be analyzed separately. EPA has presented no information in the current proposal to undermine

that logical conclusion. Moreover, if EPA were to abandon its change in treatability group policy and thereby, in effect, impose a "derived from rule" on characteristic wastes, it would create many of the same problems that have resulted from the derived from rule for listed wastes. The Agency is well aware that the derived from rule has resulted in many low hazard wastes being subject to Subtitle C regulation, and EPA is now going through great pains to correct this major flaw in the Subtitle C system (via the "Hazardous Waste Identification Rule" process). It would be nonsensical for the Agency to unnecessarily import one of the least defensible components of the Subtitle C program into the LDR program as it relates to characteristic wastes. The current system as applied to characteristic wastes is rational and workable, and the Court's decision creates no mandate to abandon and replace it with a more burdensome regulatory program. Therefore, USWAG urges the Agency to retain the change in treatability group principle and not to automatically apply LDR standards to sludges generated during the treatment of decharacterized wastes in CWA surface impoundments.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P035

COMMENTS Utility Solid Waste Activities Grp

RESPONDER SS

SUBJECT EQUV

COMMENT IX. EPA SHOULD CLARIFY THAT DILUTION IS PERMISSIBLE TO REMOVE A CHARACTERISTIC PRIOR TO FURTHER TREATMENT. USWAG believes

that the focus of the Phase IV proposal on surface impoundment standards and its discussion of potential management options necessitates clarification of EPA's position on dilution. In particular, USWAG urges EPA to clarify in the final rule that it is lawful to use dilution to render a characteristic waste that is subject to an LDR treatment standard nonhazardous, provided that additional treatment other than dilution is used to treat the "underlying hazardous constituents" in the decharacterized waste prior to land disposal. Neither RCRA nor the CWM decision prohibits the dilution of a characteristic hazardous waste for purposes of removing the hazardous characteristic so that any additional treatment for the underlying hazardous constituents in the decharacterized waste can take place in facilities that are not subject to the RCRA hazardous waste permitting requirements. In fact, USWAG notes that in the Phase III proposal, EPA clearly contemplated wastes being decharacterized through aggregation prior to their management in CWA surface impoundments for treatment in order to meet LDR standards. 60 Fed. Reg. at 11702, 11710-12. Despite EPA's recognition of this principle, USWAG has found that there is substantial confusion among state regulators and others regarding whether any dilution of prohibited wastes is allowed. Therefore, USWAG urges EPA to clarify in the preamble to the final rule, or in some other appropriate manner, that characteristic wastes can be diluted to remove their hazardous characteristics and that such decharacterized wastes can be treated in non-Subtitle C facilities to meet applicable LDR treatment standards.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the

wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

There is one caveat. Characteristic hazardous wastes that are managed in CWA or CWA-equivalent systems, and for which EPA has promulgated a method of treatment as the treatment standard (e.g., high TOC ignitable wastes for which the treatment standard is recovery of organics) remain prohibited unless treated pursuant by the promulgated method.

DCN PH4P035

COMMENTER Utility Solid Waste Activities Grp

RESPONDER SM

SUBJECT EQUV

COMMENT VI. EPA SHOULD REJECT THE ENVIRONMENTAL TECHNOLOGY COUNCIL'S PROPOSAL TO BAN NON-AMENABLE WASTES FROM LAND-BASED BIOLOGICAL TREATMENT SYSTEMS.

EPA proposes to reject a request that was made by the Environmental Technology Council ("ETC") to prohibit the management of wastes in land based biological treatment systems if the wastes are not amenable to biological treatment. 60 Fed. Reg. at 43677. USWAG fully agrees with EPA that such a prohibition is unnecessary, and that the concerns that the proposal purports to address are most appropriately addressed by the end-of-pipe controls discussed in this rule and in the Phase III proposal. The imposition of additional controls beyond the end-of-pipe requirements not only would be superfluous, but it also would create significant disruptions in existing treatment operations. As noted by EPA, "the provisions in Phase III and Phase IV are designed to protect human health and the environment from hazardous constituents in surface impoundments, therefore, there is no need to regulate nonamenable wastes." Id. USWAG supports this conclusion. USWAG further agrees with EPA that such a ban would impose significant technical impediments on the regulated community in determining amenability to biological treatment. In particular, EPA acknowledges that the ability of the regulated community to assess the amenability to treatment of a particular wastestream or a constituent is "extremely difficult" and is accompanied by much "uncertainty." Moreover, there has been no indication that excessive migration of "nonamenable" wastes is occurring, or that such wastes in any way impede the functioning of the biological treatment systems. The advantages of such a prohibition are minimal, and EPA correctly has proposed its rejection.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the

wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P035

COMMENTER Utility Solid Waste Activities Grp

RESPONDER SS

SUBJECT EQUV

COMMENT C. USWAG Requests that EPA Clarify that the LDR Requirements are Only Applicable to Constituents Contained in a Hazardous Waste at the Point of Generation. USWAG believes it is imperative that EPA reiterate in the final Phase IV rule that the only constituents of concern that must be addressed under the LDR program (and therefore must be treated prior to discharge) are constituents that are present in wastes that are hazardous at the point of generation. Because the CWA impoundments that receive decharacterized wastes also receive numerous other aqueous wastestreams that are not subject to the RCRA LDR program, it is important that EPA clarify that constituents contained in wastes that are non-hazardous at the point of generation and that are discharged to the impoundment are not subject to LDR requirements and do not have to be monitored at the point of discharge for compliance with the LDRs. Moreover, EPA should provide a mechanism in the final rule whereby parties can submit data to demonstrate that certain constituents did not come from the waste that is subject to the LDRs.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may

result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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COMMENTER Utility Solid Waste Activities Grp

RESPONDER SS

SUBJECT EQUV

COMMENT II. USWAG SUPPORTS END-OF-PIPE COMPLIANCE FOR TC-METAL WASTES.

A. End-of-the-Pipe Compliance Fully Satisfies the Requirements of the CWM Opinion. USWAG emphasized in its comments on the Phase III LDR proposal that it fully supported the requirement that compliance with the LDRs for decharacterized waste in CWA systems be determined at the same point that NPDES and pretreatment limits must be met. See USWAG Comments on Land Disposal Restrictions - Phase III, May 1, 1995 (Docket No. F-95-PH3P-FFFF). USWAG reiterates its support for this standard and the Agency's proposed application of it to the treatment standard for TC-metal wastes. The "end-of-the-pipe" treatment standard is fully consistent with the Court of Appeals decision in CWM. As acknowledged by EPA in the current proposal, "Option 1 relies on the Phase III rule to satisfy the equivalence standard enunciated by the D.C. Circuit. . . . the court's opinion does not explicitly require more." 60 Fed. Reg. at 43659. The Court in CWM determined that it was permissible, as a proper accommodation between the CWA and RCRA, to allow wastes that had not been treated to meet LDR standards to be placed in CWA surface impoundments as long as the waste receives the same degree of treatment for the underlying hazardous constituents as would be achieved in any other RCRA treatment facility. 976 F.2d at 20. Under this standard, wastes that have been decharacterized can be placed in CWA impoundments for treatment, provided that the LDR Universal Treatment Standards ("UTS") are met at the point of discharge from the impoundment. This strategy is entirely consistent with the CWM opinion because the decharacterized wastewaters are receiving the same degree of treatment at the point of discharge that would otherwise be obtained in a RCRA permitted treatment facility. As EPA has already previously concluded, "there are adequate constraints in the CWA implementing rules to prevent these end-of-pipe standards from being achieved by means of dilution." 60 Fed. Reg. at 11711. Therefore, an end-of-the-pipe equivalence standard will ensure that the requisite degree of treatment of underlying hazardous constituents is achieved at the point of discharge without inappropriate dilution. The CWA impoundments at issue in the Phase IV proposal have been used for years to

manage aqueous decharacterized wastes in an environmentally sound and economically efficient manner. Indeed, the Agency has recognized that these systems pose little environmental risk that is not already being addressed under existing regulatory controls. Id. at 11704 ("the risks addressed by this rule, particularly UIC wells, are very small relative to the risks presented by other environmental conditions or situations"). Thus, there is nothing to indicate that these systems are not capable of adequately treating these wastes or that they are posing any threat to human health or the environment warranting the type of intrusive and cost prohibitive controls contemplated in Options 2 or 3.

**B. EPA Should Defer to the CWA Where the Constituent of Concern in the TC-Metal Waste is Addressed by an NPDES Permit or Pretreatment Requirement.** USWAG also believes that the Agency should recognize that compliance with a CWA standard that addresses hazardous constituents of concern in TC-metal wastes constitutes compliance with the RCRA LDRs. EPA acknowledged this principle in its Phase III proposal with regard to TC-organic wastes (Id. at 11711-12), and the same rationale applies with equal force here. Where the RCRA constituent of concern is fully regulated under the Clean Water Act, there is simply no reason to impose an additional RCRA standard on these same constituents at the point of discharge. Doing so would merely be redundant regulation for its own sake, and would be directly contrary to Congress' mandate in section 1006(b) of RCRA (42 U.S.C. § 6905(b)) that EPA integrate provisions of RCRA and the CWA when implementing RCRA and avoid duplication, to the maximum extent possible, with CWA requirements. Therefore, deference to Clean Water Act regulation is fully consistent with RCRA, and provides ample protection for human health and the environment while minimizing disruption of existing treatment systems. In addition, the treatment technologies and standards developed under the CWA are more likely to be better tailored to the wastestream because the CWA is specifically geared to regulating aqueous discharges and CWA permit writers have greater experience in reviewing and permitting systems for the management of industrial aqueous wastes. While USWAG endorses the Agency's approach of deferring to applicable CWA controls where appropriate, USWAG believes the Agency also should defer to the judgments made under the CWA that certain constituents do not require regulation at the point of discharge. For example, if an NPDES permit writer has determined that there is no need to impose specific limitations

in a facility's permit for certain constituents because that constituent will not be present in the discharge at a level that poses a threat to human health and the environment, RCRA should defer to that judgment and not require monitoring and compliance with the LDR standards for these constituents. The permit writer's judgment represents the application of the best technology or the necessity to achieve water quality standards. Where a permit writer has specifically determined that a particular constituent (or constituents) does not need to be addressed, that determination represents a finding that either the technology has adequately treated that constituent or the constituent does not pose a threat to environment. In these circumstances, imposing RCRA treatment standards on the constituent simply would be redundant regulation for its own sake.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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COMMENTER Utility Solid Waste Activities Grp

RESPONDER SS

SUBJECT EQUV

COMMENT III. PROPOSED MANAGEMENT OPTIONS FOR DECHARACTERIZED WASTES.

USWAG is pleased to respond to the Agency's request for comment on the Agency's evaluation of options for regulating potential releases of hazardous constituents from CWA surface impoundments. 60 Fed. Reg. at 43659. EPA has proposed three options for imposing controls on air emissions, leaks, and sludges associated with surface impoundments managing decharacterized wastes. The first option would not impose any controls beyond the end-of-pipe limits discussed above. Option 2 would impose separate controls on air emissions, leaks and sludges from surface impoundments, and Option 3 actually would prohibit decharacterized wastewaters from being placed in a surface impoundment until they had been treated to meet applicable treatment standards. Id. As discussed in detail below, the CWM decision does not mandate the imposition of any additional controls on surface impoundments beyond the end-of-the-pipe controls described in the Agency's Phase III proposal, and therefore, the only appropriate management strategy is that proposed in Option 1. A. USWAG Supports EPA's Adoption of Proposed Option 1 USWAG fully supports EPA's proposed Option 1 and its emphasis on end-of-the-pipe treatment requirements as being most consistent with the mandate of the CWM decision. There is nothing in the opinion of the Court of Appeals in the CWM decision that requires any of the additional controls on sludges, surface impoundment integrity, or air emissions that EPA is contemplating in the proposal. In requiring that the treatment of characteristic hazardous wastes in a CWA system be "equivalent" to that provided by a RCRA system, the CWM Court was simply making clear that such wastes, when managed in a CWA system, must be treated and cannot be allowed to meet LDR requirements simply through aggregation with other waste streams. The Court was not addressing the management standards applicable to the treatment facility managing a decharacterized waste. As a result, the Court's mandate that the influent wastes receive the equivalent level of treatment that they would receive in a RCRA system does not mean that the CWA facility itself must be subject to the same standards that would apply to a RCRA facility. In interpreting the scope.

of the Court's ruling, it is imperative that the Agency keep in mind the issue the CWM Court was actually deciding. EPA's Third LDR rule provided that characteristic wastes managed in CWA systems could be diluted as long as the treatment standards were met at the point of discharge. See 976 F.2d at 19. It was this amendment to the dilution prohibition that was challenged by the petitioner. And it was this narrow issue that the Court was addressing when it spoke about the level of treatment required. *Id.* An examination of the Court's opinion reveals that the Court's focus was solely on the waste stream being managed in the CWA system and not on any aspects of the system itself. Thus, the Court stated that treatment of wastes in a CWA system must meet RCRA requirements "prior to discharge" to surface water or a POTW. *Id.* at 20. Even more explicitly, the Court stated that "what leaves a CWA treatment facility can be no more toxic than if the waste streams were individually treated pursuant to the RCRA treatment standards." *Id.* These statements make clear that the Court was narrowly focused on the specific issue of ensuring that hazardous wastes managed in CWA systems receive adequate treatment prior to discharge and are not merely diluted by aggregation with other waste streams. Given this narrow scope of the Court's holding, the Court's opinion does not require EPA to impose management standards for leaks or air emissions on surface impoundments managing decharacterized hazardous wastes.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to

determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



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COMMENT B. The Proposed Controls in Option 2 are Not Mandated by the

CWM Opinion. 1. The CWM Opinion Does not Require the Imposition of Additional Controls to Regulate Leaks From Surface Impoundments. There is nothing in the CWM opinion that compels EPA to address the issue of leaks from CWA surface impoundments used to manage decharacterized hazardous waste. As discussed above, the CWM opinion addressed only the issue of whether dilution in CWA systems was by itself an acceptable form of treatment for hazardous waste and held that it was not.

Notwithstanding this conclusion, however, the CWM Court also held that decharacterized wastes could continue to be managed in CWA systems as part of the required accommodation between the CWA and RCRA. 976 F.2d at 20. The Court recognized that decharacterized hazardous wastes that had not yet met LDR treatment standards could be placed into units that are not Subtitle C units and for which Subtitle C management standards are not required. Therefore, the decision simply cannot be deemed to require the imposition of Subtitle C- like groundwater monitoring requirements on CWA systems. Such a result would effectively turn these Subtitle D units into RCRA Subtitle C-like units, despite the fact that the CWM Court explicitly allowed the continued management of these wastes in such units as part of the statutorily required accommodation between the CWA and RCRA. In addition, imposition of Subtitle C regulatory requirements in this context makes little regulatory sense. In many CWA systems, the decharacterized wastes managed in the system are a relatively small percentage of the total volume wastes being treated in the system. Therefore, it is unlikely that the decharacterized waste component of the waste stream will significantly alter the overall characteristics of the waste being managed in the unit or will significantly alter the nature of any potential leakage from the unit. Moreover, the CWA systems at issue in this rulemaking are subject to regulation under both the Clean Water Act and Subtitle D of RCRA. If there are any environmental problems with such units the Agency has ample authority under those statutory regimes to address such issues. However, while USWAG strongly disagrees that groundwater monitoring standards are appropriate to impose on CWA surface impoundments that manage decharacterized waste,

USWAG agrees with EPA, that if such requirements are imposed, the Agency should defer to existing state groundwater monitoring programs to the extent that such requirements are available. Id. at 43669. USWAG notes that, based on available information, there are 25 states that manage 83% of the wastewaters that are placed in surface impoundments. Of those 25 states, all of them require monitoring to protect surface waters, 19 have liner requirements, and 19 require groundwater monitoring. This data demonstrate that there is widespread regulation for releases from surface impoundments at the state level, and that deference to this existing framework is necessary to avoid the imposition of redundant and potentially contradictory federal and state requirements on the regulated community. 2. Nothing in the CWM Opinion Mandates the Imposition of Air Emission Controls on CWA Surface Impoundments. As discussed above, the CWM opinion does not require EPA to impose additional controls on CWA surface impoundments. This conclusion is particularly true in the case of air emissions. The CWM opinion does not address air emissions from wastes that are being managed in surface impoundments, and there is nothing to indicate that the Court was concerned with this issue. Moreover, the statutory provision that the Court was interpreting, i.e., the land disposal restrictions, addresses only the risks arising from the permanent disposal of untreated wastes onto the land. Nothing in the LDRs addresses the risks that may arise from volatilization of hazardous constituents during treatment. Therefore, the Court's opinion cannot be construed to require the Agency to impose air emission standards on surface impoundments that are treating decharacterized wastes. Indeed, such a construction of the statute or the CWM decision is beyond any reasonable or defensible interpretation. Accordingly, the regulation of any potential air emissions should appropriately remain within the purview of the Clean Air Act ("CAA"). As the Agency is well aware, imposing such air emission standards would impose astronomical costs on operators of surface impoundments who could be required either to install emission control equipment or to construct alternative tank-based systems to manage these wastes. The CWM opinion does not dictate such an onerous result, and EPA has not developed a record to demonstrate that the risk posed by such emissions from the decharacterized waste would justify the inordinate expenditures that would be required. Further, if air emissions from CWA systems do pose a risk, EPA may readily evaluate that risk and

impose whatever controls are necessary under the toxic air pollutants program contained in section 112 of the CAA. 42 U.S.C. § 7412. That section requires EPA to identify major sources of hazardous air pollutants ("HAPs") and to develop specific technology-based control standards for those sources. For example, final NESHAPs addressing surface impoundment emissions have been promulgated for benzene wastes (40 C.F.R. Part 61, Subpart FF) and for hazardous organics (40 C.F.R. Part 63, Subparts F-I), and NESHAPs have been proposed for synthetic organic chemical manufacturing (40 C.F.R. Part 60, Subpart YYY) and off-site waste operations (40 C.F.R. Part 60, Subpart DD). Moreover, surface impoundments, like all waste management operations, are subject to all other CAA requirements. See *Ogden Projects, Inc. v. New Morgan Landfill Co., Inc.*, No. CIV.A.94-CV-3048, 1995 WL 564215 (E.D. Pa. September 22, 1995) (landfill subject to new source review permit requirements). Therefore, the CAA provides the appropriate mechanism for EPA to determine whether CWA surface impoundments are, in fact, major sources of HAPs and if so to develop specific controls to address potential emissions. This program represents Congress' determination of which air pollution sources require regulation, and EPA should not on its own volition impose additional standards on facilities merely because they are managing formerly characteristic hazardous wastes. In addition, there is no justification for extending the existing RCRA air emission standards to these surface impoundments because EPA has made no determination that these impoundments pose the sort of risk that would justify the cost of such controls.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe

Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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COMMENT C. Proposed Option 3 Is Both Unnecessary And Overly Burdensome.

Proposed Option 3 is entirely unjustified and is in no way contemplated by the CWA decision. Such a regulation would be enormously disruptive of existing waste management systems. As the Agency is well aware, CWA systems handle large volumes of waste, on the order of hundreds of thousands to millions of gallons, and the retrofitting of such systems, or the construction of alternative facilities, would require an enormous capital outlay. It would be rational for the Agency to impose such controls only if surface impoundments created a threat to the environment sufficiently severe to justify the enormous cost associated with retrofitting or replacing them. However, there is simply no justification to impose those requirements on all surface impoundments managing decharacterized wastes. The Agency has developed no record to demonstrate that these units pose the sort of environmental risk that justifies the imposition of this sort of expenditure, and USWAG does not believe that such a risk actually exists. Therefore, because neither the CWM decision nor the rulemaking record support such action, USWAG urges the Agency not to adopt Option 3. USWAG is encouraged by the Agency's recognition that Option 3 would destroy the "accommodation between the CWA and RCRA" upheld by the Court in CWM, and that, as a result, EPA may not even have the authority to institute such a requirement. 60 Fed. Reg. at 43677. Moreover, as EPA has acknowledged, "impoundment- based wastewater treatment systems can be effective means of treating decharacterized wastewaters, and can do so without undermining core values of RCRA and the LDR program." Id. Based upon the "potential disruption to needed wastewater treatment, high costs to affected industries, and lack of targeted risk reduction" EPA is not recommending the adoption of Option 3. Id. at 43659. USWAG is in full agreement with this assessment, and reiterates that the negative ramifications, heavy costs and negligible benefits associated with this option warrant its rejection.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems

regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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COMMENTS American Iron & Steel Ins  
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SUBJECT EQUV  
SUBJNUM 036  
COMMENT

The most fundamental jurisdictional principle underlying Subtitle C of RCRA is that EPA's authority under that portion of the statute is limited to the regulation of "hazardous wastes." See, e.g., *American Mining Congress v. EPA*, 824 F.2d 1177, 1179 (D.C. Cir. 1987) ("EPA's authority [under Subtitle C] extends only to the regulation of hazardous waste."). Of course, one important exception to this principle has been recognized by the courts. See *American Iron and Steel Institute v. EPA*, 886 F.2d 390 (D.C. Cir. 1989) (noting that the corrective action provision of RCRA "sweeps far more broadly than the rest of Subtitle C, with its focus on hazardous waste."), cert. denied, 110 S. Ct. 3237 (1990). However, given the central role that the principle plays in the Subtitle C regulatory scheme, it should not be overridden without explicit authority.

In the present case, there is nothing in the statute that mentions, much less authorizes EPA to regulate leaks, volatilization, or sludges from non-hazardous waste surface impoundments managing formerly characteristic wastes. Moreover, as EPA acknowledges in the preamble to the Phase IV proposal, the decision of the U.S. Court of Appeals for the District of Columbia Circuit ("D.C. Circuit") in *Chemical Waste Management, Inc. v. EPA*, 976 F.2d 2 (D.C. Cir. 1992) ("Chem Waste II") does not explicitly mention or authorize controls for such leaks, volatilization, or sludges. See 60 Fed. Reg. at 43,656. In the absence of any clear authority to regulate releases from non-hazardous waste impoundments, the general jurisdictional limits of Subtitle C must be respected. See *Louisiana Public Service Commission v. F.C.C.*, 476 U.S. 355, 374 (1986) (holding that "an agency literally has no power to act ... unless and until Congress confers power upon it."); *Walter v. Luther*, 830 F.2d 1208, 1211 (2nd Cir. 1987) (holding that statutes granting power to administrative agencies are strictly construed to confer only those powers that are expressly granted or necessarily implied). Accordingly, EPA should refrain from imposing RCRA Subtitle C controls on non-hazardous waste surface impoundments managing formerly characteristic wastes.

## RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

There is one caveat. Characteristic hazardous wastes that are managed in CWA or CWA-equivalent systems, and for which EPA has promulgated a method of treatment as the treatment standard (e.g., high TOC ignitable wastes for which the treatment standard is recovery of organics) remain prohibited unless treated pursuant by the promulgated method.



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SUBJECT EQUIV

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COMMENT

Even if EPA had the authority to impose regulatory controls on leaks, volatilization, and sludges from non-hazardous waste impoundments managing formerly characteristic wastes, there can be no doubt that the Agency is not required to establish such controls. As noted above, neither the statute nor the Chem Waste II decision explicitly mentions leaks, volatilization, or sludges from CWA surface impoundments. Although the Court decision in some places suggests vaguely that wastes must be treated to minimize risks "before exiting ... CWA treatment facilities," 976 F.2d at 22, the Court clearly was focused on the ultimate end-of-pipe discharge of wastewaters from the treatment facilities. For example, in summarizing its holding, the Court stated that "treatment of solid wastes in a CWA surface impoundment must meet RCRA requirements prior to ultimate discharge into waters of the United States or publicly owned treatment works." 976 F.2d at 20. Similarly, the Court stated that "[t]he dilution of wastes in Clean Water Act facilities is acceptable so long as the toxicity of the waste discharged from the facility is minimized or eliminated consistent with RCRA." Id. at 7.

In short, the Court required only that the ultimate end-of-pipe discharge from a non-hazardous waste surface impoundment receiving formerly characteristic wastes meet the "minimize threat" standard of the RCRA LDR program. EPA itself has acknowledged that "the court's opinion does not explicitly require more." 60 Fed. Reg. 43,659. In light of the limited scope of the Court decision, the Agency should not make more work for itself by developing and implementing new regulations to address leaks, volatilization, and sludges. Doing so would be particularly inappropriate, in this age of limited resources, because the Agency itself has characterized such regulations as "a relatively low priority" that primarily would address "facilities [that] are believed to pose low risks." See Letter from Robert W. Hickmott, Associate Administrator, EPA, to Congressman Ron Wyden (November 3, 1995). Accordingly, EPA should not adopt any leak, volatilization, or sludge controls as part of the Phase IV rule.

RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

There is one caveat. Characteristic hazardous wastes that are managed in CWA or CWA-equivalent systems, and for which EPA has promulgated a method of treatment as the treatment standard (e.g., high TOC ignitable wastes for which the treatment standard is recovery of organics) remain prohibited unless treated pursuant by the promulgated method.

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COMMENTS American Iron & Steel Ins  
RESPONDER SS  
SUBJECT EQUV  
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COMMENT

AISI supports EPA's proposal to exempt from the requirements of the Phase IV rule impoundments that receive only formerly characteristic wastes that have been treated to meet the UTS. The UTS limits were established for the express purpose of meeting the "minimize threats" standard of the LDR program. As a result, wastes that have been treated to the UTS do not require any additional LDR controls. Significantly, even under EPA's most stringent proposed option, Option 3, impoundments would be able to receive formerly characteristic wastes that have been treated to meet the UTS without complying with any requirements for leaks, volatilization, or sludges. Thus, EPA should exempt impoundments receiving these wastes from the requirements of the Phase IV rule.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

There is one caveat. Characteristic hazardous wastes that are managed in CWA or CWA-

equivalent systems, and for which EPA has promulgated a method of treatment as the treatment standard (e.g., high TOC ignitable wastes for which the treatment standard is recovery of organics) remain prohibited unless treated pursuant by the promulgated method.

DCN PH4P036  
COMMENTS American Iron & Steel Institute  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 036  
COMMENT

C. EPA Should Continue to Rely on Existing Regulatory Programs to Address the Risks in Question

If EPA decides (despite the arguments presented above) to address in the current rulemaking leaks, volatilization, and sludges from non-hazardous waste impoundments managing formerly characteristic wastes, AISI urges the Agency to continue relying on existing regulatory authorities, as specified in Option 1. AISI believes that existing authorities are fully capable of controlling all of the risks in question. As a result, additional controls under Subtitle C are not warranted. Each type of risk is discussed separately below.

Leaks from non-hazardous waste surface impoundments managing formerly characteristic wastes already are being adequately addressed by a wide range of federal and state regulatory controls. These controls obviate the need for additional controls under the RCRA land disposal restrictions program.

For example, as EPA itself notes in the preamble to the Phase IV proposal, virtually half of the facilities with impoundments that receive formerly characteristic wastes qualify as RCRA TSDFs and therefore are subject to the Agency's corrective action authority. 60 Fed. Reg. at 43,659. This authority extends to all solid waste management units ("SWMUs") -- including non-hazardous waste impoundments -- at the facilities, and thus can be used to remedy leaks from the units that are presently of concern. AISI believes that the Agency's estimate of the percentage of facilities that are subject to corrective action may be significantly too low, because it may ignore facilities that have RCRA "permits-by-rule" that incorporate corrective action requirements. See 40 C.F.R. §§ 270.60(b)(3)(i) (permit-by-rule for facilities with hazardous waste injection wells); 270.60(c)(3)(vii) (permit-by-rule for Publicly Owned Treatment Works that accept hazardous wastes for treatment). This issue is of particular concern to AISI because many iron and steel facilities have RCRA permits-by-rule for hazardous waste injection wells located on-site. Accordingly, AISI urges the Agency to reconsider its estimate of the percentage of facilities with

non-hazardous impoundments receiving formerly characteristic wastes that are subject to corrective action. Those facilities that are not subject to corrective action (and many that are) are frequently subject to stringent state groundwater protection rules that also control releases from non-hazardous waste surface impoundments. EPA has indicated that 36 of the 50 states (72%) have such groundwater protection rules. See 60 Fed. Reg. at 43,660. AISI believes that the proportion of impoundments subject to groundwater protection rules may be significantly higher, due to the uneven distribution of impoundments throughout the various states. In general, it seems reasonable to assume that states with greater amounts of industrial activity, and larger number of impoundments, are more likely to have stringent groundwater protection standards. Thus, greater than 72% of the impoundments of concern can be expected to be subject to state groundwater protection regulations. Although it is true that the state programs can vary significantly, all of them provide a significant level of protection against groundwater contamination resulting from surface impoundment leaks. Indeed, many state programs impose detailed design and operating standards for surface impoundments, require monitoring of groundwater, and mandate corrective action for releases. In those rare cases where a surface impoundment is not subject to direct leak controls, in the form of RCRA corrective action or state groundwater protection controls, it will at a minimum be subject to a wide variety of indirect leak controls. For example, because the impoundments of concern are, by definition, non-hazardous waste impoundments, neither the wastewaters entering the impoundments nor the sludges generated in the impoundments can be listed as hazardous wastes or exhibit a characteristic of hazardous waste. Similarly, the discharges from the impoundments must meet all of the applicable regulatory standards and permit conditions established pursuant to the Clean Water Act, as well as the requirements that will be established in the Phase III LDR final rule. Although none of these requirements directly address surface impoundment leaks, the composition of leaks from an impoundment clearly is closely related to the composition of the wastewaters entering the impoundment, the sludges in the impoundment, and the wastewaters ultimately discharged from the impoundment. As a result, the limitations on the wastewaters and sludges in an impoundment indirectly serve as a control on any leaks from the impoundment. Of course, it could be argued that at least some of these indirect

controls do not address the full range of hazardous constituents required to be addressed under the LDR program. However, the Phase III regulations are being designed specifically to address all of the underlying hazardous constituents in formerly characteristic wastes. Moreover, the other indirect leak controls cover a substantial percentage of the relevant constituents. For example, the RCRA Toxicity Characteristic ("TC") covers 8 of the 13 metallic constituents that can be considered underlying hazardous constituents in formerly characteristic wastes. Compare 40 C.F.R. §261.24, Table 1 with 40 C.F.R. § 268.48, Table UTS. In the case of some industries, the TC is likely to cover virtually all of the relevant constituents (e.g., metals and benzene, in the iron and steel industry). To the extent that the indirect leak controls (other than the Phase III controls) do not cover all underlying hazardous constituents, the constituents that they do cover can serve as indicators or surrogates for the full range of relevant constituents. In general, if a wastestream is treated to remove or destroy some organics, it will also be treated to remove or destroy other organics. Similarly, if a waste is treated to remove or stabilize some metals, other metals will also be removed or stabilized.

It could also be argued that the indirect leak controls will not limit leaks to a level that "minimizes" risks, as required under the LDR program. In fact, however, the Phase III controls likely will limit leaks to such a level, at least for some impoundments. Under the Phase III proposal, wastewaters discharged from a non-hazardous impoundment managing formerly characteristic wastes would have to meet either the UTS standards or corresponding CWA standards for all underlying hazardous constituents in the wastes. In many cases, leaks from the impoundment are likely to be similar in composition to the discharged wastewaters, because both materials come from the same source. Indeed, if the contents of the impoundment are continuously agitated (as in the case of a biological impoundment), the leaks should be indistinguishable from the discharged wastewaters. Accordingly, the leaks in many cases can be expected to meet the UTS or CWA standards. If direct discharges at these levels are deemed protective of human health and the environment, leaks at the same levels should also be deemed protective. After all, leaks from surface impoundments frequently empty into the same receiving waters as the discharges (because the impoundments are frequently located adjacent to the rivers into which they discharge, and groundwater flow beneath such impoundments is generally in the direction of the river). In fact,

leaks should be even less of a threat than discharges with comparable levels of hazardous constituents because leaks occur in much smaller volumes and are likely to be diluted and attenuated in the subsurface environment before they enter the receiving waters. Thus, even if the leaks have somewhat higher concentrations of hazardous constituents than the discharges, they should not pose a significant threat to human health and the environment.

In sum, because leaks from non-hazardous surface impoundments that manage formerly characteristic wastes are already extensively regulated both directly (through the RCRA corrective action program and state groundwater protection programs) and indirectly (through the RCRA definition of hazardous waste, CWA standards, and the upcoming Phase III LDR rule), there is no need for additional leak controls under the LDR program. For this reason, AISI urges EPA to adopt Option 1 with respect to these leaks and continue to rely on existing regulatory programs to address the risks associated with leaks from non-hazardous waste surface impoundments.

As discussed above, AISI believes that EPA can and should continue to rely on existing regulatory programs to address leaks, volatilization, and sludges from non-hazardous waste surface impoundments that manage formerly characteristic wastes. If EPA nevertheless concludes that additional controls are warranted under RCRA, the Agency must tailor those controls narrowly to ensure that they are effective and do not impose unnecessary, duplicative, or inconsistent burdens on the regulated community. In particular, if EPA promulgates new regulations to address leaks, volatilization, or sludges, it should exempt or exclude from those regulations, facilities that are already adequately addressed by existing regulatory authorities. In some cases, facilities should be exempt from all Phase IV controls. In other cases, they should be exempt from one or more of the media-specific controls. The discussion below focuses first on general applicability criteria for Phase IV controls and then on specific applicability criteria for the controls on leaks, volatilization, and sludges. Moreover, hazardous waste impoundments already are subject to a number of regulatory requirements that adequately address leaks, volatilization, and sludges. For example, prohibited wastes generally are required to meet LDR treatment standards before being placed in a hazardous waste surface impoundment, unless the impoundment meets the stringent requirements of RCRA § 3005(j)(11) and 40 C.F.R. § 268.4. These provisions address leaks by specifying that the impoundments must meet the minimum



technological requirements of RCRA § 3004(o), which mandate double liners, leachate collection systems, and groundwater monitoring. See 42 U.S.C. § 6925(j)(11)(A); 40 C.F.R. § 268.4(a)(3). They address volatilization by specifying that if evaporation is the principal means of treatment in a hazardous waste surface impoundment, prohibited wastes must be fully treated to meet LDR requirements before being placed into the surface impoundment. See 40 C.F.R. § 268.4(b). Of course, volatilization also will be controlled by operation of the new air emission standards of Subpart CC of 40 C.F.R. Parts 264 and 265. Finally, sludges are addressed by the requirement that the impoundments must be dredged at least annually, together with the definition of hazardous waste, which classifies many of the removed sludges as hazardous wastes. See 42 U.S.C. § 6925(j)(11)(B) (the removal requirement); 40 C.F.R. § 268.4(a)(2)(ii) (same); 40 C.F.R. § 261.3 (the definition of hazardous waste). Because leaks, volatilization, and sludges from hazardous waste impoundments already are adequately being addressed by existing RCRA regulations, these units should not be subject to any new controls promulgated in the Phase IV rulemaking. Because leaks, volatilization, and sludges from hazardous waste impoundments already are adequately being addressed by existing RCRA regulations, these units should not be subject to any new controls promulgated in the Phase IV rulemaking. EPA has proposed not to apply any leak, volatilization, or sludge controls to surface impoundments located at treatment, storage, or disposal facilities that are permitted under RCRA. See 60 Fed. Reg. at 43,661-62. AISI supports a regulatory exemption for these impoundments because releases from them either are being or can be readily addressed under existing RCRA regulatory authorities. Indeed, AISI believes that the exemption can and should be extended to impoundments located at TSDFs operating pursuant to interim status, or at other facilities subject to enforceable cleanup agreements with federal or state regulatory authorities. RCRA § 3004(u) mandates that hazardous waste permits require corrective action for all releases of hazardous wastes or hazardous constituents from SWMUs located at the facility. See 42 U.S.C. § 6924(u). As EPA acknowledged in the Phase IV proposal, the non-hazardous waste impoundments that are the focus of this rulemaking clearly would qualify as SWMUs. 60 Fed. Reg. at 43,659. In addition, the term "release" is defined broadly for purposes of the corrective action program to include "any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous ...

constituents[] into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents)." 55 Fed. Reg. at 30,874 (proposed to be codified at 40 C.F.R. § 264.501). Accordingly, there is no need for additional controls under the LDR program for releases from non-hazardous waste surface impoundments at permitted TSDFs.

Moreover, RCRA § 3005(c) requires EPA to include in hazardous permits "such terms and conditions as [the Agency] determines necessary to protect human health and the environment." 42 U.S.C. § 6925(c). This so-called "omnibus" permitting authority is not limited to materials that qualify as RCRA hazardous wastes or units that manage hazardous wastes. Accordingly, it could be used to address releases from non-hazardous waste surface impoundments that are located at permitted facilities. In this way, EPA has not one, but two separate RCRA authorities for addressing releases of hazardous constituents from these impoundments into the environment. For this reason, impoundments at permitted TSDFs should be exempt from any Phase IV controls that are established for leaks, volatilization, or sludges.

Impoundments at interim status TSDFs also should be exempt from any Phase IV controls because they, too, are subject to corrective action under RCRA. Section 3008(h) of the statute authorizes EPA to issue interim status corrective action orders on a site-specific basis as necessary to protect human health and the environment. See 42 U.S.C. § 6928(h). This authority, like the authority under RCRA § 3004(u), can be used to address virtually all releases from non-hazardous waste surface impoundments at TSDFs. Thus, there is no need for additional controls under the LDR program for releases from non-hazardous waste surface impoundments located at either permitted or interim status TSDFs. The same is true for surface impoundments located at facilities that are subject to enforceable cleanup agreements (e.g., consent agreements or orders) with federal or state regulatory authorities. Accordingly, all three categories of impoundments should be exempt from any Phase IV controls.

AISI supports EPA's proposal to exempt from any Phase IV controls impoundments that meet the minimum technological requirements ("MTRs") of RCRA § 3004(o). In general, hazardous waste impoundments that meet the MTRs are effectively exempt from LDR REQUIREMENTS under RCRA § 3005(j)(11). See 42 U.S.C. § 6925(j)(11). Non-hazardous waste impoundments should not be subject to any more stringent requirements in this regard. For

this reason, non-hazardous waste impoundments should be exempt from Phase IV LDR controls if they meet the MTR requirements of RCRA § 3004(o). AISI, however, doubts whether many, if any, non-hazardous waste impoundments currently meet the MTRs or could feasibly be retrofitted to meet the MTRs. Accordingly, AISI does not believe that this exemption will provide meaningful relief from any Phase IV controls.

Finally, AISI urges EPA to allow facilities to take pollution prevention into account towards meeting their treatment obligations, even if they cannot fully meet those obligations through pollution prevention. Under the Agency proposal, a facility that reduces mass loadings to the requisite levels entirely through pollution prevention would be exempt from any treatment requirements within the surface impoundment, and from any controls on leaks, volatilization, and sludges from the impoundment. However, if a facility were only able to achieve 90% of the required reduction through pollution prevention, it would get no credit whatsoever for that reduction. Instead, it would be subject to the requirements of the Phase III and IV rules just as if it had not engaged in any pollution prevention efforts. This approach acts as an unnecessary disincentive to pollution prevention. In order to eliminate this disincentive, EPA should allow facilities to achieve the required reductions in mass loadings through treatment alone, through pollution prevention alone, or through any combination of the two that the facilities prefer.

As discussed above, AISI believes that EPA can and should continue to rely on existing regulatory programs to address leaks from non-hazardous waste surface impoundments that manage formerly characteristic wastes. See Section II.C.1. If EPA nevertheless concludes that additional leak controls are warranted under RCRA, the Agency should exclude from those new controls (1) impoundments engaged in biological or post-biological treatment, (2) impoundments subject to EPA's corrective action authority under RCRA, and (3) impoundments subject to comparable state groundwater protection programs. Each class of impoundments is discussed separately below.

As discussed above, AISI believes that EPA can and should continue to rely on existing regulatory programs to address volatilization from non-hazardous waste surface impoundments that manage formerly characteristic wastes. See Section II.C.2. If EPA nevertheless concludes that additional air emission controls are warranted under RCRA, the Agency should nonmechanically "extend" the existing

controls under Subpart CC of 40 C.F.R. Parts 264 and 265 tonon-hazardous waste impoundments, as proposed under Option 2 of the Phase IV proposal. Instead, the Agency should either develop new air emission controls tailored specifically tonon-hazardous waste impoundments managing formerly characteristic wastes, or modify the Subpart CC rules to reflect the differences between such units and the hazardous waste units that the rules were designed to address.

One reason not to extend the Subpart CC rules to non-hazardous waste impoundments is that those rules are currently in a state of disarray. The regulations were promulgated less than a year ago and have not yet become effective. See 59 Fed. Reg. 62,896 (December 6, 1994) (final rule); 60 Fed. Reg. 26,828 (May 19, 1995) (delaying the effective date until December 6, 1995); 60 Fed. Reg. 56,952 (November 13, 1995) (delaying the effective date yet again, until June 6, 1996). In addition, the rules are subject to eight separate legal challenges, which have been consolidated under the caption *National Paint & Coatings Association, et al. v. EPA*, No.95-1143 (D.C. Cir.). EPA itself has acknowledged that the regulations have resulted in substantial confusion and may be seriously flawed in several respects. For this reason, the Agency has indicated that it intends to issue clarifications and amendments to the Subpart CC regulations in the near future. 60 Fed. Reg. at 26,828 and 56,952. In the meantime, EPA has taken the highly unusual step of postponing twice the effective date of the final rule. *Id.* In light of this chaos, it would be reckless for EPA to "extend" the Subpart CC regulations to non-hazardous waste impoundments at the present time.

Moreover, the Subpart CC regulations should not be applied to non-hazardous waste impoundments because the rules were designed specifically to address air emissions from hazardous waste units. For example, EPA decided to require air emission controls under Subpart CC for hazardous wastes containing, at the point of generation, more than 100 parts per million by weight ("ppmw") volatile organics, based on an assessment of the risks posed by hazardous wastes exceeding that standard. See 60 Fed. Reg. at 62,903-905. In making this assessment, The Agency collected extensive information and made what it referred to as "critical assumptions" about the composition and characteristics of hazardous wastes, and the design and operation of the units in which they are managed. 59 Fed. Reg. at 33,515. There is no reason to believe that the information that was collected and the assumptions that

were made are appropriate for non-hazardous, formerly characteristic wastes. On the contrary, it seems likely that these wastes, because they are not classified as hazardous wastes, pose less of a threat than the hazardous wastes evaluated in the Subpart CC rulemaking. Because of the lower risks posed by non-hazardous, formerly characteristic wastes, such wastes should not be subject to the same 100ppmw threshold as hazardous wastes.

In light of the manifest problems with the Subpart CC rules, AISI believes that if EPA determines that additional air emission controls are warranted under the LDR program, The Agency should develop (through notice-and-comment rulemaking procedures) new rules that are tailored to non-hazardous, formerly characteristic wastes. One possible approach would be to prohibit impoundments receiving such wastes from employing volatilization as the primary means of treatment for the wastes. This approach is the one that has been used for nearly a decade for impoundments receiving hazardous wastes that do not meet applicable treatment standards. See 40 C.F.R. § 268.4(b). There is no apparent reason why more stringent regulations are necessary or appropriate for non-hazardous wastes.

If EPA nevertheless decides to "extend" the Subpart CC rules to non-hazardous waste impoundments managing formerly characteristic wastes, AISI is concerned that the result could be the needless imposition of substantial burdens on the iron and steel industry. Although most of the wastewaters generated directly from steelmaking operations generally contain less than 100ppmw volatile organics at the point of generation and therefore would not be affected by the extension of the Subpart CC rules, some of the wastewaters from cokemaking and related operations are likely to contain more than 100 ppmw volatile organics at the point of generation and therefore could very well be affected. These cokemaking wastewaters are almost invariably managed in tank-based biological treatment systems prior to placement into a surface impoundment. However, given the highly sensitive nature of the bacteria in biological treatment systems, the systems may not uniformly or consistently be capable of achieving the standards of efficiency set forth in the Subpart CC rules (e.g., a 95% reduction in the mass of organic compounds). See 40 C.F.R. §§ 264.1082(c)(2), 265.1083(c)(2). As a result, the surface impoundments in which the treated wastewaters are placed could be required to be retrofitted with covers that are vented through a closed-vent system to a control device, as specified in

the Subpart CC regulations. See 40 C.F.R. §§ 264.1085, 265.1086. Such retrofitting would be prohibitively expensive, particularly in light of the large size of many of the impoundments in question. Indeed, some of the relevant impoundments in the iron and steel industry are as large as 250 acres in size, raising questions as to whether retrofitting would even be technologically feasible. Retrofitting is especially problematic for those impoundments engaged in biological treatment, because the bacteria in such impoundments require large amounts of oxygen. Although the Subpart CC regulations appear to recognize this problem and in fact exempt certain biological treatment units from the retrofitting requirement, the exemption applies only to biological impoundments that achieve a specified level of efficiency.

See 40 C.F.R. §§ 264.1085(a)(2), 265.1086(a)(2). Just as AISI is concerned that the tank-based biological treatment systems in the iron and steel industry would not be able to achieve the required level of efficiency, so it is concerned that the biological impoundments that sometimes follow such tank-based systems would not be able to achieve the required level of efficiency, and therefore would have to be retrofitted in accordance with the Subpart CC regulations.

Certain portions of the Phase IV proposal hold out the possibility that at least some of the impoundments in the iron and steel industry might be eligible for one or more of the other available exemptions from retrofitting requirements. However, it is not at all clear whether any of these exemptions would in fact apply. For example, facilities apparently would be exempt from Option 2 air emission controls if they currently are, or will in the "near future" be "subject to CAA [Clean Air Act] standards for hazardous air pollutants." 60 Fed. Reg. at 43,660. Unfortunately, EPA has failed to explain in detail how it would decide whether a facility is "subject to" a CAA standard (e.g., whether a facility that is in an industry covered by a CAA standard, but below applicable regulatory thresholds, would be considered "subject to" the standard). The Agency also has failed to explain what it means by the "near future." In the absence of such information, it is difficult for AISI to provide meaningful comment. AISI believes that non-hazardous waste impoundments in the iron and steel industry are subject to sufficient controls under the CAA as to warrant their exemption from any Phase IV air emission controls. For example, the benzene waste NESHAP effectively controls emissions of HAPs from surface impoundments associated with coke by-product recovery

facilities, where the risks associated with such emissions warrant control. See Section II.C.2, above. Nevertheless, for purposes of these comments, AISI has little choice but to assume that at least some of the impoundments in the iron and steel industry would not be eligible for this exemption.

One other exemption that is mentioned in the Phase IV proposal is an exemption for wastes that are "treated by means other than dilution" to below 100 ppmw after the point of generation, but before entering a surface impoundment. See 60 Fed. Reg. at 43,664, Figure 2. Once again, however, EPA has failed to provide any additional information on this exemption. For example, the Agency has failed to explain how it would decide whether treatment was achieved by means other than dilution. EPA also has failed to explain the relationship, if any, between this exemption and the Subpart CC provision that wastes entering an impoundment must be treated using a process with a certain level of efficiency if the impoundment is to be exempt from air emission control requirements. See 40 C.F.R. §§ 264.1082(c)(2), 265.1083(c)(2). In the absence of such information, it is difficult for AISI to provide meaningful comment. As noted above, virtually all of the iron and steel industry wastes that contain greater than 100 ppmw volatile organics at the point of generation are managed in tank-based biological treatment systems prior to placement into an impoundment. AISI believes that such treatment should be viewed as treatment by means other than dilution. AISI also believes that many of the biologically treated wastes contain less than 100 ppmw volatile organics before they enter an impoundment, and thus the impoundment should be exempt from Phase IV air emission controls. Indeed, some of the treated wastes may contain barely detectable concentrations of volatile organics, making it irrational to require that they be managed in surface impoundments with air emission controls. Nevertheless, for purposes of these comments, AISI has little choice but to assume that at least some of the impoundments in the iron and steel industry would not be eligible for this exemption.

One additional exemption that is not explicitly mentioned in the proposed rule, but is hinted at broadly, is an exemption from air emission requirements for surface impoundments located at facilities that qualify as TSDFs. See, e.g., 60 Fed. Reg. 43,661-62. As noted above, such facilities, whether operating pursuant to a permit or interim status, are subject to corrective action for all releases from SWMUs at the facility. Non-hazardous waste surface impoundments managing formerly characteristic wastes

clearly qualify as SWMUs. Moreover, the definition of "release" is broad enough to encompass emissions of hazardous constituents into the atmospheres. As a result, EPA already has the authority under RCRA to address the air emissions of concern in this rulemaking, when they occur at permitted or interim status TSDFs.

Accordingly, such facilities should be exempt from any air emission requirements promulgated under the Phase IV rule.

In order to avoid the needless imposition of onerous air emission controls on non-hazardous waste surface impoundments that manage formerly characteristic wastes, AISI urges EPA not to adopt any such controls as part of the Phase IV rule. Alternatively, AISI urges The Agency to develop (through notice-and-comment rulemaking procedures) new air emission control requirements tailored to non-hazardous, formerly characteristic wastes, rather than simply subjecting such wastes to the existing Subpart CC requirements, which were designed for completely different wastes and are currently in a state of disarray. In the event that EPA nevertheless decides to "extend" the Subpart CC rules to non-hazardous waste impoundments that manage formerly characteristic wastes, the Agency should clarify that those rules do not apply to impoundments that receive wastes that have been subjected to biological treatment, even if such treatment does not achieve the level of efficiency set forth in the Subpart CC rule. EPA also should exclude from any air emission requirements surface impoundments located at permitted or interim status TSDFs.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.



However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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COMMENTS American Iron & Steel ins..  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 036  
COMMENT

Finally, AISI urges EPA to clarify that impoundments that receive formerly characteristic secondary materials that are not wastes are excluded from any requirements under the Phase III and Phase IV rules. EPA has long acknowledged that at least some characteristic secondary materials added to wastewater treatment systems serve as effective substitutes for commercial products and therefore are not solid or hazardous wastes. See, e.g., 50 Fed. Reg. 614, 637 (January 4, 1985) (discussing the use of spent pickle liquor as a wastewater conditioner). Because these materials are not solid or hazardous wastes, the requirements of the LDR program-- including the requirements of the Phase III and Phase IV rules -- never attach. Although AISI believes that these conclusions are inescapable under the RCRA regulatory scheme, in order to eliminate any possible confusion, AISI requests that the Agency explicitly state that the final Phase III and Phase IV rules will not apply to impoundments receiving formerly characteristic secondary materials that are not wastes.

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AISI supports EPA's proposal to exempt from the requirements of the Phase IV rule surface impoundments that receive only de minimis quantities of formerly characteristic wastes. AISI is concerned, however, that the de minimis criteria under consideration by the Agency are inappropriate and unnecessarily stringent. Under the proposed rule, formerly characteristic wastes apparently would not be considered de minimis unless (1) they represent less than 1% of the total flow of wastewater into the surface impoundment, (2) they contain less than 10 times the UTS concentrations of hazardous constituents at the point of generation, and (3) they total no more than 10,000 gallons per day. See 60 Fed. Reg. at 11,714-15. AISI supports the 1% total flow criterion. However, it believes that this criterion alone is necessary and sufficient for identifying formerly characteristic wastes that are de minimis. A waste that contains less than 1% of the total flow into a surface impoundment is unlikely to significantly affect the level of constituents released into the environment from the impoundment. Requiring monitoring and treatment of such small-volume wastes, however, would be extremely burdensome. In light of the large costs and negligible benefits of imposing LDR requirements on formerly characteristic wastes that represent less than 1% of the total flow into a surface impoundment, such wastes should be exempt from any and all Phase IV controls. Indeed, this approach is the only one that would be consistent with other de minimis tests throughout the LDR program and the RCRA regulations, more generally. See, e.g., 40 C.F.R. §§ 261.3(a)(2)(iv)(E) (exemption from the "mixture rule" for wastewaters containing de minimis quantities of laboratory wastes); 268.1(e)(4) (exemption from the LDR program for wastewaters containing de minimis quantities of ignitable or corrosive commercial chemical products); 268.1(e)(5) (exemption from the LDR program for wastewaters containing de minimis quantities of ignitable or corrosive laboratory wastes). Adding a de minimis limitation on the total flow of formerly characteristic wastes into a surface impoundment is not necessary or appropriate. As noted above, formerly characteristic wastes that represent less than 1% of the total flow to a surface

impoundment are extremely difficult to monitor and treat, and doing so is unlikely to provide significant environmental benefits.

These conclusions hold true regardless of the absolute quantity of the wastewaters in question, and thus a total flow criterion should not be adopted in the final rule. The specific limit proposed by EPA -- 10,000 gallons per day -- is particularly inappropriate because it would unnecessarily and dramatically restrict the number of facilities eligible for the de minimis exclusion.

AISI believes that most facilities where formerly characteristic wastes represent less than 1% of the total flow into a non-hazardous waste surface impoundment generate far greater than 10,000 gallons per day of these wastes.

Finally, AISI believes it would be unnecessary and inappropriate to add a limitation to the de minimis rule based on constituent concentrations. Once again, as noted above, formerly characteristic wastes that represent less than 1% of the total flow to a surface impoundment are extremely difficult to monitor and treat, and requiring such activities is unlikely to provide significant environmental benefits. These conclusions hold true regardless of the concentrations of hazardous constituents in the formerly characteristic wastes, and thus a concentration limitation should not be adopted in the final rule. In the event that EPA nevertheless concludes that a concentration limit is necessary and appropriate, it should increase the proposed limit substantially.

If a formerly characteristic waste that represents no more than 1% of the total flow into a surface impoundment contains no more than 10 times the

UTS level of a hazardous constituent, the highest possible concentration of a hazardous constituent in the impoundment is only 10% of the UTS ( $0.01 \times 10 = 0.1 = 10\%$ ). Indeed, in most cases, the concentrations will be far lower. Such low levels are not necessary to protect human health and the environment. Indeed, wastes with hazardous constituents at these levels ordinarily are not prohibited from land disposal. Accordingly, if the Agency adopts a concentration threshold as part of the de minimis exemption, it should adopt a much higher concentration threshold (perhaps with a sliding scale that allows even higher concentrations in lower volume waste streams). In addition, EPA should specify that the concentration limit applies to the waste streams after any tank-based treatment, or before entering the surface impoundment, rather than at the point of generation.

RESPONSE:

The Agency is retaining the de minimis exemption previously promulgated at 40 CFR 268.1(e)(4). In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



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2. Air Emissions from Non-Hazardous Waste Surface Impoundments Do Not Warrant Additional RCRA Controls

Air emissions from non-hazardous waste surface impoundments managing formerly characteristic wastes already are being adequately addressed by a range of other federal regulatory controls. These controls make additional controls under the RCRA land disposal restrictions program unnecessary.

For example, where emissions of hazardous air pollutants ("HAPs") such as volatile organic compounds from a surface impoundment may be significant, they are likely to be subject to national emission standards for hazardous air pollutants ("NESHAPs") established under the Clean Air Act. The NESHAP applicable to the synthetic organic chemical manufacturing industry ("SOCMI-HON"), which in many ways serves as a template for other NESHAPs regulations, specifically provides for the control of air emissions from surface impoundments, where emissions from those impoundments are significant. 40 C.F.R. § 63.134. In particular, surface impoundments receiving wastewaters containing total volatile organic HAPs at or above designated concentrations and flow rates must have specific air emission controls. 40 C.F.R. § 63.111. Those controls include a cover, closed-vent system, and a control device (e.g., an absorber, condenser, incinerator, or flare) to control vapors containing HAPs. 40 C.F.R. § 63.134.

With respect to the iron and steel industry, the NESHAP for benzene waste operations requires control of air emissions from surface impoundments receiving wastewaters from coke by-product recovery plants, among other facilities and operations. 40 C.F.R. § 61.340(a). Like the SOCMI-HON, this NESHAP requires that such surface impoundments must be equipped with a cover, closed-vent system, and vapor control device. 40 C.F.R. § 61.344. Wastewaters containing benzene below certain concentrations or flow levels may not trigger these requirements, but only where the risks do not warrant such controls. 40 C.F.R. § 61.342(c)(2). Although it is specifically benzene that triggers the surface impoundment controls, those controls, once installed, will control other volatile organic HAPs. Moreover, benzene is the primary HAP of concern for coke by-product recovery plants. Therefore, benzene acts as an "indicator

pollutant" for determining when controls on surface impoundments are required. Accordingly, the benzene waste NESHAP effectively controls emissions of HAPs from surface impoundments associated with coke by-product recovery facilities, where the risks associated with such emissions warrant control.

In addition to existing requirements, the Clean Air Act Amendments of 1990 created a schedule for examining various processes and industries, requiring that specific regulations addressing air emissions from those processes be promulgated within four, seven, or ten years from enactment. For example, EPA plans to promulgate a NESHAP for steel pickling using an HCL process in November 1996, well before the statutory deadline of November 1997. 42 U.S.C.

§ 7412(e). This NESHAP will examine emissions of HCL, chlorine, and other HAPs in connection with steel pickling processes and HCL regeneration processes. 60 Fed. Reg. 23,999 (May 8, 1995). Like the SOCMH-HON, the steel pickling NESHAP will analyze the emissions from the entire process, including wastewater handling. If the emissions associated with wastewater handling in surface impoundments merit controls, then such controls will be required as part of the NESHAP, just as they are in the benzene waste NESHAP and the SOCMH-HON.

Other NESHAPs that were targeted for promulgation before November 1997 were the NESHAPs for Stainless and Non-Stainless Steel Manufacturing and Electric Arc Furnace ("EAF")

Operation. EPA has proposed to delist these two categories based on an analysis of information about emissions from both categories. EPA's analysis revealed that neither category is a "major source" of emissions of any HAP. A major source is defined as a source with the potential to emit

10 tons per year ("tpy") of a single HAP or 25 tpy of all HAPs. EPA calculates this emission potential in an extremely conservative fashion, assuming that virtually all HAPs used by a facility are eventually emitted. Accordingly, a finding that a source is not a major source indicates relatively low use of HAPs by the source. A preliminary risk assessment was also performed in connection with this analysis. Therefore, EPA has examined the emissions from these facilities and the risks posed by those emissions -- apparently including the risks associated with emissions from surface impoundments -- and has determined that regulation of these sources is not warranted.

NESHAPs for three other source categories associated with the iron and steel industry are scheduled for promulgation before November 2000. They include iron foundries, steel foundries, and integrated iron and steel manufacturing. These facilities were viewed as lower priority sources posing less risk, and accordingly were designated to be addressed last. See 58 Fed. Reg. 63,941, 63,943 (Dec. 3, 1993). Once they are addressed, these facilities will be subject to comprehensive analysis, just like the facilities analyzed for purposes of the SOCMH-HON. Although these NESHAPs are still in the developmental stages, we have been informed that EPA

does not currently believe that any controls on the wastewater treatment systems, including surface impoundments, in these industries will be necessary.

The federal Clean Air Act regulatory program not only imposes direct controls on hazardous air pollutants, but also imposes other controls that indirectly may reduce releases of underlying hazardous constituents from non-hazardous waste impoundments that receive formerly characteristic wastes. For example, EPA has established National Ambient Air Quality Standards ("NAAQS") for a variety of so-called "criteria pollutants" and has required all states to adopt State Implementation Plans ("SIPs") for either achieving those standards (in areas that currently are in "non-attainment" of the standards) or preventing significant deterioration of air quality (in areas that have already attained the standards). The Agency has also developed a detailed permitting program for all significant air emission sources under Title V of the Clean Air Act. Although these programs may not explicitly address all of the constituents covered by the UTS, they will in general result in reduced emissions of those constituents. After all, air pollution control equipment installed to address one pollutant almost invariably reduces emissions of other pollutants. Once again, therefore, the federal Clean Air Act regulatory program clearly addresses the air emissions of concern in this rulemaking.

In these ways, air emissions from surface impoundments are already being addressed by current and upcoming regulations under the Clean Air Act. The Clean Air Act creates a rational scheme for addressing risks posed by emissions from surface impoundments in a systematic fashion. Various processes and industries have been categorized based on potential emission risk, and will be analyzed and regulated if necessary, including imposing controls on emissions from surface impoundments. The prioritization of facilities and allocation of resources created by the Clean Air Act should not be disrupted by new RCRA regulations. Therefore, additional emission controls on surface impoundments under the LDR program are unnecessary and could be disruptive.

Finally, it is worth noting that air emissions from non-hazardous waste surface impoundments located at facilities that qualify as hazardous waste TSDFs are also subject to regulation under the RCRA corrective action program. As noted above, facilities operating pursuant to a RCRA permit or interim status are subject to corrective action for all releases of hazardous constituents from SWMUs at the facility. See 42 U.S.C. §§ 6924(u), 6928(h). Non-hazardous waste surface impoundments clearly qualify as SWMUs. Moreover, the definition of "release" is broad enough to encompass emissions of hazardous constituents into the atmosphere. See 55 Fed. Reg. 30,798, 30,874 (July 27, 1990) (proposed to be codified at 40 C.F.R. § 264.501). As a result, EPA already has authority even under RCRA to address many of the air

emissions of concern in this rulemaking.

Clearly, the Agency already has broad authority under both the Clean Air Act and the RCRA corrective action program to address air emissions from non-hazardous waste surface impoundments receiving formerly characteristic wastes. This authority also is being used extensively to address the emissions of concern in this rulemaking. For these reasons, AISI urges EPA to adopt Option 1 with respect to air emissions and continue to rely on existing regulatory programs to address the risks associated with emissions from non-hazardous waste surface impoundments.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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1. Certain Facilities Should Be Exempt from All Phase IV Controls

In the Phase IV LDR proposal, EPA indicated that the following categories of impoundments would be exempted from any new LDR requirements concerning leaks, volatilization, and sludges:

- (1) Hazardous waste impoundments;
- (2) Impoundments that do not receive formerly characteristic wastes that contain, at the point of generation, underlying hazardous constituents in concentrations above the UTS;
- (3) Impoundments located at permitted TSDFs;
- (4) Impoundments that meet the RCRA minimum technological requirements;
- (5) Impoundments that meet the RCRA "no migration" standard;
- (6) Impoundments that receive only de minimis quantities of decharacterized wastes;
- (7) Impoundments at facilities that meet the requirements for the pollution prevention compliance alternative; and
- (8) Impoundments that receive only decharacterized wastes that have been treated to meet the UTS.

See, e.g., 60 Fed. Reg. at 43,662. In general, AISI supports the proposed regulatory exemptions. However, it believes that some of the exemptions need to be clarified or modified in certain respects. Each exemption is discussed separately below.

a. Hazardous Waste Impoundments Should Be Excluded from Any  
Phase IV Surface Impoundment Controls

Hazardous waste impoundments clearly should not be subject to any of the leak, volatilization, or sludge requirements that may be promulgated in the Phase IV rulemaking. This rulemaking is being conducted in response to the court decision in Chem Waste II, and that

decision was focused exclusively on non-hazardous waste surface impoundments. See 976 F.2d at 20 (stating that the "CWA treatment facilities" at issue in the case "do not meet RCRA subtitle C standards and they are regulated solely under RCRA subtitle D (solid wastes)."). Thus, it would be unnecessary and inappropriate to apply the Phase IV restrictions to hazardous waste impoundments.

**e. Impoundments that Meet the RCRA "No Migration" Standard  
Should be Exempt from Phase IV Surface Impoundment Controls**

AISI supports EPA's proposal to exempt from any Phase IV controls impoundments that meet the statutory "no migration" standard. The LDR provisions of RCRA explicitly state that wastes that are otherwise prohibited from land disposal can be placed in a land disposal unit if "it has been demonstrated to the [Agency], to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit ... for as long as the waste remains hazardous." 42 U.S.C. §§ 6924(d)(1), (e)(1), (g)(5). Thus, there is no statutory authority for applying Phase IV controls to "no migration" units. AISI is concerned, however, that EPA is interpreting the "no migration" standard in an inappropriate and unnecessarily stringent manner. Under the Agency's current interpretation, it is doubtful whether any non-hazardous waste surface impoundments would qualify as "no migration" units. Accordingly, an exemption for "no migration" units is unlikely to provide any meaningful relief from Phase IV LDR controls. AISI believes that under a proper interpretation of the "no migration" standard, some non-hazardous waste impoundments might be exempt from Phase IV LDR requirements. For this reason, AISI urges EPA to reconsider its interpretation of the statutory standard.

**f. Impoundments that Receive Only De Minimis Quantities of  
Formerly Characteristic Wastes Should be Exempt from Phase IV  
Surface Impoundment Controls**

**g. Impoundments that Elect the Pollution Prevention Compliance  
Alternative Should be Exempt from Phase IV Surface  
Impoundment Controls**

AISI supports EPA's proposal to provide a pollution prevention compliance alternative for facilities that otherwise would have to comply with the requirements of the Phase IV rule. As the Agency pointed out in the preamble to the proposed Phase III rule, the court in Chem Waste II indicated that one of the chief goals of the LDR program is to reduce the total mass loading of hazardous constituents entering the environment. 60 Fed. Reg. at 11,713. Pollution prevention is one obvious method for achieving this goal. Accordingly, it should be allowed as an alternative to

treatment, if it can achieve reductions in total mass loading that are comparable to what would be achieved if the wastes in question were treated to meet the UTS.

AISI, however, urges EPA to make the pollution prevention compliance alternative as flexible as possible, so as to maximize its potential usefulness, consistent with statutory goals.

For

example, AISI supports the Agency's apparent position that pollution prevention measures could be applied to any of the wastes entering a surface impoundment, and not just the formerly characteristic wastes. See 60 Fed. Reg. at 11,713. Obviously, the source of the hazardous constituents is unimportant from an environmental perspective. If the mass loadings can be reduced most cost effectively by engaging in pollution prevention with respect to wastes other than the formerly characteristic wastes, there is no reason to require that the reductions come from the formerly characteristic wastes.

AISI also supports the idea of allowing "trading" between pollutants, so that reductions in the mass loading of one constituent through pollution prevention can reduce or even eliminate the need to treat other constituents. See 60 Fed. Reg. at 11,714. If two constituents have similar health effects, there is no apparent reason why the Agency should require that reductions be made for one constituent, rather than the other. The statutory mandate is to minimize risks from whatever source they arise, not to minimize risks associated with particular hazardous constituents. Accordingly, the Agency should authorize trading between pollutants, just as it has done, or has proposed to do, in other related contexts. See, e.g., 40 C.F.R. § 266.106(c)(2) (establishing an overall limit for carcinogenic metals, as opposed to separate limits for individual metals, in emissions from boilers and industrial furnaces that burn hazardous wastes); 40 C.F.R. § 63.112(a) (establishing a single limit for total organic HAPs, rather than separate limits for individual HAPs, in emissions from synthetic organic chemical manufacturing facilities); 59 Fed. Reg. 15,504, 15,548-63 (April 1, 1994) (proposing to allow limited "trading" between the emissions of individual HAPs, pursuant to section 112(g) of the Clean Air Act).

**a. Biological and Post-Biological Impoundments Should Be Exempt from Any New RCRA Leak Controls**

According to the preamble to the Phase IV proposal, the reason for considering the imposition of surface impoundment leak controls under the LDR program is to ensure that the underlying hazardous constituents in restricted, formerly characteristic wastes are genuinely being treated, rather than simply being released from a surface impoundment into the groundwater underlying the facility. However, if the wastes are being subjected to biological treatment either before they are placed in the impoundment or while they are in the impoundment, there is no

reason to be concerned that the constituents are simply being released into the groundwater. In the absence of any such concern, the impoundments should not be subject to additional leak controls under the LDR program.

**b. Impoundments Subject to RCRA Corrective Action Should Be Exempt from Any New Leak Controls**

As discussed above, approximately half (if not more) of all facilities with impoundments that receive formerly characteristic wastes are TSDFs which are subject to EPA's corrective action authority under RCRA. This authority extends to all SWMUs at the facilities, including any non-hazardous waste surface impoundments that may be present, and thus can be used to address the leaks that are of concern in this rulemaking. Because adequate authority already exists to address leaks from non-hazardous waste impoundments at TSDFs, these facilities should be exempt from any leak control requirements that may be promulgated in the Phase IV rulemaking.

In the case of TSDFs with permits, RCRA § 3004(u) requires the permits to address releases from all SWMUs located at the facility, including non-hazardous waste surface impoundments. Specifically, these facilities must perform facility assessments and/or investigations to identify and evaluate releases from known SWMUs. In addition, they must clean up such releases as necessary to protect human health and the environment. Finally, these facilities generally are required to take similar steps for SWMUs and releases that may be discovered in the future. In these ways, EPA can be assured that leaks from non-hazardous waste impoundments at permitted facilities are already adequately being addressed. Accordingly, no new leak control regulations for permitted facilities are warranted under the LDR program.

In the case of TSDFs operating pursuant to interim status, RCRA § 3008(h) authorizes EPA to issue interim status corrective action orders on a site-specific basis. Such orders can cover all SWMUs at the TSDF, including non-hazardous waste surface impoundments, and can require identification, evaluation, and cleanup of releases from such units, just as in the case of permitted facilities. As a result, adequate cleanup authority already exists for leaks from non-hazardous waste surface impoundments at interim status TSDFs. EPA has also been extremely aggressive in exercising this authority. Accordingly, interim status TSDFs should be exempt from any leak control requirements that may be promulgated under the Phase IV rule. At a minimum, interim status facilities should be exempt from such controls in the following circumstances:

- (1) If the facility already is actively engaged in corrective action for releases from its



non-hazardous waste surface impoundments (in which case the releases of concern clearly are being directly addressed);

- (2) If the facility is currently subject to an interim status corrective action order (in which case EPA already is focused on risks that may be present at the facility and a mechanism already exists for quickly addressing any risks that may be determined to be significant);
- (3) If the facility is ranked "high" or "medium" priority on the National Corrective Action Priority System ("NCAPS") list (in which case the Agency has already reached a tentative conclusion about potential risks at the facility and can be expected to take corrective measures in the near future);
- (4) If the facility has already been investigated and a determination has been made that there are no leaks that warrant corrective action; or
- (5) If the facility is currently undergoing an investigation..

**c. Impoundments Subject to State Groundwater Protection Programs  
Should Be Exempt from Any New RCRA Leak Controls**

As EPA acknowledges in the preamble to the Phase IV proposal, many states have groundwater protection programs that apply to non-hazardous waste surface impoundments managing formerly characteristic wastes. Several of these programs include groundwater monitoring and corrective action requirements similar to those that are currently under consideration by EPA as part of the Phase IV rule. Clearly, where such state programs exist, no additional federal controls are necessary. Accordingly, surface impoundments subject to such state regulatory programs should be exempt from any Phase IV leak controls.

AISI is concerned, however, that EPA may limit the exemption in question to surface impoundments subject to state programs that are virtually identical to the federal controls currently under consideration. This approach would unnecessarily restrict the exemption and could render it almost entirely meaningless. After all, few, if any, state programs can be expected to replicate exactly federal regulations that are as of yet unwritten. The existing state programs, however, may be adequately protective of human health and the environment. For example, a state program may not explicitly address the full range of UTS constituents, but may address constituents that have been determined (on a site-specific or generic basis) to be the most important parameters or suitable indicators for other key parameters. Similarly, a state program may not use the same corrective action triggers as the federal program, but may use a different set of triggers that have been determined to be appropriate, based on the character and likely use of the underlying groundwater. AISI encourages EPA to adopt a flexible approach for implementing

this regulatory exemption, so that unnecessary burdens can be avoided, while protecting human health and the environment.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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3. Any New Air Emission Control Regulations Promulgated by EPA Should Be Tailored to Address the Risks of Concern

If, despite the arguments presented above, any non-hazardous surface impoundments managing formerly characteristic wastes are not exempted from the Phase IV rule and therefore become subject to the requirements of Subpart CC, the resources spent in regulatory compliance would not significantly further the goals of the land disposal restrictions program. According to the preamble to the Phase IV proposal, the reason for considering the imposition of air emission controls under the LDR program is to ensure that the underlying hazardous constituents in restricted, formerly characteristic wastes are genuinely treated, rather than simply volatilized into the air. In the present case, however, there can be no doubt that the formerly characteristic wastes in question are subjected to bona fide biological treatment prior to placement into a surface impoundment, even if such treatment does not achieve the stringent requirements for efficiency set forth in the Subpart CC rules. Accordingly, additional air emission controls are not needed to ensure that hazardous constituents are not simply being transferred into the atmosphere.

RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated

in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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4. Any Sludge Control Regulations Promulgated by EPA Should Exempt Certain Key Categories of Sludges

As discussed above, AISI believes that EPA can and should continue to rely on existing regulatory programs to address sludges removed from non-hazardous waste surface impoundments that manage formerly characteristic wastes. See Section II.C.3. AISI also believes that requiring such sludges to be treated to meet the UTS standards for all underlying hazardous constituents would unnecessarily impose exorbitant costs on domestic industry. For example, one AISI member company has estimated that it would cost approximately \$150 to \$250 per ton to treat the sludges removed from surface impoundments associated with cokemaking operations for the organic hazardous constituents that they contain (using either low-temperature or high-temperature thermal desorption). Based on an estimated 1,000,000 cubic feet of sludge in just one such surface impoundment, the total cost of treatment for the sludges in the single impoundment would be between \$3.75 million and \$6.25 million (not counting other expenses, such as the costs of removing, transporting, and ultimately disposing of the sludge). These costs cannot be justified, given existing regulatory controls that already adequately address the risks of concern. Accordingly, EPA should not establish any sludge controls as part of the Phase IV rule.

According to the preamble to the Phase IV proposal, the reason for considering the imposition of surface impoundment sludge controls under the LDR program is to ensure that the underlying hazardous constituents in restricted, formerly characteristic wastes are genuinely treated, rather than simply transferred into the sludge and released into the environment at another site. However, if the wastes are subjected to biological treatment either before they are placed in the impoundment or while they are in the impoundment, there is no reason to be concerned that the constituents are simply being transferred into the sludge. In the absence of any such concern, the sludge should not be subjected to additional controls under the LDR program.

As noted above, facilities with RCRA permits or operating pursuant to interim status are subject to corrective action for SWMUs located at the facility. Non-hazardous waste surface impoundments managing formerly characteristic wastes clearly qualify as SWMUs. Thus, any releases from these impoundments are already subject to EPA's corrective action authority if they

are located at permitted or interim status TSDFs. EPA obviously could use this authority to require removal of sludges from an impoundment. Likewise, it could require that such sludges, once removed, are managed in a protective manner, either on-site or off-site. In this way, the risks associated with sludges generated at these facilities already can be adequately addressed under existing regulatory authorities. Accordingly, these sludges should be exempt from any Phase IV sludge controls.

Sludges disposed at facilities that meet the federal criteria for new municipal solid waste landfills under Subtitle D of RCRA also should be exempt from any new controls that may be promulgated under the Phase IV rule. The Subtitle D criteria were developed specifically to address the risks associated with the disposal of non-hazardous solid wastes. The criteria require, among other things, that landfills install liners, conduct groundwater monitoring, and engage in unit-specific corrective action, as necessary to protect human health and the environment. See 40 C.F.R. Part 258. These criteria ensure that hazardous constituents in non-hazardous solid wastes are not freely being released into the environment. Indeed, EPA has proposed to use these same criteria as the basis of leak controls for surface impoundments under the Phase IV rule. To the extent that the Subtitle D criteria are deemed adequately protective for leaks, they should also be deemed adequately protective for sludges. Accordingly, sludges disposed at facilities that meet the Subtitle D criteria should be exempted from further controls under the Phase IV rule.

Sludges disposed at facilities that meet applicable state regulatory requirements likewise should be exempt from any Phase IV controls. As in the case of the federal Subtitle D criteria, state requirements for industrial landfills are designed to address the risks associated with disposal of non-hazardous wastes, such as sludges. Indeed, these requirements are frequently tailored to the particular risks posed by individual landfills. In light of the protections afforded by these state requirements, additional controls under the LDR program are not warranted. Thus, sludges disposed at facilities that meet applicable state regulatory requirements should be exempt from any Phase IV sludge controls.

Finally, EPA should clarify that sludges destined for reclamation would not be subject to any requirements under the Phase IV rule. Under the RCRA regulations, sludges destined for reclamation are classified as solid wastes only if they are explicitly listed as hazardous wastes. See

40 C.F.R. § 261.2, Table 1. Non-hazardous sludges from surface impoundments that receive formerly characteristic wastes clearly are not listed as hazardous wastes and therefore are not solid wastes when destined for reclamation. As non-wastes, these sludges are not subject to any requirements under the LDR program. See, e.g., 55 Fed. Reg. at 22,660 ("EPA ... will continue to provide exclusions from the land disposal restrictions for waste excluded from the definition of hazardous or solid waste under 40 CFR 261.2-.6."). Accordingly, sludges destined for reclamation must be excluded from the requirements of the Phase IV rule.

## RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P036  
COMMENTS AMER. IRON AND STEEL INST.  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 036  
COMMENT

E. EPA Should Not, and Indeed Cannot, Require Formerly Characteristic Wastes to be Treated to Minimize Risks Before Being Placed in a Surface Impoundment

The third and final option proposed by EPA to control potential cross-media transfers of hazardous constituents from non-hazardous waste surface impoundments receiving formerly characteristic wastes is to require that those wastes be treated to meet all applicable UTS standards prior to being placed in the impoundments, except in those cases where the impoundments meet the RCRA minimum technology requirements or the statutory "no-migration" standard. 60 Fed. Reg. at 43,675. EPA has indicated in the preamble to the proposed rule that it does not favor, and thus is not recommending, adoption of this "Option 3" approach, as it would cause costly and unwarranted disruption of existing wastewater treatment systems, and would "destroy the very accommodation between the CWA and RCRA upheld by the D.C. Circuit" in *Chem Waste II*. Id. at 43,659, 43,675.

AISI agrees with EPA that proposed "Option 3" would be enormously disruptive of industrial wastewater treatment processes and is not necessary to protect human health and the environment. As previously discussed, existing state and federal regulations are adequate to protect against excessive cross-media transfers of hazardous constituents from formerly characteristic wastes that are managed in non-hazardous waste surface impoundments. Moreover, Option 3 would impose exorbitant costs on the regulated community. For example, one AISI member company expects that, if EPA were to adopt Option 3, it would have little choice but to replace its CWA surface impoundments with tank-based treatment technologies, at a cost of approximately \$100 million at just one of its integrated iron and steelmaking facilities. Clearly, these costs cannot be justified by the negligible benefits of adopting Option 3. Accordingly, under the principles set forth in Executive Order 12,866, the Agency must reject that option.

Perhaps even more importantly, as EPA has observed, "the Court [in *Chem Waste II*] clearly did not intend to require that treatment standards be met invariably by treatment preceding impoundment-based management systems." 60 Fed. Reg. at 43,656. On the contrary, the D.C. Circuit explicitly recognized that:

RCRA section 1006(b)(1) contemplates some accommodation with existing CWA



systems; to strictly apply each RCRA prohibition [prior to placing decharacterized wastes into a surface impoundment that is part of a CWA treatment system] would nullify section 1006(b)(1) and, we think, would be untrue to Congress's intent.

Chem Waste II, 976 F.2d at 24. Thus, the Court ruled that decharacterized wastes that do not yet meet all applicable LDR treatment standards may be placed in CWA-regulated surface impoundments so long as the ultimate discharge from the facility satisfies those standards. *Id.* at 23-24. EPA's proposed Option 3 would "effectively invalidate[]" CWA treatment systems, without regard to the actual performance of those systems, and therefore would contravene section 1006(b)(1) of RCRA. For this reason, Option 3 must not be adopted in the final Phase IV rule. See 60 Fed. Reg. at 43,677.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P041  
COMMENTS Sterling  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 041  
COMMENT

While Sterling continues to believe that the Chem Waste court's reading of RCRA is labored at best, and far exceeds the statutory mandate, we believe that EPA has developed a framework, which, with important clarifications and minor revisions, responds to this opinion and attempts to provide reasonable accommodation between the two regulatory schemes. Sterling endorses the general comments being submitted today by the Chemical Manufacturers Association ("CMA") on both the treatment equivalency issues related to Clean Water Act ("CWA") impoundments and on the underground injection well issues.

Option One, which essentially defers to the Phase III proposal and the Clean Water Act and other existing regulatory schemes to ensure equivalent treatment of underlying hazardous constituents, is the only legally-supportable approach that EPA can take. Having said that, Sterling urges EPA to evaluate and respond to all comments on the Phase III rule (including the point of generation issue raised in that rulemaking) before it finalizes the Phase IV proposal. The comments on the two rulemakings should be evaluated by the same EPA staff and considered together because the issues are very intertwined.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

EPA evaluated and responded to all comments on the Phase III rule, before finalizing the Phase IV rule. EPA's responses to comments received on the Phase III proposed rulemaking are contained in the Comment Response Document developed for the Phase III final rule, which is included in the docket for the Phase III final rulemaking.

The Agency notes the commenter's support for the comments submitted by the CMA.

DCN PH4P041  
COMMENTS Sterling  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 041  
COMMENT

Sterling endorses, and incorporates here by reference, the comments submitted by CMA's Underground Injection Control Task Group ("UIC Group") on the impact of the Phase IV proposal on underground injection wells. Sterling is particularly concerned about the potential impact of the proposal on Class I wells that are operating with no migration petitions. Specifically, EPA should clarify that, for Class I wells operating with approved no migration petitions: (1) the LDRs do not apply to decharacterized wastes; and (2) waste codes for newly-listed or characteristic wastes may be added as a non-substantive revision to the approved petition. And EPA should revise the notification requirements, as proposed, to reduce reporting burdens for Class I wells with approved petitions.

The CMA UIC Group has elaborated on each of these issues, and Sterling will not repeat those comments. We do want to emphasize, however, that the entire point of the no migration petition process is to demonstrate, consistent with RCRA's directive, that injected waste will remain safely confined within the injection zone as long as the waste remains hazardous. If the wastestream that was the subject of the extensive analysis and modeling undertaken during the petition process has not changed, but rather it is EPA's method of characterizing the waste that has now changed, there is no legally supportable basis for requiring a modification to the petition.

**RESPONSE:**

The Agency notes the commenter's support for the comments submitted by CMA's Underground Injection Control Task Group.

Facilities that inject newly identified and listed wastes and/or mineral processing wastes covered in the Phase IV final rule into Class I injection wells, will have to make a demonstration of no migration to be relieved of the prohibitions for these wastes. However, the Agency understands that none of the facilities affected by the Phase IV final rule that dispose of such wastes in Class I injection wells transport their waste off-site or have the necessary capacity to treat their waste on-site by BDAT. For those facilities affected by the prohibitions which are unable to make a successful no-migration demonstration, and/or are unable to meet the requirements of other treatment options promulgated in the Phase IV final rule, constructing a treatment facility on-site

would be the only permissible alternative in meeting LDR treatment standards for their hazardous wastes. The Agency understands that constructing a treatment facility on-site would require a substantial amount of time and effort. Therefore, the Agency is granting a two-year national capacity variance for these wastes.

The commenter suggested that EPA state that additional of waste codes to a no-migration petition should be considered a non-substantive revision. This issue is outside the scope of the Phase IV rules. The commenter should contact the USEPA Office of Water.

DCN PH4P041  
COMMENTS Sterling  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 041  
COMMENT

In general, Sterling supports EPA's efforts to craft a set of regulations that both respond to the court's decision in Chemical Waste Management v. EPA, ("Chem Waste") and that seek the accommodation between the Clean Water Act and RCRA that the statute demands.

While Sterling continues to believe that the Chem Waste court's reading of RCRA is labored at best, and far exceeds the statutory mandate, we believe that EPA has developed a framework, which, with important clarifications and minor revisions, responds to this opinion and attempts to provide reasonable accommodation between the two regulatory schemes. Sterling endorses the general comments being submitted today by the Chemical Manufacturers Association ("CMA") on both the treatment equivalency issues related to Clean Water Act ("CWA") impoundments and on the underground injection well issues.

In requiring EPA to address the treatment of hazardous constituents of non-hazardous wastes, the Chem Waste court misreads RCRA and imposes an undue burden on the regulated community, with no corresponding environmental benefit. In fact, EPA has acknowledged that it is compelled to address the treatment equivalency issue at this time, although if left to its own devices, it would probably have higher environmental priorities. 60 Fed. Reg. 43,656 colt 2 (1995). The Chem Waste court was wrong and EPA's proposal to impose any requirements beyond Option One would be equally wrong.

Sterling manages decharacterized wastewater in a land-based surface impoundment system that discharges to a POTW. Sterling has invested \$36,000,000.00 in the past six years to upgrade its treatment system to meet the requirements of three significant rulemakings that affected its wastewater management: the Organic Chemicals, Plastics, and Synthetic Fibers or OCPSF pretreatment standards; the NESHAP for benzene; and the Toxicity Characteristic rule, or TC. We are also subject to the Hazardous Organic NESHAP, or HON rule, and are facing pending MACT standards. In addition, we are a permitted TSDF and thus are subject to Corrective Action requirements. Sterling, therefore, supports EPA's proposal

to assume that impoundments located at permitted TSDFs are subject to sufficient regulatory control, and thus achieve equivalent treatment for purposes of the Chem Waste court's ruling, and therefore should not be subject to further regulation under the proposed Phase IV rules. If Sterling were otherwise subject to the phase IV proposal, however, Option One is the only proposed option that would make any sense at the Sterling facility given the existing, intense regulation of the wastewater in question and the system that manages it. Sterling's support of Option One is qualified, however, unless EPA corrects a fatal flaw in the underlying scheme proposed in the Phase III rule.

While Sterling supports EPA's proposal in Phase III to defer to the Clean Water Act standards for equivalent treatment determinations, EPA has imposed a treatment standard for total cyanide(TCN) in wastewaters managed in CWA systems that cannot be met by the best demonstrated available technology. Sterling operates a treatment system for its sodium cyanide wastestream that includes both thermal decomposition and alkaline chlorination--yet, the TCN limit of 1.2 ppm promulgated as a universal treatment standard ("UTS") for TCN in DO18 wastewaters cannot be achieved on a consistent basis. Sterling and DuPont (DuPont owns, Sterling operates the unit in question) submitted a complete treatability data set to EPA in the Phase III context, which we incorporate here by reference. While we raised this issue with the Agency in the Phase III context, we mention it again in our Phase IV comments because Option One essentially defers to the Phase III solution for determining equivalent treatment of decharacterized wastewaters managed in CWA systems. Unless EPA's proposal in Phase III is legally sound, its reliance on Phase III in this Phase IV rulemaking as the Option One solution will be legally flawed.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As

a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P042  
COMMENTS Monsanto  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 042  
COMMENT

The Agency clearly should opt to select Option 1, electing not to promulgate LDR-based standards related to possible releases from impoundment based systems. The Agency's own analysis clearly demonstrates that there is little risk associated with these potential releases, but that the Agency feels it "is required to address these issues at this time although there may have been higher environmental priorities if EPA had sole discretion to order its agenda." (60 FR43656, 8/22/95) Further, the comments submitted by CMA demonstrate that the Agency's analysis of risk grossly overstates any actual risk that may be caused by these releases.

Even if there had been a finding of risk, it is clear that such risk would be associated with possible pathways that are fully subject to the authorities that the Agency has from other statutory sources.

Air emissions are subject to regulation under the Clean Air Act and at least five (5) other rulemakings are completed or underway to address impoundments under CAA Section 112.

Groundwater protection can be addressed under Subtitle D of RCRA and in fact many states have moved to do this. A CMA study has demonstrated that all 50 states have regulatory programs in place for non-hazardous wastes. In the 25 states which account for 83% of the wastewaters managed in surface impoundments: 1) all require monitoring to protect surface waters, 2) 19 have liner requirements, and 3) 19 require groundwater monitoring. While some will argue that these rules need to be strengthened, clearly that is the question that should be addressed via state programs and not the question of whether we should stretch the federal hazardous waste treatment rules to regulate non-hazardous impoundments. EPA has the authority under RCRA SUBTITLE D to assist the states through the development of guidelines for the regulation of non-hazardous waste management. EPA and the states have in fact recently established a multi-stakeholder dialogue group to that end, including EPA, state, environmental group, generator industry and disposal industry representatives. Section 1006(b) of RCRA requires the EPA to "avoid duplication to the maximum extent practicable" with the provisions of other

statutes. We urge the Agency to do that, selecting Option 1 in this rulemaking.

Finally, it must be noted that the Phase IV rulemaking, as directed at potential releases from surface impoundments, is not driven by any mandate of the underlying court decision (*Chemical Waste Management v. EPA*, 976 F. 2d 2, 1992). EPA itself has noted that "The court did not explicitly state that its equivalence test, or any other part of the opinion, necessitated control of all hazardous constituent releases from surface impoundments." The court did address the need to seek treatment that is equivalent to usual RCRA treatment, but "The focus here is on the wastewaters being treated, and the amount of hazardous constituents removed from those wastewaters, not other types of wastes (like sludges) or other types of releases." (60 FR 43656, 8/22/95).

Again, we urge the Agency to adopt Option 1 of its August 22 proposal. Regulations of possible releases to air and groundwater under Land Disposal authorities is not warranted, is not driven by the court decision, and is more properly addressed under other statutes.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P044

COMMENTS American Forest & Paper Association

RESPONDER HM

SUBJECT EQUV

COMMENT • Sludges comprise a new treatability group and are not, therefore, covered by the LDRs unless they exhibit a hazardous characteristic.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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DCN PH4P044

COMMENTS American Forest & Paper Association

RESPONDER HM

SUBJECT EQUV

COMMENT Sludges Generated In CWA Treatment Impoundments Comprise A New Treatability Group And Are Not Therefore Covered By The LDRs Unless The Sludges Are Themselves A Characteristic Hazardous Waste. As part of the final Third-Third Rule, EPA developed specific "decision rules" (hereinafter, "treatability group rules"), which make absolutely clear that non-hazardous sludge generated during treatment of characteristic wastewater is not "prohibited waste" and not subject to LDR regulations. See 55 Fed. Reg. 22520, 22661-662 (June 1, 1990). Nobody challenged the Agency's conclusion in the CWM litigation. In its Phase IV proposal, EPA aptly observes that the CWM court did not address -- let alone remand or vacate -- the treatability group rules, which, in EPA's own words, mandate that "wastewater treatment sludges not exhibiting a characteristic are not prohibited wastes, notwithstanding that they may derive from prohibited wastewaters." 60 Fed. Reg. 43654, 43656, col.3 (Aug. 22, 1995). Because the CWM litigation left the treatability group rules intact, EPA must follow them and refrain from imposing special LDR regulations on non-hazardous sludge. Treatability Group Rules. EPA developed the treatability group rules in an effort to spell out exactly how LDR regulations apply to wastestreams that change physical form (i.e. change "treatability group") during treatment. The Agency made a special effort to clarify how the regulations apply -- and don't apply -- to circumstances where suspended solids settle out of wastewater to form sludge. As EPA put it, The question of whether a given waste is going to prohibited land disposal is complicated by the fact that wastes may change treatability groups after undergoing treatment. For example, treatment of a wastewater often generates a non-wastewater sludge as well as a treated wastewater. 55 Fed. Reg. at 22661, col. 1 (June 1, 1990). After careful consideration, EPA concluded that LDR regulations do not apply to non-hazardous material that results from the treatment of characteristic wastes unless such non-hazardous material is in the same treatability group as the characteristic waste. 55 Fed. Reg. at 22661, col. 3. EPA stated that "this approach is necessary to ensure that [LDR treatment levels] are met by treatment and not by dilution." 55 Fed. Reg. at 22661-62. EPA specifically determined that LDR regulations do not apply to

non-hazardous sludge generated from the treatment of wastewater that exhibits a hazardous characteristic. EPA used the following example to illustrate how the rule works: Wastewater J is EP toxic for lead. It is treated in a tank and generates a sludge K, that is non-hazardous. The treated wastewater L, which no longer exhibits a characteristic, is then sent to a surface impoundment for further treatment, after which it is discharged under an NPDES permit. The sludge is sent to a landfill. The sludge K is not a restricted hazardous waste, notwithstanding that it derives from treatment of a characteristic hazardous waste. This is because it is a new treatability group which is not hazardous at the point of generation. The status of wastewaters J and L is determined by the special rules for characteristic wastes managed in CWA systems; therefore, they are prohibited wastes but are not subject to a dilution prohibition. Since wastewater L meets the treatment standard when it is land disposed, the disposal is legal. 55 Fed. Reg. at 22662, col. 1 (emphasis added). Conclusion. The treatability group rules clearly place non-hazardous sludge beyond the scope of the Phase IV rulemaking. Moreover, the rules shed light on why the CWM Court did not require EPA to develop special LDR regulations for sludge. The D.C. Circuit carefully read the Third-Third Rule, including EPA's explicit discussion of its treatability group concept, and concluded that LDR regulations don't apply to sludge. It therefore held that RCRA equivalency could be achieved through the treatment of wastewater only. In EPA's own words, [The CWM Court did not say] that hazardous constituents in deposited sludges must be treated. The court in fact did not speak to the principle stated by EPA in the Third Third rule that generation of a new treatability group is considered to be a new point of generation and thus a new point for determining whether a waste is prohibited. 55 FR at 22661-662. Under this principle, unchallenged in the litigation, wastewater treatment sludges not exhibiting a characteristic are not prohibited wastes, notwithstanding that they may derive from prohibited wastewaters. 60 Fed. Reg. at 43656, col. 3 (Aug. 22, 1995). To comply with the CWM opinion and its own treatability group rules, EPA must therefore exclude sludge from the Phase IV rule.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems

regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P044

COMMENTS American Forest & Paper Association

RESPONDER SS

SUBJECT EQUV

COMMENT For the reasons summarized below and discussed in detail throughout these comments, AF&PA's agrees that Option 3 should be rejected and urges that EPA adopt Option 1. • End-of pipe equivalence is all that the Chemical Waste Management decision or RCRA requires. EPA need not, therefore, consider controls for leaks, sludges, or air emissions from Clean Water Act surface impoundments that manage decharacterized corrosive waste.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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DCN PH4P044

COMMENTER American Forest & Paper Association

RESPONDER SS

SUBJECT EQUV

COMMENT • The proponent of Options 2 and 3 has not come forward with any factual basis supporting either alternative. EPA must, therefore, reject both Options. • If EPA nonetheless decides to examine Phase IV controls, it correctly concluded that "bare releases" do not trigger LDR requirements. • EPA should tailor its Phase IV rule decision to each industry studied in the RIA.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P044

COMMENTS American Forest & Paper Association

RESPONDER SS

SUBJECT EQUV

COMMENT • EPA has twice postponed the effective date of the Subpart CC rules so it can reassess fundamental elements of the rule, its underlying test method, risk assessment, and applicability principles. EPA should not, therefore, base any part of the Phase IV risk assessment or control options on Subpart CC until EPA completes this review.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P044

COMMENTS American Forest & Paper Association

RESPONDER SS

SUBJECT EQUV

COMMENT • EPA has correctly rejected Option 3.

RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P044

COMMENTER American Forest & Paper Association

RESPONDER SS

SUBJECT EQUV

COMMENT • The 1% flow limit in the proposed de minimis exception for decharacterized wastewater precludes significant relief to industries that practice aggressive water conservation. • EPA should exclude paper industry pre-biological sludge from Option 2 controls, because the RIA shows no significant risk from this source even at DAF=6. • EPA correctly avoids regulatory duplication by deferring Option 2 controls to other federal programs, such as the paper industry MACT rules. But EPA should defer completely to the MACT rules, even if they have a different trigger level than the Subpart CC rules, because the MACT rules will reduce VOC concentrations in paper industry wastewater by 98% and will essentially obviate methanol and chloroform --the principal paper industry wastewater VOCs -- as constituents of concern.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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COMMENTER American Forest & Paper Association

RESPONDER SS

SUBJECT EQUV

COMMENT Neither RCRA Nor The Chemical Waste Management Decision Require EPA To Impose Land Disposal Restriction ("LDR") Requirements On CWA Surface Impoundments In Addition To The End-Of-Pipe Treatment Standards Already Proposed In The Phase III Rule. In *Chemical Waste Management v. EPA*, 976 F.2d 2 (D.C. Cir. 1992), cert. denied 113 S.Ct. 1961 (1992) ("CWM"), the U.S. Court of Appeals for the District of Columbia remanded portions of the Agency's Third Third Rule that established a "deactivation" treatment standard for ignitable, corrosive, and reactive ("ICR") wastes. The Court did so because deactivation could be accomplished by dilution, which although a permissible treatment method for certain ICR wastes, did not necessarily address underlying hazardous constituents ("UHCs") that may be present in decharacterized wastestreams. Id. at 16-18. The D.C. Circuit found that deactivation of corrosive wastes by dilution was a legitimate treatment method, but it could be used as the exclusive treatment method only if any UHCs present in the characteristic wastes are treated to the same extent as they would be in non-CWA treatment facilities. Significantly, the Court recognized that "RCRA requires some accommodation with [the] Clean Water Act" and, to that end, authorized "minimized threat" treatment to occur in land-based surface impoundments. Id. at 20, 23-24. All the Court required is that "what leaves a CWA treatment facility can be no more toxic than if the waste streams were individually treated pursuant to the RCRA treatment standards." Id. at 20. EPA refers to this requirement as the "equivalency determination." The Agency has addressed what it calls end-of-pipe-equivalence in its March 2, 1995 proposed Phase III Rules. In general, AF&PA endorsed the Agency's general Phase III approach, which equated CWA effluent limitations with minimized threat levels. But AF&PA told the Agency that end-of-pipe-equivalence was all that the CWM Court required. Although EPA candidly disclosed in the preamble that it had higher environmental priorities, it nonetheless issued its Phase IV proposals because it was compelled to do so by a settlement agreement with some of the CWM litigants. 60 Fed. Reg. 43656. That settlement agreement requires only that EPA describe several options beyond Phase III-equivalency, but does not require that the Agency recommend, endorse, or adopt any of

them. *Id.* AF&PA remains of the view that the CWM opinion does not require EPA to impose any LDR requirements beyond those proposed in the Phase III Rules. If the Court intended to require CWA surface impoundments that handle decharacterized wastewater (hereinafter, "CWASIs") to do more than demonstrate end-of-pipe-equivalence, it would have spelled out such additional requirements in its opinion. Instead, it clearly and simply requires a demonstration of end-of-pipe-equivalence and nothing more. The Court rendered a highly technical opinion that resolved litigation among well-financed, motivated parties with significant incentives to direct the Court's attention to all relevant issues. In the ten months between the first petition for review and entry of the Court's decision, the Court reviewed briefs from environmental groups, industry groups, and EPA that thoroughly addressed the consequences of managing decharacterized wastewater in CWASIs, including sludge precipitation and potential leakage and air emissions. Based on the comprehensive information before it, the Court made an informed decision to require CWASIs to demonstrate end-of-pipe-equivalence and declined to spell out any other LDR requirements they must meet. EPA is correct when it observed in the Phase IV preamble that "the court did not explicitly state that its equivalence test, or any other part of the opinion, necessitated control of all hazardous constituent releases from surface impoundments." 60 Fed. Reg. 43656. Given the high stakes and technical nature of the litigation, it strains credulity, and presumes an uncharacteristic degree of sloppiness on behalf of the Court, to assert that the D.C. Circuit intended to impose LDR requirements it did not clearly articulate in its opinion. **The CWM Court Held That End-of-Pipe Treatment Standards For CWASIs Satisfy RCRA LDR Requirements.** The CWM Court held that allowing placement of decharacterized wastewater in CWASIs represents a reasonable accommodation of CWA and RCRA objectives, and therefore satisfies RCRA LDR requirements, as long as material exiting CWASIs is treated to the same extent required by RCRA. See 976 F.2d 2, 23. The Court fully appreciated that decharacterized wastewater is held temporarily in unlined CWASIs and eventually exits or "discharges" into navigable waters of the United States or publicly owned treatment works ("POTW"). *Id.* at 20, 24. The Court also recognized that levels of pollutants in decharacterized wastewater passing the exit point, or "end-of-the-pipe," are regulated by NPDES permits. *Id.* at 20. With full knowledge of

how CWA systems operate, the Court required unlined CWASIs to demonstrate end-of-pipe-equivalence to comply with RCRA -- nothing more. The Court articulated its position at two points in its opinion, in each case making clear that end-of-pipe treatment standards satisfy statutory LDR requirements: [Decharacterized] wastes may be placed in . . . impoundments that are part of an integrated CWA treatment train. However, in order for true "accommodation" to be accomplished, we find that RCRA treatment requirements cannot be ignored merely because CWA [sic] is implicated . . . . Thus, we hold that, whenever wastes are put in CWA surface impoundments before they have been treated pursuant to RCRA to reduce the toxicity of all hazardous constituents, these wastes must be so treated before exiting the CWA treatment facilities. In other words, CWA facilities must remove the characteristic and decrease the toxicity of the waste's hazardous constituents to the same degree that treatment outside a CWA system would. *Id.* at 22 (emphasis added). [D]echaracterized waste [containing hazardous constituents] may be placed in a surface impoundment if and only if the resulting CWA treatment fully complies with § 3004(m)(1). In other words, the material that comes out of CWA treatment facilities that employ surface impoundments must remove the hazardous constituents to the same extent that any other treatment facility that complies with RCRA does. *Id.* at 23 (emphasis added). At no other point in the opinion does the Court specify LDR treatment standards that CWASIs must satisfy to comply with RCRA (save volatilization of VOCs when ignitable wastes are diluted). Therefore, no additional LDR standards are required. The CWM Court Did Not Require LDR Regulations Addressing The Sludge That Forms In CWASIs. The Court made an informed decision not to require EPA to promulgate special LDR regulations addressing sludge that is formed in CWASIs. Instead, the Court held that sludge generated from the treatment of decharacterized wastewater in CWASIs is covered by RCRA Subtitle C only if the sludge itself is a hazardous waste. *Id.* at 24, note 10. Briefs submitted by the litigants in the CWM proceeding made the Court well aware that treating decharacterized wastewater in CWASIs results in the precipitation of sludge. See NRDC Petitioners Brief at 64 (Metal-bearing wastewater can evaporate to reconcentrate toxic metals.); Industry Intervenor's Brief at 29 (Treatment in CWASIs removes metals by precipitation.); Industry Intervenor's Brief at 31 (Precipitation of metals into sludge occurs in surface impoundments.); EPA Response Brief at 69

(Treatment of wastewater in CWASIs normally results in the precipitation of metal hydroxide sludges.); EPA Response Brief at 91 (Low TOC ignitable wastes managed in wastewater treatment systems generate non-hazardous sludges.). In support of its position that RCRA's accommodation provision (§ 1006(b)(1)) allows placement of decharacterized wastewater in CWASIs, EPA argued that its Subtitle C regulations would satisfy the RCRA objective of protecting groundwater from toxic constituents of sludge: NRDC Petitioners argue . . . RCRA's groundwater protection standard is not satisfied by CWA regulation of discharges to surface water. NRDC Br. at 64-68. It is true that CWA rules do not explicitly protect groundwater; this is not to say, however, that EPA is precluded under RCRA from balancing CWA and RCRA objectives in integrating the RCRA dilution prohibition and the CWA rules. First, if a regulated hazardous waste -- e.g., a toxic sludge -- precipitates out from non-hazardous wastewaters disposed in the surface impoundment, then that unit becomes subject to subtitle C regulation. 55 Fed. Reg. 39,409, 39,410/3 (Sept. 27, 1990). NRDC Petitioners' assertion that such hazardous sludges could be generated in these impoundments and escape subtitle C is thus simply incorrect. Compare NRDC Br. at 64. EPA Response Brief at 68-69. In its discussion of accommodation of CWA and RCRA pursuant to RCRA § 1006(b)(1), the Court wholeheartedly embraced EPA's position. It held that allowing placement of decharacterized waste in CWASIs is a reasonable accommodation, in part, because RCRA Subtitle C will protect the environment from threats posed by hazardous sludge that may precipitate during treatment. See 976 F.2d at 24, note 10. In the Court's words, [A]s the EPA concedes in its brief, if the stream entering the surface impoundment is not decharacterized, then RCRA requires the impoundment to meet subtitle C requirements. Similarly, any hazardous precipitate or other hazardous material generated during CWA treatment must be managed in accord with subtitle C. *Id.* (emphasis added). The text of the opinion, read in conjunction with the briefs submitted to the Court, therefore shows that the Court carefully considered the issue of sludge precipitation and decided that regulation of sludge is required only if it is a listed or characteristic hazardous waste. If the Court wanted to impose LDR requirements for non-hazardous sludge, it certainly would have made its intentions clear. The CWM Court Did Not Require LDR Regulations Addressing Leakage From CWASIs. The CWM Court focused its analysis exclusively on



DCN PH4P044

COMMENTER American Forest & Paper Association

RESPONDER SS

SUBJECT EQUV

COMMENT the Proponent Of Options 2 And 3 Has Not Come Forward With Any Factual Basis Supporting Either Alternative. Consequently The Agency Should Reject Both Options. The Agency's preamble discussion of Options 2 and 3 is premised on a settlement agreement between the Agency and several CWM litigants ("NRDC Petitioners") in which the Agency agreed "to describe in detail . . . (but not necessarily recommend or endorse) . . . option[s] . . . limiting release[s] from surface impoundments used in CWA treatment systems . . . due to volatilization or leakage, and treatment standards . . . [for] impoundment sludges." 60 Fed. Reg. 43656. But EPA states plainly and candidly in the preamble that creating a regulatory system to address such releases is low among the Agency's priorities when measured against the appropriate standard of whether new rules are necessary to protect human health and the environment. *Id.* The absence of a judicial mandate to engage in Option 2 or Option 3 rulemaking, the Agency's correct assessment that it should devote its resources to higher priority matters, and the failure of the NRDC Petitioners to support their position with data in the record, which we discuss below, together compel EPA to go no further than end-of-pipe- equivalence. Because the CWM Court did not compel the Agency to address leaks, sludges, or air emissions (save those from ignitable wastes) resulting from CWA surface impoundment treatment, the Agency may proceed, if at all, only if the facts and policy considerations warrant creating a substantial new regulatory program. Because it is under no judicial mandate to adopt any such new rules, EPA ought to consider the proponents of such new rules to be petitioners for rulemaking under 40 C.F.R. Part 260, Subpart C. That Subpart, which addresses rulemaking petitions, places on the petitioner the burden of coming forward with "the need and justification for the proposed action, including any supporting tests, studies, or other information." 40 C.F.R. § 260.20(b)(4). Other portions of this rule address specific types of rulemaking petitions and make clear that the burden of proof to support the petition is on the petitioner. For example, petitions for equivalent test procedures "must demonstrate to the satisfaction of the Administrator that the proposed method

is equal to or superior to . . ." the established method. Id.

high volume wastewater that typically passes through CWASIs into navigable waters and POTWs. See 976 F.2d at 24. With respect to such wastewater the Court determined, as discussed above, that end-of-pipe-equivalence satisfies RCRA LDR requirements. The Court did not assess the issue of potential leakage from CWASIs, let alone mandate special LDR requirements to address it. Briefs submitted by the litigants in the CWM proceeding made the Court well aware that the CWASIs had the potential to leak. The NRDC Petitioners continually referred to CWASIs as "unlined" surface impoundments, a term which the Court used to discuss CWASIs in its opinion. Compare NRDC Petitioners Brief at 26, 59, 60 with 976 F.2d at 20. Obviously, the term "unlined" implies the possibility that CWASIs may leak. Likewise, the Court accepted at face value assertions made by EPA and Industry Intervenor that imposing LDR rules on CWASIs would require "major revamping" of CWA treatment systems, in part because CWASIs cannot qualify for "no-migration variances" that would allow them to receive hazardous waste. Compare Industry Intervenor Brief at 33-35 and EPA Response Brief at 64-67 with 976 F.2d at 21. EPA went so far as to assert that sludges produced during treatment in CWASIs "typically leach low, relatively minimal levels of metals" -- a position not inconsistent with the NRDC Petitioners claim that toxic metals can leach from CWA surface impoundments into groundwater. Compare EPA Response Brief at 69 with NRDC Petitioners Brief at 64-68. After a full opportunity to review assertions concerning leakage presented by the litigants, the Court decided to say nothing about it. Perhaps the Court concluded that RCRA's accommodation provision (§ 1006(b)(1)) gave EPA discretion to decline to address leakage in light of the massive disruption and minor environmental benefits that would result. Whatever the Court's reasoning, the fact that it decided not to require LDR rules addressing leakage is unmistakable. Accordingly, EPA cannot invoke the CWM opinion to justify Phase IV regulations. The Court Did Not Assess The Application Of LDR Treatment Standards To Air Emissions From Material Placed In CWASIs. EPA can find no support for across-the-board Phase IV air emission rules in the CWM opinion for the simple reason that, with one limited exception, the opinion did not discuss controlling air emissions from materials placed in CWASIs. The Court confined its discussion of air emissions to the portion of its holding that vacated EPA's deactivation standard for ignitable wastes on the grounds that diluting ignitable wastes emits high levels of

VOCs. See 976 F.2d at 16-17. The Court never addressed whether LDR treatment requirements must cover air emissions from decharacterized corrosive or reactive waste managed in a CWASI.

\* \* \* \* \* As this analysis of the CWM decision shows, the D.C. Circuit confined its pronouncements about RCRA equivalency to wastewaters. EPA recognizes the Court's narrow focus when it said in the preamble "the focus here is on the wastewaters being treated, and the amount of hazardous constituents removed from those wastewaters, not other types of wastes (like sludges) or other types of releases." 60 Fed. Reg. 43656. Thus, EPA's Option 1 is the correct course; the Agency need not promulgate LDR requirements beyond those proposed in the Phase III rules, which meet both the Court's conclusion that "RCRA requires some accommodation with [the] Clean Water Act" and also ensure that "what leaves a CWA treatment facility can be no more toxic than if the waste streams were individually treated pursuant to the RCRA treatment standards." CWM, 976 F.2d at 20.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

at 260.21(a). Petitioners who want to add additional materials to the Universal Waste Rule or obtain variances from classification as a solid waste, must discharge similar burdens. Id. at §§ 260.23, 260.30. Delisting petitions are the "flip-side" of Options 2 and 3, because delisted wastes are not covered by the LDRs. Delisting petitioners "must demonstrate to the satisfaction of the Administrator that the waste produced does not meet any of [certain] criteria . . . ." Id. at § 260.22. Measured against these standards, the NRDC Petitioners have not come forward with a credible, factual basis for creating a broad new LDR regime, let alone carried their burden of proof. The only support offered by NRDC Petitioners is a March 4, 1993 rulemaking comment submitted by the Hazardous Waste Treatment Council, now the Environmental Technology Council ("ETC"). That document consists largely of legal arguments (which we refute above) and contains not one bit of data, not one bit of research to support the proposition that releases from CWA surface impoundment treatment present any risk to human health or the environment, let alone risks that would warrant discretionary rulemaking by the Agency to create what amounts to a "mini-Subtitle C" regulatory program for non-hazardous Subtitle D surface impoundments. The Agency would surely reject a request for such sweeping new rules had it been presented as a petition for rulemaking under § 260.20, because it lacks any factual foundation. AF&PA believes that ETC's position ought to be rejected in the present context as well. Neither EPA nor the manufacturing community has the resources to address low priority, low risk issues supported only by mere assertions of a litigant, which would result in rules that do not advance in any significant way protection of human health and the environment. Thus, EPA should reject Options 2 and 3.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air

emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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COMMENTER American Forest & Paper Association

RESPONDER SS

SUBJECT EQUV

COMMENT EPA Correctly Decided That "Bare Releases" Do Not Trigger LDR

Requirements. AF&PA shows above that no Phase IV rules are required by the CWM decision. But if EPA believes that it must under the settlement agreement at least examine whether it should pursue LDR requirements beyond those proposed in the Phase III rule, then a risk-based approach makes sense. EPA has correctly observed that the CWM Court "intended to allow continued use of treatment surface impoundments to treat decharacterized wastes, provided the extent of treatment is equivalent to usual RCRA treatment." 60 Fed. Reg. 43656. EPA addressed this requirement, which it named "end-of-pipe-equivalence," in the Phase III Rules. In the Phase IV preamble, EPA confronts the issue of whether the judicially decreed accommodation of CWA treatment facilities, which is embodied in EPA's Phase III Rules, is somehow undercut by the assertion that underlying hazardous constituents leak from CWA surface impoundments, partition to sludges generated in those impoundments, or volatilize during CWA treatment. (We say "assertions" because the proponents of additional LDR regulation have not submitted any data supporting these claims.) The question is whether if such releases occur in fact, is that alone sufficient to invalidate the Agency's Phase III determination that CWA treatment comprises RCRA equivalent treatment? EPA is correct when it concludes that "something more than the bare release of a hazardous constituent is needed to trigger this invalidation." 60 Fed. Reg. 43656. First, EPA's conclusion recognizes that "no treatment unit is absolutely release-free (there are certainly releases of hazardous constituents from combustion units, for example) . . . ." 60 Fed. Reg. 43657. Second, the Agency correctly analyzed the CWM decision when it observed that "the Court did not explicitly state that its equivalence test, or any other part of the opinion, necessitated control of all hazardous constituent releases from surface impoundments." 60 Fed. Reg. 43656. EPA concludes based on these observations that EPA's focus should not be confined to whether a bare release has occurred because "the more fruitful inquiry is the extent of the release." 60 Fed. Reg. 43657. AF&PA agrees that "under this reading [of the CWM decision], the Agency could evaluate whether the risk from

the various types of releases is great enough to warrant control." Id. AF&PA also supports EPA's observation that a finding that there is insufficient risk would mean that the impoundment is not engaging in a type of cross-media transfer of untreated hazardous constituents that invalidates its treatment function, and therefore that decharacterized wastes can be treated in the impoundment to effect the necessary accommodation between RCRA and the CWA. Id. Any other reading of the CWM decision would result in complete disruption of long-established CWA treatment processes, would surely disrupt existing EPA Office of Water regulatory programs, and would undercut in-process integrated rulemaking activities for the pulp and paper industry as well as others. Such a "draconian reading," as the Agency put it in the preamble, would also result in treatment for its own sake rather than to affect protection of human health and the environment, contrary to the teaching of *Hazardous Waste Treatment Council v. EPA*, 30 ERC 1233 at 1239 (1989) ("HWTC III"). In that case the D.C. Circuit observed that EPA is [not] free, under § 3004(m), to require generators to treat their wastes beyond the point at which there is no 'threat' to human health or the environment. That Congress's concern in adopting § 3004(m) was with health and the environment would necessarily make it unreasonable for EPA to promulgate treatment standards wholly without regard to whether there might be a threat to man or nature. HWTC III at 1239. The D.C. Circuit confirmed this conclusion in CWM where it stated that, "treatment might be unreasonable . . . if the EPA required treatment of waste that 'posed no threat to human health or the environment.'" CWM at 14. Thus, EPA is correct when it concluded that a bare release is not enough to trigger LDR requirements. If a release does not pose a significant threat to human health and the environment then no additional LDR requirements are necessary.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660).



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COMMENTER American Forest & Paper Association

RESPONDER SS

SUBJECT EQUV

COMMENT EPA Has Twice Delayed The Effective Date Of Subpart CC So That

It Can Reassess Fundamental Elements Of That Rule Including The Underlying Test Method. EPA Should Not, Therefore, Base The Phase IV Air Emission Risk Assessment Or Control Measures On The Subpart CC Rules. EPA's Phase IV risk assessment concerning air emissions, "relied on existing analyses conducted to support the RCRA Subpart CC regulation of air emissions from hazardous wastewater treatment units." RIA at 2-51. These include, presumably, the regulatory impact analysis for Subpart CC and the Background Information Document ("BID"). But the Subpart CC rules are presently undergoing both EPA administrative review and judicial review in large part because of flaws in EPA's risk assessment and BID which underlie the Subpart CC 100 ppmw regulatory threshold, Test Method 25D, and other issues affecting the applicability of the Subpart CC rules. Because of these outstanding issues, the Agency has twice postponed the effective date of the Subpart CC rules. 60 Fed. Reg. 26828 (May 19, 1995), 60 Fed. Reg. 56952 (Nov. 13, 1995). In addition, EPA published on August 14, 1995 a proposed rule and notice of data availability concerning changes to fundamental aspects of the Subpart CC rule including waste determination procedures and the applicability of the rule to units that operate air emission controls under the Clean Air Act ("CAA"). 60 Fed. Reg. 41870. In that Federal Register notice, EPA announced that it "is planning to publish a technical correction notice to the rule . . . and may also propose additional changes to the rule in the near future." Id. In view of EPA's on-going administrative review process, the related judicial review of the Subpart CC rules, and fundamental flaws in the underlying risk assessment and test methodology -- which we discuss below -- EPA should not base any Phase IV Rule decisions on the Subpart CC rule or its underlying analyses. Test Method 25D Produces Artifact VOCs That Bias Test Results. EPA's Phase IV preamble discussion of Option 2 controls for air emissions states that substantive portions of Subpart CC would be "borrowed from that Rule" including "waste determination procedures" that use Method 25D to determine whether the 100 ppmw regulatory level is triggered. 60 Fed. Reg. 43663. AF&PA told EPA in its Subpart CC comments, and in communications with the Agency in connection with its ongoing

administrative review, that Method 25D is seriously flawed because, in essence, it creates VOCs where none otherwise exist. We summarize these comments below. Method 25D employs polyethylene glycol ("PEG") as a matrix for collecting waste samples for analysis. The PEG must, however, be "cleaned up" before use in an actual test procedure to remove organic compounds that may be detected as volatile organics by the test method. Method 25D § 3.1.1, 40 C.F.R. Part 60, App. A. The cleanup procedure involves heating the PEG to 120° C and purging it with nitrogen. Id. NCASI informed EPA (in comments on proposed Method 25D) that PEG thermally degrades during this cleanup process into volatile organic compounds, which are purged at low pH conditions. These VOC artifacts create false positive results that can exceed the 100 ppmw regulatory threshold. NCASI submitted experimental data to EPA, set out below, which demonstrate this effect. EFFECT OF PEG TREATMENT

TEMPERATURE ON BLANK RESPONSE [NOT REPRODUCED HERE] In the final Subpart CC rule, EPA responded to NCASI's comment by lowering the PEG cleanup temperature from 200° C (as proposed) to 120° C. This does not, however, resolve the problem. The above data show that significant levels of volatile organics were found in PEG even when cleaned up at 125° C and 75° C. Extrapolating from these data to a cleanup temperature of 120° C, a sample containing no volatile organics with a pH of 2 would have a measured Method 25D response of 126 ppm. This is well above the regulatory threshold of 100 ppm, even after subtracting the maximum allowed 10 ppm blank level. In other words, using the final Method 25D, a laboratory blank would exceed the final 100 ppmw regulatory threshold even before volatile organic levels in a waste sample (if any) are considered. NCASI experimented with several alternative means of remedying this problem and found that the best approach to correct the bias in Method 25D is to incorporate each of the following points into a revised Method 25D: lower the treatment temperature of PEG to room temperature and increase the purge volume to reach the desired level of VOC removal (48 hours in the case of NCASI's experiments); perform the blank analysis at a pH similar to that of the sample adjusting for both pH and buffer capacity; and allow larger blank levels to be subtracted if the variability of the blank can be shown to be less than 10 ppm VOC. Reducing the cleanup temperature will minimize the PEG artifact response, analyzing the blank at the sample pH will measure the artifact response, and subtracting the blank value will correct for the artifact response. Although the blank response for PEG prepared at room temperature was found to be greater than 10 ppm (Method 25D presently limits blank subtraction to 10 ppm or less), NCASI found that blank levels have been very consistent. Therefore, subtracting a blank level higher than 10 ppm ( $39 \pm 2$  ppm in NCASI's pH 2 example) would not adversely affect the accuracy or precision of the revised method. Given the flaws in Method 25D, which we understand EPA is now addressing in the context of its administrative review, it is not appropriate to incorporate this test method into any possible Phase IV controls. Method 25D Overstates The Organic Volatilization Potential Of Waste Material. Volatility of organic compounds is generally a function of temperature. As the temperature of a waste sample is increased, so does the amount of organics that are driven off. Method 25D requires that waste samples be heated to 75° C

and purged with nitrogen. AF&PA commented to EPA during the

Subpart CC rulemaking that the extremely high heat required by the test protocol does not simulate the conditions used by the Agency to estimate risks from VOC emissions. Consequently, the test method results in regulatory control of wastestreams that would not otherwise contribute to the risks that the rule seeks to reduce. In other words, Method 25D exaggerates the amount of volatile organics in particular wastestreams and results in unnecessary regulation of them when, in fact, these wastestreams would not pose a risk from volatilization of organic compounds under ambient and waste unit operating temperatures. In support of this comment, AF&PA reminded EPA that the Agency used an ambient temperature of 25° C in mathematical models used to estimate nationwide air emissions and the degree of emission control afforded by different control technologies. AF&PA Comments at 7; BID, App. C, p. C-28. EPA also used ambient temperatures in models used to estimate maximum individual cancer risk and air toxics emissions from treatment, storage and disposal facilities ("TSDF"), which the Agency acknowledged are sensitive to temperatures at the TSDF site. 56 Fed. Reg. 33513; BID, App. J, pp. J-9 to J-10. EPA did not, in the final rule, reduce the purge temperature to ambient conditions to bring it into line with the temperature used in its emissions and risk modeling work. EPA explained in the BID that Method 25D was intended to provide only a relative measure of organic emission potential of a waste, rather than measure actual emissions from a waste at an operating facility. Thus, EPA reasoned, it need not use realistic temperatures in the test method. BID at 8-5. But the Agency never explained in any readily discernable fashion how Method 25D distinguishes wastes which contributed to EPA's estimates of risk from those wastes which do not create the risks EPA sought to avoid. In other words, neither the preamble to the final rule, nor the BID presented a rational connection between wastestreams that would be controlled by application of Method 25D and the Agency's emission and risk estimates, which were based on mathematical models that used ambient temperatures.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity,

reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P044

COMMENTER American Forest & Paper Association

RESPONDER SS

SUBJECT EQUV

COMMENT EPA's Phase IV Risk Calculations Show That There Are No Significant Risks Associated With Air Emissions From Pulp and Paper Facilities. EPA established a 100 ppmw significant risk threshold for VOC emissions from surface impoundments. 60 Fed. Reg. 43663. The Agency calculated in the Phase IV RIA that VOC surface impoundment concentrations below this threshold would result in 0.000824 cancer cases per facility annually. RIA 2-51. But EPA also calculated that VOC concentrations ranging from 100 to 500 ppmw would produce essentially the same low risk results of 0.000828. RIA Exhibit 2-20 at 2-51. Consequently, EPA's conclusion that VOC concentrations in surface impoundments above 100 ppmw pose a significant risk that warrants consideration of control measures is incorrect. This flaw is compounded by the Agency's admission that these population risk estimates are based on emissions from both tanks (which are not affected by the Phase IV proposed rules) and surface impoundments. RIA 2-51, note 34. In fact, 80% of the VOC concentration data points used by EPA for this risk estimate were from tanks, not surface impoundments. *Id.* Thus, EPA's Phase IV risk assessment results exaggerate the annual population risk for VOC concentrations by including in those estimates treatment units that are not covered by the Phase IV rules. In fact, the risks from VOC emissions from paper industry surface impoundments are so small that EPA's RIA predicted that imposition of Option 2 control measures would not further reduce the risk. EPA estimated the potential risk reduction for air emissions if Subpart CC controls are imposed on decharacterized wastewaters with VOC concentrations in excess of 100 ppmw. RIA at 2-75. In the baseline case (i.e., no additional controls), EPA estimated a 0.1 baseline annual population risk (cancer cases) for all 565 facilities in the pulp and paper industry. Exhibit 2-28, RIA at 2-73. EPA estimated that the post-regulatory annual population risk is also 0.1; the same risk estimated for no additional control measures. Thus, according to EPA's RIA, there is no benefit to imposing Subpart CC air emission controls on pulp and paper industry surface impoundments. In other words, paper industry surface impoundments already evidence "minimized threat" results for VOC



emissions and therefore meet RCRA § 3004(m) requirements. EPA

should, therefore, reject Phase IV air emission controls for pulp and paper industry facilities.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P044

COMMENTER American Forest & Paper Association

RESPONDER SS

SUBJECT EQUV

COMMENT EPA Has Correctly Rejected Option 3. Under Option 3, decharacterized wastes would have to be treated to meet UTS before they enter into CWA surface impoundments. 60 Fed. Reg. 43655, 43675. AF&PA is gratified to learn that "EPA is not in favor of the third option, as it is likely to disrupt treatment needed for compliance with the CWA limitations and standards, and impose high costs without targeting risks adequately." 60 Fed. Reg. 43655. EPA is entirely correct that Option 3 would disrupt CWA treatment without environmental benefit because it would ignore useful treatment that occurs in paper industry surface impoundments and "force[] modifications at facilities that do, as well as those that do not, pose risks from leaks, air emissions, and sludges." 60 Fed. Reg. 43659. Moreover, Option 3 would render RCRA § 1006(b) a nullity because it would destroy the integration of RCRA and other acts administered by EPA as the Congress commanded. See CWM at 20, 22-23. Finally, it would ignore the CWM Court's finding that "under RCRA diluted formerly characteristic wastes may be placed in Subtitle D surface impoundments that are part of an integrated CWA treatment train . . . before they have been treated pursuant to RCRA . . . ." 976 F.2d 2 at 22. For each of these reasons, EPA has correctly rejected Option 3.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P044

COMMENTER American Forest & Paper Association

RESPONDER SS

SUBJECT EQUV

COMMENT Option 2 Issues. AF&PA has urged in these comments that EPA adopt Option 1 (i.e., end-of-pipe-equivalence satisfies § 3004(m)) and reject Options 2 and 3. We offer the following comments, however, about several facets of Option 2 for the sake of completeness. The Proposed De Minimis Exception For Decharacterized Wastewater Does Not Afford Significant Relief To Industries That Practice Water Conservation. Existing LDR regulations have for some time incorporated a de minimis exception for certain low risk/low quantity wastestreams. See e.g., 40 C.F.R. § 268.1(e)(4) (losses to wastewater treatment systems of certain commercial chemical products) and (e)(5) (laboratory wastes). EPA proposed in its Phase III rules a similar exception for material handling losses, leaks, discharges from safety showers, rinsate from empty containers and for characteristic wastes injected into Class 1 non-hazardous wells. In its comments on the Phase III rules, AF&PA urged EPA to extend the de minimis exception to decharacterized wastestreams that are managed in CWA surface impoundments. Although AF&PA is gratified to see that EPA has proposed a de minimis exception in § 268.1(e)(4)(ii), 60 Fed. Reg. 43691, the 1% flow limit precludes significant relief to industries like ours that practice aggressive water conservation. In 1989, NCASI surveyed its membership to obtain information on wastewater and solid waste management practices, including information on water conservation and reduction in wastewater flow to treatment works. The survey data show that during the period 1975 to 1988, paper mills reduced water use by 27-34%. Even in the short 3-year period from 1985 to 1988, water use was reduced by 7-9%. Significantly, in 1988, it took 70% less water to make a ton of paper than in 1959. NCASI Technical Bulletin No. 603 at 3 (February, 1991) (Technical Bulletin No. 603 is attached as Appendix G). As a result of these aggressive water conservation efforts, wastewater flow to treatment works was reduced by approximately the same magnitude. Between 1985 and 1988, untreated wastewater flows were reduced by approximately 8%. The paper industry reduced wastewater flows by 26-29% during the period 1975 to 1988. *Id.* The end result of the 1% flow limit is to penalize industries that practice water conservation relative to those industries that do

not conserve water. AF&PA believes that EPA did not intend this result. AF&PA would like to meet with EPA to develop a de minimis exception for decharacterized wastewater that affords water conserving industries meaningful relief while protecting human health and the environment. EPA Should Exclude Pre-Biological Sludges From Option 2 Regulation Because Both The Central-Tendency And High-End Risk Assessment Results Show No Significant Risk From This Source For The Pulp And Paper Industry. EPA proposed to exclude from Option 2 controls certain low risk situations including "sludges and leaks from biotreatment and post-biotreatment units . . . due to the lower risks posed by these units." 60 Fed. Reg. 43660. AF&PA agrees that this exclusion is supported by the Agency's risk assessment coupled with the aggressive biological and post-biological treatment that occurs in pulp and paper industry surface impoundments. In addition, this exclusion conforms with the CWM decision, which found that "under RCRA diluted formerly characteristic wastes may be placed in Subtitle D surface impoundments that are part of an integrated CWA treatment train . . . before they have been treated pursuant to RCRA . . . ." 976 F.2d 2 at 22 (emphasis added). EPA's conclusion is further confirmed by the NCASI risk assessment based on new data taken from NCASI's 10-mill study and waste characterization database. For the same reasons, AF&PA urges EPA to exclude pre-biological sludges from Option 2 control requirements. EPA's risk assessment for sludges from the pulp and paper industry show that for both the central-tendency and high-risk scenarios significant health risks do not occur. According to EPA's RIA, "in the . . . pulp and paper . . . industr[y], there are no [sludge] samples expected to pose individual lifetime cancer risks in excess of 10<sup>-5</sup> or RfD exceedences" for the central-tendency risk assessment. RIA at 2-66. Significantly, even for the high-risk scenario using the conservative DAF of 12, EPA concluded that "in the . . . pulp and paper industr[y] there are no significant individual lifetime cancer risks and no RfD exceedences." Id. For these reasons, EPA should exclude paper industry sludges from Option 2 controls. EPA Correctly Avoids Regulatory Duplication By Deferring To Other Federal Rules That Will Protect Human Health And The Environment Such As The Proposed MACT Requirements For The Pulp And Paper Industry. EPA stated in the Phase IV preamble that "to avoid duplication with other requirements, EPA would defer to other federal rules which establish controls addressing the same situations." 60

Fed. Reg. 43660. EPA is correct to do so for at least two reasons. First, RCRA § 1006(b)(1) requires that the Administrator "shall integrate all provisions of [RCRA] for purposes of administration and enforcement and shall avoid duplication, to the maximum extent practicable, with the appropriate provisions of the Clean Air Act. . . ." 42 U.S.C. § 6905(b)(1). Second, EPA recognizes that certain "inefficiencies and confusion could occur if Option 2 controls were applied and soon superseded by upcoming Clean Air Act ("CAA") standards" as in the case of the pending MACT standards for the pulp and paper industry. *Id.* It would make no sense for EPA to impose LDR air emissions standards that are possibly inconsistent with those now being considered by EPA's Office for Air and Radiation. Thus, EPA's proposal to defer to such rules honors both its statutory requirements and the concept of practical regulation. AF&PA understands from the Phase IV preamble that EPA intends to defer completely to the proposed MACT standards for the pulp and paper industry. The Agency stated that In the case of air emissions, EPA would defer to standards regulating total volatile organics, as adequately covering air emissions of UHCs from this type of treatment. In addition to existing regulations, there are some CAA air emission limits under development. Inefficiencies and confusion would occur if Option 2 controls were applied and soon superseded by upcoming CAA standards. Facilities subject to CAA standards for hazardous air pollutants (in particular, those promulgated pursuant to CAA § 112) in the near future thus would not be covered by Option 2 air emission controls. 60 Fed. Reg. 43660. But the RIA suggests that EPA is at least considering giving less than full credit to the MACT standards, because implementation of MACT control technologies may not lower concentrations of VOCs to below the 100 ppm limit being considered for Phase IV Option 2 purposes. RIA ES-5, 2-52. AF&PA urges EPA to give full credit to the MACT standards for the following reasons. First, as we show above, EPA's risk calculations demonstrate that there is no difference in calculated risk between surface impoundments that exhibit VOC concentrations below 100 ppmw (the no significant risk level) and those that exhibit VOC concentrations up to 500 ppmw. RIA Exhibit 2-20 at P-51. The proposed MACT control trigger level is 500 ppmw for process wastewater. 58 Fed. Reg. 66145 and proposed 40 C.F.R. § 63.446, 58 Fed. Reg. 66177 (Dec. 17, 1993). Thus, the 500 ppmw trigger level for paper industry MACT

wastewater controls achieves the same level of risk reduction as EPA's 100 ppmw control threshold for the Subpart CC rules, which EPA may adopt under Option 2. Moreover, MACT technology is essentially the analog of LDR Best Demonstrated Available Technology ("BDAT"). Under § 112 of the CAA, EPA sets MACT standards that are "no less stringent than 'the average emission limitation achieved by the best performing 12 percent of the existing sources' or 'the average emission limitation achieved by the best performing five sources'" depending on how many facilities there are in a given subcategory. 58 Fed. Reg. 66136. This formulation of the MACT standard is essentially the same as RCRA BDAT, which EPA describes as follows: A treatment technology is considered to be 'demonstrated' primarily based on data from full-scale treatment operations that are currently being used to treat the waste . . . . Once the 'demonstrated' technologies have been identified, the Agency determines whether these technologies may be considered 'available'. To be 'available' the technology . . . must be able to be purchased and the technology must substantially diminish the toxicity of the waste or reduce the likelihood of migration from the waste's hazardous constituents. 54 Fed. Reg. 48380-81 (Nov. 22, 1989). Selection of MACT technology from the "best performing" mills more than meets the BDAT definition. In point of fact, EPA's Office of Air concluded that MACT technology would reduce hazardous air pollutant ("HAP") emissions from pulping by 98% and will reduce by 99% HAP emissions from bleaching operations. 58 Fed. Reg. 66145 (Dec. 17, 1993). This more than meets the BDAT criterion that "the technology must substantially diminish the toxicity of the waste . . . ." Significantly, EPA's Office of Air concluded that "because most of the HAP from pulping component and process wastewater emissions is also VOC, the reduction efficiency for total HAP was determined to be the same as that for VOC." Id. Given the essential equivalence of the MACT and BDAT selection criteria and given the 98% or 99% VOC reduction represented by the paper industry MACT 500 ppmw threshold, EPA should have no reservations about deferring fully to the MACT standard. EPA should defer possible Phase IV controls to the pulp and paper industry MACT standards for another reason. Methanol is the principal organic constituent of pulp and paper industry wastewaters. 58 Fed. Reg. 66087 (Dec. 17, 1993) ("The majority of all HAP emissions from the pulping and process wastewater components are methanol . . .") and Table 1, above. Methanol is not a volatile material and is



almost completely removed from paper industry wastewater by aggressive biological treatment. In the NCASI Biotreatability Report attached as Appendix B, researcher Douglas A. Barton investigated the biotreatability of methanol, among other organic constituents, and concluded that biological treatment in paper industry surface impoundments removes more than 99% of methanol present. Significantly, less than 0.1% of the methanol is removed via air stripping or adsorption. Thus almost 100% of methanol removal is attributable to legitimate treatment. NCASI Report, Table 5 at 7 (Appendix B). But the Subpart CC Test Method 25D does not discriminate among VOCs, nor does the Subpart CC 100 ppmw control trigger level. As we show above in our discussion of Method 25D, the artificially high test temperature of 70° C will "drive-off" organic compounds that are not volatile under real world conditions. Thus, EPA's Phase IV Option 2 control measures may be triggered if, as EPA discusses, Subpart CC applicability standards and test procedures are incorporated, even though the principal organic constituent of paper industry wastewater is not volatile. Complete deferral to the paper industry MACT rule would avoid unnecessary Option 2 controls of a non-volatile material. In the MACT rule, EPA's Office of Air used methanol as a surrogate for HAPs when the Agency developed and selected MACT treatment options. 58 Fed. Reg. 66149 (Dec. 17, 1993). It was, therefore, largely with respect to methanol that EPA's Office of Air concluded that MACT control requirements would reduce emissions from process wastewater by 98%. 58 Fed. Reg. 66145 (Dec. 17, 1993). It is hard to imagine that RCRA § 3004(m)'s "minimized threat" language would require anything more. Consequently, EPA should defer possible Option 2 air emission controls completely to the proposed MACT standards for the pulp and paper industry.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR

43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P046

COMMENTS National Mining Association

RESPONDER PMC

SUBJECT EQUV

SUBJNUM 046

COMMENT

As the agency examines the issue of surface impoundments that manage decharacterized wastes, EPA must remember that Congress has not mandated the imposition of RCRA controls on such impoundments to control sludges, leaks and air emissions. Neither does the decision in *Chemical Waste Management v. EPA* ("Chem Waste II"), 976 F.2d 2, cert. den. S. Ct. 1991, (1992) require EPA to regulate, under RCRA, sludges, leaks and air emissions from surface impoundments managing decharacterized wastes.

Furthermore, not only are RCRA regulations not required, they are not necessary in the mining and mineral processing industry to control potential risks from sludges, leaks or air emissions from surface impoundments managing decharacterized wastes. In fact, the *Chem Waste II* decision supports the adoption of the proposed rule's Option I, i.e., the existing panoply of federal and state requirements adequately address surface impoundments managing decharacterized wastes. To impose either of the proposal's other two regulatory options would be regulatory overkill, unduly disruptive of the existing Clean Water Act treatment systems, thus effectively invalidating those systems.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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DCN PH4P048  
COMMENTER Chemical Waste Management  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 048  
COMMENT

In light of the President's Common Sense Initiative CWM believes that option 1 is the most practical approach of the three options proposed. CWM does not see the benefit of adding another layer of regulatory requirements on top of existing regulations which address Subtitle D surface impoundments when they exist at RCRA permitted or interim status facilities. Since 42% of these Subtitle D surface impoundments exist at TSDFs which have monitoring and release regulations, (See 60 Fed. Reg. at 43,659) it appears to CWM that if cross-media releases occur from these unpermitted impoundments that they can be addressed by the Agency under the authority of RCRA § 3004(u) or § 3008(h). CWM believes that this option provides adequate protection and thus should be finalized by the Agency.

B. Option 2

Option 2 would require the development of controls that focus on situations posing excessive risk. This option would exclude controls from the following: 1) wastewaters that do not have hazardous constituents above the UTS at the point of generation, and 2) wastewaters with de minimis amounts of hazardous constituents, as defined in the Phase III rule with regard to discharges to UIC wells. This option proposes to defer controls for air emissions from Subtitle D surface impoundments receiving decharacterized wastes to Subpart CC type controls. It would also apply existing 40 CFR 258 Subpart E groundwater requirements for the control of leaks at these surface impoundments. This option also recognized that if a Subtitle D impoundment that receives decharacterized waste streams is located at a permitted TSDF that no further control under this proposal are necessary.

As noted earlier CWM supports Option 1; however, if Option 2 is promulgated CWM supports the subset of this option that recognizes that Subtitle D surface impoundments receiving decharacterized waste streams located at a permitted TSDF are not subject to further control. In addition, CWM believes that it is important for the Agency to indicate that interim status facilities with these types of surface impoundments are also not subject to further control. This was indicated by the Agency in the discussion of option 1. (See 60 Fed. Reg. at 43,659). This is because the

interim status facilities are subject to cleanup under RCRA § 3004(h), which provides the Agency the authority to compel corrective action.

In conjunction with the comment the Agency must amend the flowchart "Figure 1: Option 2-General Applicability Criteria and Compliance Alternatives for Surface Impoundments accepting Decharacterized Wastes" (See 60 Fed. Reg. at 43,662) to reflect that interim status facilities are subject to the same requirements as permitted facilities. Specifically, CWM recommends that the bottom left decision box on the flowchart should be amended as follows:

"Is the Surface Impoundment Located at a RCRA Subtitle C Permitted or Interim Status TSDF."

With regard to air emission controls discussed under Option 2 CWM does not support subjecting surface impoundments receiving decharacterized wastes at non-permitted or interim status facilities to air emission controls similar to those issued under Subpart CC because Subpart CC applies to hazardous wastes placed in tanks, containers, or impoundments. CWM believes that air emissions from these impoundments are most appropriately addressed under the Clean Air Act.

#### C. Option 3

Option 3, which the Agency states it does not support, would require that Decharacterized Wastes be treated (not merely diluted) to meet Universal Treatment Standards (UTS), which includes applicable underlying hazardous constituents (UHCs), prior to entry into Subtitle D surface impoundments.

CWM believes that this option is identical to the Phase 111 proposed rule (60 Fed. Reg. at 11,702; March 2, 1995) for discharges to nonhazardous surface impoundments. CWM is in agreement with the Agency's opinion that this option would be too disruptive to the industry. CWM believes that the net benefit of requiring such treatment far outweighs the high costs associated with such a requirement.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the

wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P049  
COMMENTS Molten Metal Technology  
RESPONDER PMC  
SUBJECT EQUIV  
SUBJNUM 049  
COMMENT

According to the proposal, "[t]he central legal and policy issue... is if and when releases of hazardous constituents from surface impoundments which are part of a treatment train for decharacterized wastes are so extensive as to effectively invalidate the treatment process as a means of LDR compliance." 60 Fed. Reg. At 43656, col. 2. EPA is evaluating at least three options for addressing this issue. MMT has no position on which, if any, of the options under consideration should ultimately be adopted. However, MMT is concerned that EPA is considering allowing substantial cross-media transfer of hazardous constituents and relying on "after-the-fact" remedial authorities (e.g., RCRA Corrective Action) to address resulting threats to human health and the environment. See, e.g., 60 Fed. Reg. At 43659, col. 3 and at 43661, col. 1.

RCRA provides that EPA must establish treatment standards under the LDR program. These standards are defined as "those levels or methods of treatment, if any, which substantially diminish the toxicity of [a] waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized." RCRA § 3004(m)(1). Furthermore, EPA is authorized to allow land disposal of hazardous wastes only if such disposal is deemed "protective of human health and the environment," meaning that "there will be no migration of hazardous constituents from the disposal ... for as long as the wastes remain hazardous." Id. § 3004(d)(1),(e)(1),(g)(5).

These legislative provisions establish a very high standard for allowing land disposal, and EPA has recognized this standard in its regulations. For example, prohibited wastes may not be treated in surface impoundments if evaporation is the principal means of treatment. 40 C.F.R. § 268.4(b). According to EPA, "evaporation ... do[es] nothing to remove, destroy, or immobilize contaminants as contemplated by RCRA .... [T]he objectives of section 3004(m) [are to] reduce levels of toxicity or reduce the potential for hazardous constituents to migrate from the waste. Practices which do nothing more than transfer constituents to other media fail to satisfy this objective." 52 Fed. Reg. 25760, 25779 (July 8, 1987) (emphasis



added).

MMT agrees wholeheartedly with EPA's oft-stated position that cross-media transfer of hazardous constituents is an unacceptable means of achieving LDR standards. Thus, we urge The Agency to very carefully consider the issue of cross-media transfer of hazardous constituents for surface impoundments, and limit the allowable releases appropriately. In particular, we question whether any option that relies on RCRA Corrective Action or other remedial programs can possibly meet the statutory requirement that selected treatment methods minimize threats to human health and the environment.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P053  
COMMENTS Texaco  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 053  
COMMENT

In both the Phase III and Phase IV proposed rules, EPA acknowledges that the risks addressed by these proposals are relatively low. Instead, EPA bases their rationale for regulation on the requirements of the holding in *Chemical Waste Management, Inc. v. EPA*, 976 F.2d 2 (D.C. Cir 1992): cert. den 113 U.S. 1961 (1983). However, the case holding does not require such regulation on surface impoundments. EPA should not read into this case such overly broad requirements. Therefore, EPA should adopt Option I in the proposal -- no further regulation of non-hazardous surface impoundments. Also, storm water impoundments that receive process water during storm events should be exempt from Phase III and Phase IV proposed rules.

II. EPA should adopt Option I, No Further Requirements for Non Hazardous Surface impoundments

Texaco strongly urges EPA to adopt Option I of the proposed rule as the risks posed by non-hazardous Clean Water Act (CWA) surface impoundments do not warrant any additional regulations. EPA has already recognized that any risks would be low. As a result of the Toxicity Characteristic rule and the Primary and Secondary Sludge Listings, any potential risks associated with sludges and leaks from petroleum industry nonhazardous CWA surface impoundments are already minimized. In addition, any potential risk from air emissions are minimized as a result of CAA Benzene Waste NESHAP and Petroleum Refinery MACT applicable to wastewaters managed by the petroleum refining industry. Therefore, any additional RCRA regulatory requirements which may be imposed by this proposed rule would be unnecessary as well as overlapping those requirements to which our refinery wastewater treatment systems are already subject. Additional RCRA requirements would not significantly lower any risk while the costs to implement would be substantial.

III. If Option II Is Adopted, EPA Should Implement the Following Modifications

If EPA should decide to regulate non-hazardous surface impoundments under this proposed rule, EPA should-adopt Option II, in consideration of the following comments:

Texaco supports EPA's proposal to exclude from regulation, sludges

and leaks from biotreatment and post-biotreatment surface impoundments as supported by our comments in section II. EPA should clarify that this includes an exclusion from any groundwater monitoring requirements.

Texaco supports EPA's position that facilities regulated under CAA regulations will automatically fulfill any Phase IV air emission obligations. However, EPA should clarify that CWA surface impoundments which are already subject to regulation under the Benzene Waste NESHAP, NSPS, Petroleum Refinery MACT or Hazardous Organic NESHAP MACT (including compliance with bubbling, de minimis thresholds, or technology standards) would be excluded from Phase IV air emission control requirements. This should be specified as an exemption from and not a fulfillment of Phase IV air emission obligations to avoid any unnecessary duplicate monitoring and record-keeping which may be interpreted as being required.

#### IV. EPA Should Not Adopt Option III

Texaco supports EPA's conclusion that Option III is not appropriate. Subjecting non-hazardous surface impoundments to RCRA Minimum Technology Requirements would result in a significant and unnecessary regulatory burden to Texaco's operations. Substantial costs would be incurred in retrofitting, costing millions of dollars, with no commensurate environmental benefits.

EPA should exempt wet weather flow impoundments from regulation under the Phase III and Phase IV LDS. As the EPA appropriately concluded during the primary and secondary sludge listing determination, RCRA regulation of surface impoundments that receive small quantities of process water along with storm water during storm events is unnecessary. In addition, subjecting wet weather flow impoundments to the regulatory requirements imposed by the Phase III and Phase IV LDS would represent a significant cost and burden to Texaco's operations with little, if any, environmental benefits.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As

a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P054  
COMENTER Total Petroleum  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 054  
COMMENT

Total Petroleum, Inc. is an independent refiner and marketer of petroleum products, primarily fuels, in the central United States. This rule will have a direct impact on our refining operations and we appreciate this opportunity to comment on the proposed Phase IV Land Disposal restrictions. It is our belief that Clean Water Act and Safe Drinking Water Act regulated units, such as injection wells, accepting "hazardous wastes" which are rendered non-hazardous by dilution pose only minuscule, negligible risks and should not be regulated further. This is another example of a rule whose costs are extreme and benefits are low. EPA should select Option 1, which requires us additional mandates.

Recent EPA rulemakings have significantly improved the environmental management of all media at refineries. The regulations have in turn reduced the risk to human health and the environment from surface impoundments resulting in negligible risks.

The Toxicity Characteristic (TC) rule promulgated on March 25, 1990 significantly reduces benzene and other hazardous constituents in wastewater.

The Primary Sludge Listing rule promulgated on November 2, 1990 required sludge removal and convert impoundments to non-hazardous service under closure provisions of 40 CFR 265.113.d-e.

The National Emission Standard for Benzene Waste Operations (BWON) promulgated on January 17, 1993, resulted in the segregation and treatment of benzene containing wastewater. In the process complying with the BWON, most other organic constituents such as toluene and xylene were also controlled in the wastewater stripping prior to entering a surface impoundment.

The SOCMHON rule, promulgated on February 28, 1994 has reduced hazardous air pollutants from wastewater and other sources at the petrochemical plant.

The RFG rule, promulgated on December 14, 1993, requires refineries to reduce the benzene content in gasoline. This change in gasoline also results in the reduction of emission of benzene at refineries. In addition, the gasoline distribution MACT rule, promulgated on July 28, 1995, reduces the emissions of benzene and other air toxics from the refinery. Both of these

rulemakings have significantly lowered the existing baseline emissions of air toxics from the refinery. The new air toxic emission baseline has been reduced to a level that any additional regulation of air toxics as proposed by EPA in Options 2 and 3 cannot be justified as being cost effective.

The scope of Phase IV rulemaking should not include any additional requirements for surface impoundments or underground injection wells.

Stormwater impoundments are very low risk and additional controls proposed under this rulemaking cannot be justified as being cost-effective.

Treatment impoundments managing non-hazardous wastewaters are recognized in the Third opinion as integral CWA units.

Storm water impoundments are important equalizers that are required to maintain the efficacy of biological treatment systems and ensure that the refinery is in compliance with CWA permits.

Stormwater impoundments also provide surge protection for wastewater treatment plants and thus prevent the rapid flushing of biomass from the wastewater treatment plant. As an integral part of the CWA treatment system, stormwater impoundments should not be regulated as RCRA units.

The management strategy for a stormwater impoundment requires it to be empty whenever possible so that it can receive stormwater.

Therefore, the residence time of Underlying Hazardous Constituents (UHCs) is low and the water driving force (head) is also low.

Further decharacterized process wastewater constitutes only a fraction of the total stormwater and is predominantly non-oily.

These factors limit the possibility of UHCs migrating out of the stormwater impoundment.

## RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995. (60 FR

43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P054  
COMMENTS Total Petroleum  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 054  
COMMENT

Advanced biological treatment (ABT) should be designated as Best Demonstrated Available Technology (BACT) for wastewater and wastewater sludges from refineries and co-located petrochemical plants.

The combination of ABTs and downstream geological impoundments provides long residence times of wastewater in treatment units, low cost, ease of operation, and a cost effective approach to maintaining compliance with the CWA permits.

ABI is a proven cost effective technology that meets the Universal treatment Standards(UTS) and minimizes analytical difficulties and monitoring burdens.

The CWA permits at refineries and petrochemical plants using ABI are protective of human health and the environment.

**RESPONSE:**

As explained by the Agency in the preamble to the LDR Phase III final rule, biotreatment systems vary in performance both in general and as to specific constituents. The Agency therefore is reluctant to designate ABT as BDAT. The Agency has data related to the performance of ABT from only 10 facilities. The main reason for establishing ABT as BDAT that was provided by commenters to the Agency, during the development of the final Phase III rulemaking, was the elimination of the compliance monitoring burden. The Agency does not believe that reducing monitoring burden is an adequate justification for creating a new technology-specific treatment standard. However, EPA did decide, in promulgating the LDR Phase III final rule, to reduce the monitoring requirements for decharacterized wastes that are managed in a wastewater treatment system involving ABT. These wastes must be monitored annually to ensure compliance with the treatment standards for underlying hazardous constituents.



DCN PH4P055  
COMMENTS American Industrial Health  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 055  
COMMENT

For evaluation of risks from transfer of constituents to air, EPA relied on the generic risk estimate for VOCs derived in the Subpart CC risk assessment for air emissions. The Subpart CC Rule is currently under litigation to resolve critical issues including the appropriateness of the 100ppm VOC trigger level. There are substantial concerns about this earlier risk assessment, and EPA should at least consider using chemical-specific emission rates as recommended by Gradient Corporation instead of the generic risk estimate for unidentified VOCs, particularly in light of the fact that there are numerous differences between the makeup of VOCs evaluated in the CC rule and those treated in surface impoundments.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P055  
COMMENTS American Industrial Health  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 055  
COMMENT

In general, AIHC supports the Agency's use of a risk-based approach to evaluate chemical releases associated with the treatment and disposal of non-hazardous waste from surface impoundments. However, we have significant concerns with the nature in which a number of technical issues were evaluated, as illustrated in Gradient Corporation's report. Overall, we support Gradient Corporation's technical comments and, in this letter, highlight some of the issues which are of particular importance to AIHC.

The mission of AIHC is to promote the sound use of scientific principles and procedures in public policy for the assessment and regulation of risks associated with human health effects and ecological effects. Although AIHC does not act as an advocate for any product or substance, its generic positions directly affect the scope and impact of individual regulatory decisions.

AIHC is a broad-based association that represents a diverse coalition of companies and trade associations, including manufacturers of consumer products, pharmaceuticals, petroleum, paper, chemicals, motor vehicles, foods and beverages, high technology, and aerospace products. Many of the Council's members currently use impoundments for treatment of non-characteristic wastes. Further, AIHC has a significant interest in the proposed rule due to the reliance upon a risk-based approach to regulatory decision-making. Overall, AIHC is concerned that the development of regulatory options for land disposal as it stands today is not based upon sound science and that the options do not provide sufficient regulatory flexibility to take into account new or site-specific information and data.

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the

wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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DCN PH4P055  
COMMENTS American Industrial Health  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 055  
COMMENT

We commend the Agency for using two different values for the dilution attenuation factor (DAF) in characterizing the risk via the groundwater pathway: one to estimate high-end risks and the other to estimate average risks. However, the Agency has selected a point estimate for a high-end DAF which is greater than the 95th percentile previously identified in the Toxicity Characteristic Rule. The Agency provides no rationale as to why that point estimate was selected rather than the high-end DAF more recently supported by the Agency. In addition to changing the high-end DAF, we urge the Agency to consider a range of values rather than the two point estimates.

RESPONSE:

The commenter's issue regarding the dilution attenuation factor (DAF) used by the Agency in characterizing the risks from releases of decharacterized wastes from surface impoundments to ground water has been rendered moot by subsequent legislation and rulemakings.

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such

regulation.

DCN PH4P056  
COMMENTS Westinghouse  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 056  
COMMENT

1. Due to inconsistencies between the preamble language and the regulatory language, it is unclear whether the Phase III and IV LDR proposals apply only to CWA and CWA-equivalent systems that include surface impoundments or to all types of CWA and CWA equivalent systems. We expressed this concern in our comments on the Phase III proposal and it remains with the Phase IV proposal.

2. EPA should take into consideration that the impacts of the proposed Phase III rule could not be considered when reviewing Phase IV, since Phase III has not yet been finalized. Under option 1, EPA would rely solely on existing and future state and Federal regulatory programs, other than the LDR program, to control cross-media transfers of untreated hazardous constituents associated with CWA surface impoundments managing decharacterized wastes. To satisfy the criteria set forth in Chemical Waste Management vs. EPA, that a demonstration be made of equivalent treatment between CWA surface impoundments and conventional RCRA treatment systems, the EPA proposed to rely on a demonstration of compliance with the final end-of-pipe LDR standards. This has a bearing on the selection of option 1 since the end-of pipe LDR standards have not been finalized yet.

The application of 40 CFR Part 264 Subpart CC air emission requirements to surface impoundments in Clean Water Act, Clean Water Act-equivalent, or nonhazardous wastewater treatment systems that accept decharacterized wastes should not be required. The application of these requirements to surface impoundments described in option 2 is not in alignment with the congressional directive which provided the regulatory authority for the development of Subpart CC, nor does it appear to be consistent with the EPA's intention to develop Phase III implementation of this directive as discussed in 56 FR 33490. These statements are based on the following:

The promulgation of 264 and 265 Subpart CC implemented congressional directive in Section 3004(n) of RCRA, which directed EPA to "...promulgate regulations for the monitoring and control of air emissions from hazardous waste treatment, storage, and disposal facilities, including but not limited to open tanks, surface impoundments, and landfills, as may be necessary to protect

human health and the environment." The standards were proposed and ultimately promulgated under Subpart CC of 264 and 265 during Phase II of the EPA effort to implement this statutory directive. The standards established nationwide regulations for the monitoring and control of air emissions from certain waste management units at treatment, storage, and disposal facilities (TSDFs) subject to RCRA subtitle C permitting requirements. Phase II in Subpart CC specifically excludes surface impoundments as described in option 2.

According to 56 FR 33490, the EPA planned to address residual risk after promulgation of the Phase I included in 264 and 265 Subparts AA, BB, and Phase II included in 264 and 265 Subpart CC. The EPA discussed plans to investigate additional cancer risk reduction approaches beyond those considered in selecting the basis of the standards in Subpart CC as part of the third phase of the EPA's program to develop hazardous waste TSDF air emission standards. If it was determined that a need for additional risk reduction was needed, the EPA was to provide additional human health and environmental protection by developing a nationwide standard that would reduce the emission of the specific toxic constituents of concern. The EPA also intended to update and improve the database used for analyzing the human health and environmental impacts resulting from TSDF air emissions. It does not appear the EPA has investigated residual risks nor the need for their reduction. It is not clear this database has been updated as recognized necessary by the EPA in 56 FR 33490. Until these issues are addressed, further application of these air emission standards to waste in surface impoundments should not be promulgated.

Comment #2 It is not clear where in the CFR the air emissions requirements for surface impoundments discussed in option 2 would be placed. It appears the requirements would not be placed in 40CFR 264 and 265 Subpart CC because these types of surface impoundments are specifically excluded. However, it does not seem appropriate to duplicate these requirements in another portion of the CFR because this would lead to inconsistencies when revisions are made to Subpart CC. If option 2 is selected, consideration should be given to expanding the applicability of Subpart CC or simply referencing the requirements of Subpart CC to avoid as many inconsistencies as possible.

Comment #3

A public comment period for the promulgated regulatory language in

264 and 265 Subpart CC recently closed on October 13, 1995. EPA intends to modify and clarify a large portion of the regulatory language included in these subparts. We recommend these modifications be completed before further action is taken to extend these air emission standards to other applications.

Comment #4 If the EPA decides to implement option 2, the proposed regulatory language related to air emission standards should be available for public comment. The regulatory development of Subpart CC has presented several problems, most recently resulting in an opportunity to provide public comments on a rule that has already been promulgated. Comments on the general approach of option 2 are insufficient in providing input to the regulatory language development of these air emission standards.

Comment #5

Several types of waste management units are not applicable to the requirements included in 264 and 265 Subpart CC. These are specified in 264.1080(b) and 265.1080(b). These types of units, as summarized below, should also not be subject to the air emissions requirements discussed in option 2:- units that do not accept waste after the effective date of the final rule- a surface impoundment in which waste is no longer being added except to implement an approved closure plan- a unit used solely for on-site treatment or storage of waste that is generated as the result of implementation of remedial activities

- a unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act

In addition, surface impoundments are exempt from the requirement of 264 and 265 Subpart CC if they are used for biological treatment of waste (264.1085 and 265.1086). This exemption should also be included for surface impoundments described in option 2.

Recommendation A: Clarify the Regulation's Intent to Apply Only to Surface Impoundments and Injection Wells

Clarify the language proposed for codification in 40 CFR <sup>o</sup> 268.39(b) to clearly state that disposal of characteristic wastes only into surface impoundments or injection wells are the prohibited activities (60 FR 11742). The background of this rulemaking as discussed in the preamble distinctly and continuously refers to surface impoundments and injection wells. Further, the emphasis on disposal in surface impoundments contained in LDR III is succinctly referenced in the summary to Phase IV LDR which states that "EPA's recently proposed Phase III LDR rule...addressed



wastewater discharges involving characteristic wastes that are deactivated through dilution and treated in surface impoundments," [60 FR 43655 (emphasis added)]. The Saltstone Processing and

Disposal Facilities operate under both Industrial Wastewater Treatment Facility permit requirements and Industrial Solid Waste Disposal permit requirements. The proposed §268.39(b) provisions can be interpreted to indicate a broader applicability than that intended by EPA, resulting in the Saltstone facilities possibly being construed as a zero discharge facility engaging in Clean Water Act-equivalent treatment. In the Phase IV preamble, EPA is mostly concerned with surface impoundments whose emissions to the air and groundwater are not controlled. The waste treated in the Saltstone facilities are produced during the pretreatment step to treat high level waste by vitrification, which is the specified technology. If process changes were required to comply with this proposed rule, delays to the high level waste treatment program would undoubtedly result, without a commensurate environmental benefit.

**Recommendation B: TSD Facilities Are Not Subject to Additional Requirements**

The SRS is managed as a RCRA TSDF under a site-wide permit. Under RCRA and its associated regulations, all solid waste management units located at the site are subject to RCRA CORRECTIVE action requirements. These controls have been recognized by EPA as a proposal in option 1 to be sufficient so as to exclude TSDFs from the applicability of certain portions of the phase IV LDR regulations (see 60 FR 43661). If EPA is unable to clarify the proposal as noted in (A) above, then Westinghouse supports the adoption of option 1 including the provision to exclude TSD facilities from certain provisions of the Phase IV LDR rule.

**Recommendation C: Defer Management Standards to Existing State Permit Programs**

The Saltstone Processing and Disposal Facility operates under both Industrial Wastewater treatment Facility permit and Industrial Solid Waste Disposal Facility permit requirements issued by the SCDHEC. State wastewater treatment operating standards, in this case comparable to the RCRA Subtitle C (Hazardous Waste Management) and Subtitle D (State Solid Waste Plan) requirements, should be considered by the EPA in determining whether acceptable and enforceable controls have been implemented by the state which would satisfactorily minimize short and long term threats to human health and the environment. At Saltstone, such enforceable controls are in place as required under the South Carolina permits. Toxicity Characteristic Leaching Procedure

(TCLP) analyses are mandated periodically to insure that no hazardous waste is placed into the concrete vaults. Equally important, the State requires that groundwater monitoring wells be installed around the disposal vaults. This monitoring is routinely performed to identify potential releases from the vaults. Therefore, based on the State's permit conditions alone, the Saltstone facilities routinely demonstrate compliance with requirements that are equivalent to (although potentially different from) both LDR Phase III and Phase IV management standards. EPA recognizes that compliance with the LDR regulations can be achieved through adoption of groundwater monitoring, detection, and correction mechanisms associated with impoundments. Therefore, facilities such as those at Saltstone which have management standards in place as mandated by other permits or permitting authorities could continue to use impoundments (or CWA-equivalent treatment systems) to manage decharacterized wastewaters (See 60 FR 43666).

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P057  
COMMENTS Richard Andersen  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 057  
COMMENT

I am writing today both as a geologist and as a concerned Texan. The preamble to the proposed LDR Phase IV rule, vol. 60, No. 162, of the Federal Register, page 43671, seems to relate Clean Water Act surface impoundments in arid areas to the small arid landfills which have special accommodation in the Municipal Solid Waste Subtitle D rules. However, there are major differences which preclude applying the MSW small arid landfill provisions to surface impoundments.

- 1) The arid provision in MSW rules uses the rationale that, because of low rainfall, the landfill won't contain significant quantities of free liquid. However, a surface impoundment normally does contain liquid under a hydraulic head. An arid climate is irrelevant for a surface impoundment.
- 2) The Phase IV preamble spoke of arid regions where ground-water is deep, and where a considerable release would occur before contamination would reach ground water. However, some arid areas in Texas have shallow ground water, and even desert springs. Other Texas localities with deep ground water have karst conditions where a leaking surface impoundment could contaminate ground water very quickly. While I support EPA's efforts to allow alternative monitoring where conventional systems will not work well, the rule for surface impoundments should be based on site-specific geohydrology, rather than on a blanket provision for low rainfall areas.
- 3) The MSW small arid landfill provision also is based on transportation, economic, and population density issues which don't apply to surface impoundments.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As

a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P059

COMMENTS: Exxon Chemicals Americas

RESPONDER: MC

SUBJECT: EQUV

SUBJNUM 059

COMMENT

4. De Minimis Exemptions: ECA Recommends Modifications to the De Minimis Exemption Proposed for Wastewaters in CWA Systems

To avoid requiring facilities to develop extensive procedures and implement capital investments that are not warranted by the low risks being addressed by the proposed LDR Phase III and IV rules, EPA should ensure that de minimis provisions are adequately defined. The first step EPA should take is to ensure that the provision on de minimis losses of characteristic wastes to wastewaters which was included in the proposed LDR Phase III rule is maintained (60 FR 11740; 268.1(e)(4)(I)). This provision indicates that these de minimis losses are not subject to any provision of part 268. The provision referenced is for de minimis losses of characteristic wastes to wastewaters that are defined as:

"losses from normal material handling operations (e.g. spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well-maintained pump packings and seals; sample purgings; and relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; rinsate from empty containers or from containers that are rendered empty by that rinsing; and laboratory wastes not exceeding one per cent of the flow of wastewater into the facility's headworks on an annual basis."

An example of why this de minimis exemption is important is illustrated by one of ECA's plastics plants. This facility has three surface impoundments in a CWA system that receive streams such as cooling water, clean condensates, and stormwater. Because of the nature of these streams, there is no need for biological treatment. Current facilities allow for the capture of any residual plastic pellets that may be discharged and provide hold-up time prior to discharge (which would allow for hydrocarbon recovery in case of a spill). Within the process there is a stream that is 30% methanol and 70% water. Any drop from this stream would, at the point just before it enters the wastewater system, be a D001 stream and would exceed 10 times UTS for methanol even though it

was just a drop. There is always the potential that a pump leak could result in some drops of this material entering the sewer system leading to the impoundments. Without the de minimis clause outlined above, and with a narrow point of generation definition, it would be possible that the LDR Phase IV rule could trigger extensive requirements on the surface impoundments (which would presumably be called pre-bio since there is no significant biological treatment) for only a few drops of material.

In addition to the example provided above, some facilities may have minor streams, either continuous or intermittent, that do not meet the definition of de minimis losses indicated above. Again, to avoid triggering extensive requirements for low risk facilities, EPA should add a second de minimis exemption for characteristic wastes. This exemption should be based on the condition that the total volume of the characteristic waste sent to the CWA system is less than 1% of the total flow at the headworks of the wastewater surface impoundment. There should be no condition that underlying hazardous constituents (UHC) not exceed 10 times UTS, since the total volume of the streams is so small and the effort to quantify UHC for small streams can be a substantial burden. In addition to the sampling and analytical costs, the cost of establishing sampling points in hard-piped systems can be very expensive. These costs, in addition to the costs associated with any additional treatment or surface impoundment modifications that might be required, would be disproportionate to any potential environmental benefit that could be achieved. It is important that EPA maintain focus on significant risk areas, versus overly regulating low/no risk cases, where costs far exceed any slight benefit.

## RESPONSE

The Agency is retaining the de minimis exemption previously promulgated at 40 CFR 268.1(e)(4). In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR

43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.



DCN PH4P059  
COMMENTS Exxon Chemicals Americas  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 059  
COMMENT

1. ECA recommends EPA select Option 1 in the Phase IV rulemaking. In addition, this letter includes comments applicable to Options 2 and 3 should EPA decide to further refine and progress these options.

2. EPA should grant a general applicability exemption for Wet Weather Flow Impoundments

4. ECA recommends modifications to the de minimis exemption proposed for wastewaters in CWA systems

Selection of Option 1 would rely on achievement of Clean Water Act (CWA) permit requirements and Universal Treatment Standards (UTS) at the point of discharge from a CWA treatment system to constitute treatment equivalent to RCRA LDR requirements. This is a defensible option based on the decision in *Chemical Waste Management v. EPA*, 976 F.2d(D.C. Cir. 1992), and EPA's documented statements that "the risks addressed by this rule(from the LDR Phase III preamble and by extension to LDR Phase IV) ...are very small relative to the risks presented by other environmental conditions or situations."

The CMA comment letter provides more detail on this issue. Summary comments include:

When RCRA was enacted in 1976 Congress explicitly excluded from regulation under RCRA industrial discharges subject to permits under the CWA to avoid duplication and to recognize the lead role of the CWA in regulating discharges to surface waters.

EPA's proposed Phase III approach, setting treatment standards at the discharge point of the CWA treatment system, represents accommodation of the RCRA LDR requirements to the pre-existing CWA program. This approach must preserve the integrity of CWA treatment systems while addressing the RCRA LDR program.

The proposed Phase IV rule runs contrary to Congress' intentions in structuring Subtitles C and D D because two of the options impose technical requirements on Subtitle D units under subtitle C authority. While the *Chemical Waste Management* decision indicated EPA may have authority in some circumstances to set LDR treatment standards for characteristic wastes below the characteristic level, it did not state that EPA has jurisdiction to impose technical requirements on Subtitle D units that are accepting no hazardous wastes.

There is nothing in the Chemical Waste Management decision which precludes EPA from selecting Option 1. In fact, in the court's discussion of CWA systems there is not a single mention of sludges, leaks, air emissions, or any other movements of constituents to the environment, other than what exits the CWA system at its point of discharge. Proposed Options 2 and 3 go far beyond the Court's discussion.

EPA itself has indicated publicly that it would not oppose RCRA legislative fixes which would not require the regulations proposed under the LDR Phase III and IV rules (reversing the Chemical Waste Management decision).

EPA is not permitted to select Option 3, which would require treatment of Decharacterized Wastes to UTS standards before placement in a CWA surface impoundment. This would eliminate any reasoned or appropriate accommodation of the CWA in the LDR program. The Chemical Waste Management decision held that accommodation with the CWA is required "to the maximum extent practicable". The court also made it clear that placement of decharacterized wastes in CWA surface impoundments prior to satisfying UTS standards was acceptable and a reasonable accommodation with CWA.

EPA has overstated the risks addressed by the Phase IV proposal. The data used is very old, often more than 10 years old, and does not reflect current operations. CMA has provided more specific information on this issue

CWA systems are currently extensively regulated by both the CWA and numerous Clean Air Act regulations either in effect or under development. Many facilities are already subject to MACT (Maximum Achievable Control Technology) standards and other standards under various Clean Air Act authority. For example, chemical manufacturing facilities are often subject to the HON (Hazardous Organic National Emission Standards for Hazardous Air pollutants), the Benzene NESHAP rule, the Offsite Waste Recovery MACT standard, and/or by the Wastewater New Source Performance Standard. Typically these regulations result in managing wastewater emissions prior to treatment in surface impoundments due to the significant cost associated with covering and controlling emissions from these impoundments, which can be several acres in size. EPA's proposal to extend the applicability of the new Subpart CC RCRA air emission standards to nonhazardous waste surface impoundments is inappropriate and not justifiable. The current Subpart CC rule has major deficiencies which are currently under review and legal challenge.

## 2. EPA should grant a general applicability exemption for Wet Weather Flow Impoundments

Many petrochemical/refinery facilities, as well as other large industrial complexes, utilize integrated sewer systems in which both process wastewaters and storm waters are managed in the same collection system. Wet weather flow impoundments (surface impoundments) are commonly used in integrated sewer systems to temporarily store excess water during storm events. The water diverted to these impoundments is then either transferred to a wastewater treatment system at controlled rates or directly discharged through a permitted system.

ECA recommends that wet weather flow impoundments, which are a key to the efficient operation of a facility's wastewater management system, be exempt from the LDR Phase IV regulations because of their low environmental risk and the significant cost of replacing and/or closing the impoundments.

Wet weather flow impoundments pose an inherently low environmental risk since:

Underlying Hazardous Constituents (UHCs) in the wet weather flow impoundment influent have the potential to exceed Universal Treatment Standards (UTS) only for very short periods of time. Such exceedances may occur during the beginning of a storm event when the proportion of process wastewater to stormwater is greatest. Peak storm event flows will be primarily stormwater with the result that the flow weighted average concentration of UHCs in the impoundment influent during a storm event will be significantly below UTS levels.

Wet weather flow impoundments are generally at minimum levels, so the residence time of any UHCs present is short. This further reduces the potential for leakage to groundwater and air emissions.

Wet weather flow impoundments are critical to the efficient operation of a facility's wastewater management system by providing temporary storage capability so that the large amounts of water managed during a storm event will not flood the wastewater treatment system. In a biological treatment system, a hydraulic overload will reduce organic removal efficiency and cause the exceedance of total suspended solids effluent limits.

Closing and replacing wet weather flow impoundments would be prohibitively expensive. At one Exxon facility these impoundments cover more than 25 acres. The actions necessary would include one or more of the following steps:

Significantly enlarge the capacity of the wastewater transfer system downstream of the point where wet weather flow is currently

diverted to the impoundments and enlarge the treatment system capacity to manage peak flows that will occur only during storm events.

Replace the impoundments with a tank storage system capable of managing large volumes of combined process wastewater and stormwater.

Segregate the process wastewater from stormwater. This would be prohibitively expensive due to the size and location (under operating units) of sewer systems in well-established industrial complexes.

Based on these points, EPA should grant a general applicability exemption for wet weather Flow Impoundments.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P059

COMMENTS Exxon Chemicals Americas

RESPONDER SS

SUBJECT EQUV

SUBJNUM 059

COMMENT

6. ECA recommends that the LDR Phase III and IV rules be progressed only after integrating comments from both rules, finalizing the Point of Generation definition, providing regulatory text, and integrating the Hazardous Waste Identification Rule impacts and timing

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

Although the Agency cannot predict exactly how the constituent-specific exit levels for certain low-risk solid wastes in the HWIR final rule will compare with the UTS levels, the Agency did consider available risk information when making decisions regarding final treatment standards in the technology-based LDR program. During the development of final treatment standards, the Agency examined whether the UTS for some metals may be far more stringent than any reasonable minimize threat level. The initial reasoning was that if the Agency found evidence that the final HWIR minimize threat level was likely to be much higher than the proposed UTS for any toxic characteristic wastestream, EPA would consider whether to raise the proposed

treatment standard prior to finalizing the Phase IV rule. EPA examined the proposed HWIR exit levels for the toxic metal wastes including in the Phase IV rulemaking. When EPA compared the proposed HWIR exit levels to the UTS for each metal constituent, the Agency found that the BDAT level was, in most cases, within an order of magnitude of the proposed HWIR exit level. There were significant differences between the proposed HWIR exit level and UTS for two metals, \_\_\_\_\_ and \_\_\_\_\_. As discussed in section \_\_\_\_\_ of the preamble to the Phase IV final rule,.....[need to complete once preamble language is written]

In light of the differences in timing between the HWIR and the Phase IV final rule, there is too much uncertainty about what the final HWIR levels will be to incorporate those levels into the UTS for any constituents. Section 3004(m) of RCRA requires that the Agency promulgate treatment standards that specify levels or methods of treatment that "substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized." The proposed HWIR levels have not yet been established as "minimize threat" levels. Therefore, EPA is promulgating the Phase IV rule and the HWIR rule independently. EPA will address any differences between the UTS and the HWIR exit levels either in the final HWIR rule or once both rules are promulgated.

DCN PH4P060  
COMMENTS American Dental Association  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 060  
COMMENT

In general, ADA believes of the three options presented in the Notice, the use of existing programs is the preferred means to address non-hazardous surface impoundments. Such an approach would avoid unnecessary costs to impacted parties, which include the many small businesses and other entities whose wastes are treated at such facilities. ADA also believes that the proposed regulations regarding surface impoundment sludge have not been shown to be necessary as a legal and practical matter. In addition, ADA urges EPA, in this and other regulatory contexts, to ensure that any new treatment standards for toxic characteristic metal wastes account for differences among specific metal substances, and differentiate appropriately among different metal species.

As an initial matter, ADA's review of the proposed regulations indicates that they would leave unchanged the existing special requirements for conditionally exempt small quantity generators (CESQGs) in 40 C.F.R. 261.5. Accordingly, waste from such generators that is considered hazardous would not be implicated in the proposed surface impoundment controls or treatment standards if the CESQG treats or disposes of its waste through means authorized by 40 C.F.R. S 261.5 but by means other than a facility subject to the proposed regulations.

With respect to the proposed regulations regarding decharacterized wastes in surface impoundments, ADA supports the first of the three regulatory options presented. As discussed in the Notice, EPA is already equipped with a number of regulatory tools to address potential releases from surface impoundments. Although not stated in the Notice, these tools include the 40 C.F.R. Part 503 regulations regarding biosolids use and Disposal. Use of existing federal and state programs would avoid needless complication of the already complex regulatory environment regarding wastewater and solid waste. Such an approach would help limit compliance costs for the many entities (many of them small businesses) whose waste materials are treated at surface impoundments.

ADA's review of the proposed Option 2 regulation indicates that wastewater containing only de minimis quantities of characteristic waste would be exempted under proposed 40 C.F.R. 268.1(e)(4)(ii). 60 Fed. Reg. 43691. However, the exact meaning and scope of this

exemption as currently drafted is not clear. ADA requests that EPA clarify this language, particularly with regard to flow requirements at a surface impoundment, and with regard to whether the reference to the 40 C.F.R. 268.48 limits is an additional or alternative criteria for the de minimis exemption.

Even aside from these concerns, ADA notes that the Notice includes little if any discussion regarding health or environmental risks associated with pre-biological sludge. ADA is particularly concerned regarding the potential for new sludge regulations to result in restrictions or burdens on use of amalgam, even though the only data on this issue found no detectable soluble mercury when amalgam particulate was subjected to a simulated wastewater treatment processing. This study was performed under contract with the ADA and has been submitted for publication. ADA urges EPA to fully demonstrate actual risks presented by sludge disposal before proceeding with any new regulations in this area.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P061

COMMENTER BP Chemical

RESPONDER SS

SUBJECT EQUV

SUBJNUM 061

COMMENT 3) BP Chemicals believes that the decharacterized wastewaters managed in CWA surface impoundment's and disposed in UIC wells are very low risk wastes and urges the Agency to adopt "Option 1" as the Phase IV rulemaking approach. BP Chemicals believes that the risks posed by decharacterized wastes and the units managing these wastes are very low. This is especially true for the streams managed in class 1 underground injection control units where there is virtually no exposure to the underlying hazardous constituents in the wastes. In the preamble and in testimony before Congress, the Agency has clearly indicated that they also believe the risks are low relative to other more pressing environmental issues. Furthermore, for the reasons stated above in comments 1 and 2, BP Chemicals believes the risk screening analysis conducted to support this rule significantly over estimates the potential risks posed by these wastes. Therefore, we strongly urge the Agency to adopt "Option 1" as the approach for regulating these units. This option relies on Phase III to address decharacterized wastes and defers to other Agency programs to address potential releases from these nonhazardous units. We believe adequate controls currently exist on these units. All of the nonhazardous units at BP Chemicals sites receiving potentially decharacterized wastewaters are subject to State Subtitle D requirements (Ohio and Texas), Clean Air Act HON NESHAP and/or Polymer & Resin MACT Standards, and RCRA Corrective Action. Existing controls are clearly in-place and potentially confusing duplicative rules are not needed.

RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air

emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P061  
COMMENTS BP CHEMICAL  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 061

COMMENT 5) Class I UIC wells with approved no migration petitions should not be required to modify their petitions to account for the underlying hazardous constituents in decharacterized waste streams. To do so would create an unnecessary burden on both the regulatory community and the Agency with no resulting benefit to the health or the environment. 6) EPA should clarify in the Phase IV rule that Class I injection wells with approved no migration exemptions are given an exemption for the injection of decharacterized wastes. 7) Addition of waste codes to a no migration petition for newly listed wastes should be considered a nonsubstantive revision.

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

EPA clarifies that, as a result of withdrawing the proposed provisions, generators with decharacterized wastewaters that are managed by injection into Class I non-hazardous injection wells do not have to identify underlying hazardous constituents.

The commenter suggested that EPA state that additional of waste codes to a no-migration petition should be considered a non-substantive revision. This issue is outside the scope of the Phase IV rules. The commenter should contact the USEPA Office of Water.

DCN PH4P061  
COMMENTS BP CHEMICAL  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 061

COMMENT 5) Class I UIC wells with approved no migration petitions should not be required to modify their petitions to account for the underlying hazardous constituents in decharacterized waste streams. To do so would create an unnecessary burden on both the regulatory community and the Agency with no resulting benefit to health or the environment. In 1993 EPA and CMA agreed to settle a lawsuit regarding land disposal restriction issues by signing a settlement agreement, or Joint Stipulation, whereby facilities with no migration exemptions that do not change the waste stream injected will not be affected by LDRs which affect decharacterized waste. Thus, not only does EPA have the authority, but the Agency has already committed to allowing facilities with no migration exemptions to be exempt from further future regulations. In the final Phase IV rule EPA should clarify the status of Class I UIC wells with no migration exemptions because the Joint Stipulation clearly directs that EPA is to allow: "characteristic wastes that cease to exhibit the characteristic prior to injection into Class I wells with Agency-approved no-migration exemptions, regardless of whether the applicable waste codes for the characteristic are specified in the final petition's approval. No further demonstration would be required for characteristic wastes that are rendered nonhazardous prior to injection absent the introduction of a new constituent not already considered in the demonstration." (emphasis added) The Phase IV proposal will result in the need for facilities to modify petitions even though the injected waste has not changed and the waste at the point of injection is not characteristically hazardous. EPA can prevent confusion and misdirected use of public and private moneys and resources by making it clear in the final rule that the LDRs are not applicable to Class I wells that inject decharacterized wastes and that have obtained no migration exemptions. Approved petitions have already addressed the potential for migration of hazardous constituents from the injection zone. As a result, there is no impact on human health or the environment. The change proposed in the applicability of treatment standards to waste streams already described in the no migration petitions does not affect the technical basis for the petition approval.

This type of situation was contemplated and both the CMA and EPA agreed that petition modifications would not be required. 6) EPA should clarify in the Phase IV rule that Class I injection wells with approved no migration exemptions are given an exemption for the injection of decharacterized wastes. As discussed above, the Joint Stipulation is rather clear in that LDRs do not apply to decharacterized wastes injected at facilities with approved no migration exemptions. The agreement states, "No further demonstration would be required for characteristic wastes that are rendered nonhazardous prior to injection absent the introduction of a new constituent not already considered in the demonstration." We ask that EPA clarify this exemption in the final rulemaking. 7) Addition of waste codes to a no migration petition for newly listed wastes should be considered a nonsubstantive revision. There may be times when a facility with an approved no migration exemption injects a newly listed waste or characteristic waste that is not decharacterized prior to injection. In this situation, although the waste is fully characterized in the petition, the new waste codes are not. EPA has preferred to have no migration petitions identify all waste codes that apply to the waste at the point of injection. This situation is merely a paperwork change that does not raise new technical issues or require very detailed review. The technical basis for the petition approval has not changed. The Agency should clarify in the final rule that addition of waste codes to an approved no migration petition is a nonsubstantive revision.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe

#### Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

The commenter suggested that EPA state that additional of waste codes to a no-migration petition should be considered a non-substantive revision. This issue is outside the scope of the Phase IV rules. The commenter should contact the USEPA Office of Water.

DCN PH4P061  
COMMENTS BP CHEMICAL  
RESPONDER MC  
SUBJECT EQUV  
SUBJNUM 061

COMMENT 3) BP Chemicals believes that the decharacterized wastewaters managed in CWA surface impoundment's and disposed in UIC wells are very low risk wastes and urges the Agency to adopt "Option 1" as the Phase IV rulemaking approach.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P061

COMMENTS BP CHEMICAL

RESPONDER MC

SUBJECT EQUV

SUBJNUM 061

COMMENT 8) BP Chemicals supports the EPA's approach of exempting wastewater impoundment's located at permitted TSDF's from the Phase IV management standards.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P061

COMMENTS BP CHEMICAL

RESPONDER MC

SUBJECT EQUV

SUBJNUM 061

COMMENT 8) BP Chemicals supports the EPA's approach of exempting wastewater impoundment's located at permitted TSDF's from the Phase IV management standards. As indicated in previous comments, BP Chemicals urges the Agency to adopt the "Option 1" approach to Phase IV rulemaking. Should the Agency not select Option 1 and instead promulgate an "Option 2" type approach, then BP Chemicals supports the proposed exemption for wastewater impoundment's located in facilities subject to RCRA Corrective Action. During the sites RCRA permitting process, all solid waste management units (SWMU's) are subject to unit specific evaluation, reporting and potential agency corrective action authority. This process is more than adequate to ensure any releases from these units are being addressed.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P063  
COMMENTS Laidlaw  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 063  
COMMENT

1.0 Management Standards for Air Emissions

Laidlaw Environmental Services, Inc. (LES) generally supports EPA's approach of extending the substantive requirements of Subpart CC regulations to surface impoundments in CWA, CWA-equivalent or nonhazardous wastewater treatment systems that accept wastes that have been decharacterized. We also believe that it is reasonable to not require facilities subject to Clean Air Act (CAA) standards for hazardous air pollutants to be subject to controls under this rulemaking, so long as the applicable CAA standard has been promulgated in final form, the standard addresses the specific underlying hazardous constituent(s) of concern, and the standard contains control requirements at least as stringent those proposed in this rulemaking.

While we believe that the application of the Subpart CC requirements will achieve the goal of minimizing cross-media transfer of pollutants, we are concerned over the manner in which EPA is addressing this issue. The technical provisions of the Subpart CC standard, which is the cornerstone for addressing air emission control under Phase IV, are not only in a state of flux, but are the subject of a number of legal challenges by industry and environmental groups. In addition, the Offsite Waste NESHAPS rule, which was proposed in October 1994 and contains provisions almost identical to Subpart CC, has yet to be finalized. Add to this the fact that the Agency included within the preamble, discussion of various "concepts" for implementing the requirements, but failed to include specific regulatory language, and you have a situation in which the regulated community has very little in the way of "substantive" proposals upon which to comment. While it is recognized that the Agency has been working under specific time constraints, it must allow for adequate public comment on proposed rules. It is recommended that once the Subpart CC provisions have been fully "finalized," the Agency publish a supplemental proposal outlining the specific provisions for controlling air emissions from surface impoundments managing decharacterized waste. In developing the air emission control requirements for surface impoundments, The Agency must be cognizant of several key issues:

### 1. Waste Determination Procedures

The discussion in the preamble to the proposed rule does not specify the analytical method to be used to make waste determinations, although the reader can infer that the method(s) of choice would be those required by Subpart CC. The preamble also discusses that facilities which are subject to other CAA standards, in particular the Offsite NESHAPS, would not be subject to the provisions in this proposal. Waste determination is critical to both Subpart CC and the Offsite NESHAPS; it determines whether or not a facility is subject to the technical requirements of the rules. Currently, the procedures utilized in these two rules, while similar, are substantially different. The Agency must be careful to craft the requirements of the Phase IV air emission standards so as not to subject the regulated community to an overlapping, and confusing, set of regulatory requirements. To this end it is recommended that the Agency unify the waste determination procedures for the Offsite NESHAPS, Subpart CC and the Phase IV air emission requirements.

### 2. Regulatory Threshold

In its comments on the proposed Subpart CC standards, LES supported The Agency's determination of a 500 ppmw threshold for applicability of the technical requirements of the rule. In the final Subpart CC rule, this threshold was lowered to 100 ppmw. LES does not believe the Agency has adequately demonstrated the justification for this action. In the Phase IV proposal, The Agency has applied the 100 ppmw threshold as the determinant of whether or not a particular unit is subject to the control requirements. LES does not believe that the Agency has adequately justified the application of the 100 ppmw threshold to wastes managed in non-hazardous surface impoundments. It is recommended that the EPA apply the threshold level of 500 ppmw that was originally proposed in the Subpart CC rule.

### 3. Surface Impoundment Covers

In the proposed rule, EPA discusses the use of air supported structures and membrane covers as potential methods for controlling air emissions. While these types of controls may be technically feasible, there are worker health and safety concerns that must be addressed. Covers placed on or around these impoundments would have the tendency to concentrate the vapors given off from the impoundment within the headspace beneath the cover. Has the Agency considered the impact of exposure of the employees working in and around the covered impoundments to the concentrated vapors in its risk analysis? At minimum, the Agency should consider

specific OSHA confined space and personnel protective equipment requirements. Are these technical controls ones that OSHA could support given the potential risks to workers?

Finally, LES supports EPA's use of the alternative control device requirements of demonstrating either a 95 percent reduction in the total organic content of the vapor stream vented to the control device or, in the case of an enclosed combustion device, a reduction of the vapor stream to a level less than or equal to 20 ppmw on a dry basis corrected to 3 percent oxygen. This will provide the regulated community with the flexibility needed to comply with the rule while providing adequate protection of human health and the environment. It is recommended, however, that the 20 ppmw option not be limited to enclosed combustion devices but be expanded to other types of control devices (e.g., activated carbon).

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P064

COMMENTER Dow Chemical

RESPONDER PMC

SUBJECT EQUV

SUBJNUM 064

COMMENT

I. EPA SHOULD SELECT OPTION 1 FOR PHASE IV LDR RULEMAKING

The Chem Waste decision does not mandate that EPA set standards for non-hazardous waste surface impoundments handling decharacterized non-hazardous wastes.

As a result of the Chem Waste decision (*Chemical Waste Management v. EPA*, 976 F. 2d 2(D.C.Cir. 1992)), EPA was required to set treatment standards for prohibited decharacterized hazardous wastes which are managed in Clean Water Act (CWA) facilities. The Phase III Land disposal Restriction rule was proposed in response to this mandate and satisfies the mandate of the Court ruling. Dow does not agree that the court decision extends beyond the Phase III rule to require creation of a set of regulatory standards for non-hazardous waste CWA surface impoundments. The court stated that "we agree with the EPA that, under RCRA, diluted formerly characteristic wastes may be placed in Subtitle D surface impoundments which are part of an integrated CWA treatment train" Id. at 22. The Court also said: "Thus we hold that, whenever wastes are put in CWA surface impoundments before they have been treated pursuant to RCRA to reduce the toxicity of all hazardous constituents, these wastes must be so treated before exiting the CWA treatment facilities." Id. at 22. These statements illustrate that the focus

of the Chem Waste decision was to require that decharacterized wastewaters meet the land disposal restrictions at the point where the wastewaters exit the CWA treatment facility. Furthermore, Subtitle D surface impoundments can be used as long as they are part of a CWA-regulated treatment system. The Court's ruling does not in any way specify that Subtitle D surface impoundments be modified to meet a Subtitle C management standard. Instead, the court's stipulation was that decharacterized wastewaters be treated to a level such that the NPDES discharge was equivalent to RCRA LDR treatment standards.

Creating management standards for non-hazardous waste CWA surface impoundments would violate the intent of Congress and inappropriately expand Subtitle C authority to non-hazardous waste facilities.

RCRA Subtitle D was established under RCRA as the mechanism by

which non-hazardous facilities are regulated, primarily by the states. It is inappropriate and contrary to the law to create technical standards under Subtitle C for management of non-hazardous wastewaters. Such standards would impose extensive RCRA requirements on low-risk units and create a very real economic hardship for those who currently are in compliance with all Clean Water Act requirements. Congress did not intend for this to happen or they would have required EPA to regulate both hazardous and non-hazardous waste management units in the same way. Phase IV concerns are properly and sufficiently addressed by other regulatory authorities.

RCRA is not the only vehicle for addressing the concerns raised by EPA in this Phase IV rule. There are many other rules in place that provide environmental safeguards and eliminate the need for additional regulation of non-hazardous waste CWA surface impoundments.

The potential for leaks from non-hazardous waste impoundments are addressed in several ways. Corrective action programs are required for all RCRA-permitted or interim status hazardous waste treatment, storage, and disposal facilities (TSDF). These programs require specific plans to evaluate and address any contamination from solid waste management units on the property whether the unit is hazardous or non-hazardous. Additionally, there are various state prohibition on releases to groundwater (Texas) and numerous state Subtitle D programs. As an example, the Louisiana Solid Waste Amendments (1993) require a synthetic liner with leachate collection for new solid waste impoundments. Groundwater monitoring is required for both new and existing units with requirements for remediation if contamination is detected. These state regulations also exempt systems which function similarly to those described in LDR Phase IV as tertiary impoundments (e.g., pH adjustment).

Should EPA adopt Option 2 from LDR Phase IV, Dow agrees that such impoundments located at a permitted or interim status TSDF should not have LDR Phase IV requirements.

Dow strongly supports the EPA position that impoundments located at TSDFs would have no further controls under LDR Phase IV. This is an important recognition by the agency that corrective action requirements under RCRA will adequately address Phase IV issues for non-hazardous waste CWA surface impoundments. Subsection u, of the Solid Waste Disposal Act states:

Standards promulgated under this section shall require, and a permit issued after the date of enactment of the Hazardous and

Solid Waste Amendment of 1984 by the Administrator or a State shall require, corrective action for all releases of hazardous waste or constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit under this subtitle, regardless of the time at which waste was placed in the unit.

RCRA corrective action program requires an interim status or permitted facility to (1) identify all solid waste management units, (2) determine if a release has occurred and its nature/extent, (3) address the clean up of contaminated media, and (4) incorporate the final solutions into a Compliance Plan. These measures ensure that any risk associated with a unit including non-hazardous waste CWA surface impoundments are addressed and minimized. EPA does not need to add another layer of regulation to this already comprehensive corrective action program and should exempt units at TSD facilities from Phase IV LDR should Option 2 be adopted.

Should EPA choose to adopt Option 2 for LDR Phase IV, then a proposed rule must be published for notice and comment.

EPA has not written any language for this rule (which Dow believes was appropriate since Option 2 should not be adopted), however, this makes it very difficult to comment on the potential impact to non-hazardous waste units. If EPA chooses to promulgate a Phase IV rule based on Option 2, it must first propose actual language that can be thoroughly evaluated by the regulated community. Also, EPA must wait until Phase III is final before proposing any Phase IV language. Both proposals are interrelated and the direction for LDR Phase III must be fully known in order to assess potential impact to Phase IV units from any proposed regulatory language. To adopt Option 2, EPA must propose specific language and then only after LDR Phase III rules are final in order to comply with EPA's notice and comment requirements.

Subpart CC is currently undergoing extensive revision and should not be evaluated for inclusion in this rule until all the changes to the rule have become final.

The Subpart CC standard, although promulgated, is still undergoing extensive debate and significant revisions are anticipated in the near future. It is inappropriate to be advancing a management scenario in the midst of such controversy. EPA should reexamine Subpart CC after all changes are final to determine if these requirements are justified for non-hazardous waste surface impoundments. At a minimum, EPA should not reference Subpart CC requirements as a control mechanism for Phase IV until after all



Subpart CC changes are final.

Should EPA select Option 2 and extend the applicability of RCRA Subpart CC, then it is requested that the applicable standards be taken from 40 CFR Part 265 and not 40 CFR Part 264.

Dow is concerned that the reporting requirements under Subpart CC for non-hazardous wastewater CWA surface impoundments are more stringent than those reporting requirements for RCRA interim status or <90 day hazardous waste surface impoundments. In the Phase IV proposal, EPA discusses reporting requirements and references the Part 264 requirements under Subpart CC (60 FR 43666). These requirements would require reporting in certain circumstances for non-hazardous waste surface impoundments, however, RCRA interim status or <90 day hazardous waste facilities do not have any reporting requirements under 40 CFR Part 265 Subpart CC. It is unreasonable for EPA to require reporting for non-hazardous wastewater surface impoundments when RCRA interim status and <90-day hazardous waste facilities are exempt from such reporting under Subpart CC (especially since EPA agrees that these units are low risk). In order to rectify this inequity, EPA should reference the Part 265 standards of Subpart CC rule if used for the Phase IV rules.

Should EPA adopt Option 2, Dow urges EPA to accept alternative programs by states or other authorities as a whole and not line-by-line or constituent-by-constituent comparison.

At 60 FR 43671, EPA states that "to the extent that state programs require ground water monitoring and corrective action that include the UTS constituents of concern and are substantially similar to today's proposal, EPA is deferring to those State and Tribal programs." EPA further describes that where there are differences, a facility may need to modify the existing ground water monitoring program. Such micro management of minor differences between programs is both burdensome and confusing to the regulated community and is particularly inappropriate when considering the low risk presented by these Phase IV facilities. EPA should defer to the alternative programs in their entirety.

Should EPA choose Option 2 for LDR Phase IV, Dow agrees that a two-year national capacity variance is appropriate but requests that the additional two years for retrofitting also be available to facilities that choose to discontinue receiving decharacterized wastewaters.

At 60 FR 43663, column 1, EPA discusses the two-year national capacity variance and a self-implementing procedure for two additional years. Dow appreciates the self-implementing procedure

that EPA is proposing. However, Dow believes it is necessary for the agency to allow the additional two years for facilities that choose to discontinue placing decharacterized wastes into a surface impoundment but may need the two additional years to accomplish the transition. EPA is allowing such a time frame for facilities that choose to continue receiving decharacterized wastewater but need the additional time to complete the retrofit. Furthermore, the more time that is provided, the more likely source reduction can be implemented as opposed to treating the wastewater or retrofitting the impoundment. Dow recommends that EPA grant an additional two years for facilities that stop receiving decharacterized wastewater after the promulgation date. Should EPA choose Option 2 for LDR Phase IV, they should recognize that sludges and leaks from non-biological treatment and post-treatment systems can also be low risk.

At 60 FR 43660, EPA states that sludges and leaks from biotreatment and post-biotreatment systems would not be covered by Phase IV due to the lower risks posed by these units. Dow agrees that this exemption is appropriate, however, we believe that there are other types of units that treat wastewater prior to placement in a surface impoundment which likewise achieve effective removal of constituents. These units are air strippers and steam strippers used to remove HAPs or VOC from wastewater. They achieve a significant removal efficiency of volatile organic compounds. In fact, steam strippers are considered to be the reference technology for Group 1 wastewater streams under the HON. The wastewater from these non-biological treatment units is generally of discharge quality and probably already meets NPDES limits for specific constituents, however, they may send the water to tertiary impoundments for cooling. Since these units are similar to biological units in terms of risk, EPA should exempt those surface impoundments that are downstream of air strippers and steam strippers from the Phase IV requirements.

### III. OPTION 3 MUST NOT BE ADOPTED AS THE MECHANISM OF COMPLIANCE FOR PHASE IV.

Option 3, which requires treatment of decharacterized wastewater to UTS limits prior to placement in a Subtitle D surface impoundment, is not mandated by the Chem Waste decision and should not be adopted by EPA. It would be extremely costly and provide only minor environmental benefit.

RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P065

COMMENTER Safety-Kleen Corp.

RESPONDER SS

SUBJECT EQUV

COMMENT 1. Safety-Kleen encourages the Agency to address the Phase III and Phase IV LDR rulemakings concurrently, with a common promulgation and implementation schedule. EPA has acknowledged that it did not have time to review the comments submitted on the Phase III LDR proposal prior to publication of the Phase IV LDR notice of proposed rulemaking. Safety-Kleen believes that the comments submitted on the Phase III proposal will strongly influence the Agency's actions and decisions on this Phase IV proposal. Safety-Kleen agrees with the Agency's statement that "[d]ecisions on controlling releases will be made after careful consideration of public comments on both proposals (60 FR 43655/2)." Furthermore, Safety-Kleen believes that careful evaluation of the Phase IV comments will enhance the Phase III rulemaking. Clearly, the Phase III and Phase IV rules affect highly similar facilities and are "sister" regulations. However, the currently anticipated promulgation schedules differ by several months, which will result in staggered implementation deadlines. This may cause confusion in the regulated community (e.g., which rule applies at which time), and may result in additional and unnecessary burdens (e.g., the cost and training requirements for changing the content and format of the LDR notification form multiple times within a year). Safety-Kleen encourages the Agency to promulgate the Phase III and Phase IV regulations simultaneously, in order to simplify the implementation process for the state agencies and the regulated community, and to enhance facility compliance.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660).

Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P065

COMMENTS Safety-Kleen Corp.

RESPONDER SS

SUBJECT EQUV

COMMENT 4. Safety-Kleen has significant concerns about the approach taken in the Phase IV proposal to addressing emissions from non-hazardous surface impoundments. The Agency should defer to the Clean Air Act (CAA) to address emissions from non-hazardous waste surface impoundments. The Agency has already developed numerous regulations that limit air emissions from non-hazardous waste surface impoundments, and still others are in development. Safety-Kleen encourages the Agency to defer to existing requirements under the Clean Air Act, and to refrain from creating further duplicative and overlapping air emission requirements under RCRA. Safety-Kleen believes that imposing air emissions requirements under Phase IV would not significantly reduce emissions and would not have any beneficial effect on human health and the environment. Emissions of hazardous air pollutants (HAPs) are already subject to extensive regulation under Section 112 of the Clean Air Act (CAA). Section 112 requires EPA to promulgate emission standards for industrial source categories with respect to nearly two hundred emission standards for industrial source categories, establishing Maximum Achievable Control Technology (MACT) for such categories. The following CAA regulations currently or will soon impose HAP emission restrictions on non-hazardous waste surface impoundment operations: Hazardous Organic National Emission Standards for Hazardous Air Pollutants (HON), promulgated on April 22 1994 (59 FR 19402); Benzene NESHAP, promulgated on January 17, 1993; Off-Site Waste and Recovery Operations MACT, proposed October 13, 1994 (59 FR 51913); and MACT standards for other industrial categories (including production, manufacturing, and distribution source categories), promulgated, proposed, and anticipated according to the statutory requirements of Section 112 of the CAA. These regulations place stringent controls on the emission of hazardous air pollutants from industry operations. Because regulations promulgated under Section 112 are designed to address all major sources of HAPs within the relevant source category, there is simply no need to impose duplicative requirements under RCRA. The provisions of the Clean Air Act governing nonattainment areas (CAA Sections 171 through 193) may also overlap with the proposed RCRA air emissions requirements. Those requirements impose restrictions (including

the use of Reasonably Available Control Technology, or RACT) on the emissions from existing major air pollution sources in areas that have not attained established air quality standards. The EPA has released Control Technique Guidelines establishing RACT for many industrial operations. Finally, new or modified facilities may be subject to several requirements, as discussed below. For certain industries, EPA has promulgated New Source Performance Standards (NSPS) under CAA Section 111, imposing specific requirements on all facilities within the industrial category. For areas in compliance with air quality standards, CAA Sections 160 through 169, governing Prevention of Significant Deterioration, require new or modified sources to install the Best Available Control Technology (BACT). For nonattainment areas, CAA Sections 171 through 193 require new and modified sources to apply the technology that achieves the Lowest Achievable Emissions Rate (LAER). Under the Phase IV regulations as proposed, a facility could become subject to both CAA and RCRA regulations addressing similar air emissions but with different regulatory requirements (some facilities are already subject to multiple and contradictory regulations governing air emissions). Safety-Kleen strongly objects to a regulatory scheme that creates situations of contradictory regulation at a given facility. Safety-Kleen therefore urges the EPA to address the control of air emissions through CAA authority as opposed to generating separate RCRA-authorized regulations. The Agency should not impose RCRA Subpart CC organic emissions regulations on non-hazardous waste surface impoundments. Safety-Kleen believes that extending the applicability of the Subpart CC RCRA air emission standards to non-hazardous waste surface impoundments is neither appropriate nor justifiable. The Subpart CC regulations are applicable to certain hazardous wastes. However, the impoundments proposed to be regulated under the Phase IV LDR rule manage only non-hazardous ("decharacterized") wastes. Therefore, Subpart CC should not apply. The Agency has acknowledged that the RCRA Subpart CC regulations promulgated in December, 1994, have significant flaws and require modification prior to implementation. There have been numerous legal challenges to the Subpart CC regulations, and the effective date of the rule has twice been delayed because major issues have not been resolved. Furthermore, the Agency has indicated that it intends to publish both a technical correction to the regulation and at least one major revision to the rule. Even if the Agency were

to determine that the Subpart CC requirements are to be imposed on units regulated under Phase IV, these requirements should be deferred until the many problems with the Subpart CC regulations are resolved. In fact, Safety-Kleen recommends that the Agency avoid applying the Subpart CC requirements in any proposed regulation until the problems with Subpart CC are adequately addressed and the rule is corrected.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P065

COMMENTS: Safety-Kleen Corp.

RESPONDER: SS

SUBJECT: EQUV

COMMENT 6. Safety-Kleen recommends that the Agency clarify that the Phase IV LDR regulations do not apply to on-site stormwater surface impoundments. Surface impoundments are commonly used to manage stormwater at industrial facilities. Waters accumulated in these impoundments may flow into and out of the impoundments via overland flow, through earthen ditches, or through pipes and culverts. Discharges from these impoundments are generally controlled under stormwater permits or, in some cases, National Pollutant Discharge Elimination System (NPDES) or Publicly-Owned Treatment Works (POTW) discharge permits. Safety-Kleen believes that stormwater impoundments can be legitimately exempted from the Phase IV LDR requirements because the impoundments are generally regulated under a separate regulatory program (Clean Water Act, or CWA, stormwater regulations), the influent to the impoundment is generally not hazardous waste, the impoundments pose low environmental risk, and stormwater impoundments are critical to effective facility operation.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P065

COMMENTS Safety-Kleen Corp.

RESPONDER SS

SUBJECT EQUV

COMMENT 9. Safety-Kleen believes that wastewater surface impoundments located in both interim status and permitted TSDFs should be automatically exempted from all Phase IV management standards. Safety-Kleen agrees with EPA that permitted TSDFs should be totally exempted from the Phase IV LDR requirements. During the RCRA permitting process, Subtitle D wastewater surface impoundments receiving hazardous waste constituents are required to be evaluated (as Solid Waste Management Units, or SWMUs) to determine if they are causing unacceptable environmental impact via emissions to the air, runoff to surface waters, and seepage into the soil and ground water. Such evaluations are used by the permitting authority to determine if any additional monitoring and/or corrective action is needed for the impoundments on a case-by-case basis. These inspections and subsequent later activities (as needed) assure that the impoundments are being operated in an environmentally acceptable manner. TSDFs under interim status should be provided the same total exemption as permitted TSDFs, because the same SWMU evaluations with subsequent monitoring and/or corrective action, as needed, will be conducted during the Part B permitting process or can be conducted under Section 3008(h) of RCRA. Safety-Kleen believes it would be unreasonable and unnecessary to force interim status facilities to comply with Phase IV requirements if the regulatory agency has the authority to evaluate the facility and to request site-specific corrective action measures based on those inspections and any further monitoring. Safety-Kleen requests that the total exemption from all Phase IV management standards be provided for both interim status and permitted TSDFs.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660).

Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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COMMENTS Safety-Kleen Corp.

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COMMENT 10. The tank-based exemption reference included in Figure 1 is unnecessary. The "tank-based" exemption question is an unnecessary question because (1) Phase IV regulations only address wastewater surface impoundments, and (2) the question as to whether or not wastewater surface impoundments are present has been previously addressed. Safety-Kleen recommends removing the tank-based exemption question from Figure 1.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P065

COMMENTS Safety-Kleen Corp.

RESPONDER HM

SUBJECT EQUV

COMMENT 5. Safety-Kleen agrees with the Agency's definition of point-of-generation for certain sludges. Safety-Kleen agrees with the Agency's stated intent to consider the generation of sludges in Subtitle D wastewater surface impoundments as new points of generation and, as such, outside of Subtitle C LDR controls since they are, by definition, non-hazardous wastes. Safety-Kleen points out that a similar definition would apply to a tank performing the same function.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P066  
COMMENTS American Petroleum Institute  
RESPONDER PMC  
SUBJECT EQUV  
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COMMENT

In both the Phase III NPRM and this proposal, EPA acknowledges that the risk addressed by these proposals are relatively low compared to other environmental problems faced by the Agency. 60 Fed. Reg. 11704 (Mar. 2, 1995); 60 Fed. Reg. 43656 (Aug. 11, 1995). Indeed, EPA has supported legislation which allows EPA not to promulgate the Phase III rule and clarifies that EPA is not required to proceed with the Phase IV rule. API understands EPA must address the demand of the Chemical Waste Management, Inc. v. EPA, 976 F. 2d 2 (D.C. Cir. 1992); cert. den 113 U.S. 1961 (1993) (hereinafter the "Third-third" decision) and the consent decree lodged in that action. However, EPA should not compound the burden imposed by the redundant regulation attributed to the Third-third decision by adopting an overly expansive reading of the opinion or promulgating a rule that goes much further than the court required. Since these impoundments pose little, if any, risks to human health or the environment, EPA should: exempt stormwater impoundments that receive dilute process water during storm events from the Phase III and Phase IV rules, and; adopt Option I in the proposal; i.e., no further regulation of non-hazardous impoundments. A discussion of these stormwater impoundments is provided later in these comments.

**II. EPA Should Allow Public Review of the Regulatory Language of the Option they Use.**

EPA has not proposed any specific language for the three options discussed in the preamble. To the extent that this suggests that the Agency is inclined to adopt Option I, API strongly supports EPA's approach. However, should EPA choose Options II or III, the Agency should provide public review of the regulatory language. The details of the regulatory language are particularly important in the implementation of a complex regulatory scheme, such as the LDRs. While EPA has explained its intent in the preamble, it is important for the regulated community to have an opportunity to review the actual regulatory language to ensure that it achieves EPA's intent.

Consequently, EPA should submit any regulatory language to the docket prior to finalization of the rule.

**III. EPA Should Adopt Option I, No Further Requirements for Non**

#### Hazardous Surface Impoundments.

EPA discusses three potential options for addressing what, if any requirements should attach to land based units that manage decharacterized wastes. API urges EPA to adopt Option I, which provides for no additional controls outside of the Phase III LDR. As discussed more fully below, the "Third-Third" decision does not require, or even suggest, any additional requirements for surface impoundments receiving decharacterized waste, nor was the "treatability group doctrine" affected by the court's decision. Furthermore, the low risks posed by surface impoundments regulated under the Clean Water Act (CWA) do not warrant any additional regulation under RCRA Subtitle C.

#### A. The "Third-Third" Decision Does Not Require EPA To Impose Additional Controls For Non-Hazardous Surface Impoundments.

API disagrees with the discussion in the preamble suggesting that the "Third-Third" opinion suggests that EPA should adopt requirements on surface impoundment integrity in order for the impoundment to be RCRA equivalent. Indeed, API believes that, rather than being ambiguous or silent on this issue, the court's opinion is quite clear in its conclusion that an equivalency demonstration is unnecessary for these surface impoundments. Any contrary reading of the opinion by the Agency to support such demonstrations would constitute a construction of the opinion that is clearly adverse with the court's intent, and that would be contrary to the requirements of RCRA section 1006(b) that mandates the integration of RCRA and the CWA.

In explaining its position on this issue, the Agency states that the opinion could be read to encompass requirements respecting surface impoundment integrity, air emissions and sludge treatment. 60 Fed. Reg. 43657. In EPA's view, the court's primary concern is to distinguish treatment impoundments versus impoundments disposing of previously hazardous wastes. An impoundment would be considered a disposal impoundment by EPA if it allows untreated hazardous constituents to enter the environment through impoundments or from sludges in amounts sufficient to impose significant risks.

To the contrary, the only correct reading of the opinion is that the court considered the continued use of non-hazardous surface impoundments (which include both Subtitle D impoundments and impoundments under Subtitle C delay of closure) to receive and treat decharacterized wastes to be permissible, provided only that the wastes themselves are ultimately treated to levels equivalent to RCRA standards. The opinion focusses primarily on whether



diluted or decharacterized wastewaters are treated so as to comply with the Section 3004(m) treatment standards (or their equivalent). For example, the court stated that "treatment of solid wastes in a CWA surface impoundment must meet RCRA requirements prior to ultimate discharge into waters of the United States." Language can be found throughout the opinion that indicates a focus on the treatment of the wastewaters themselves, whether prior to or during containment in surface impoundments. Nowhere in the opinion does the court criticize or even address the substantive merits of non-hazardous (v. Subtitle C) impoundments.

By way of contrast, the opinion makes several critical references to the continued use of unlined surface impoundments, which confirms that the court contemplated their continued use managing decharacterized wastes. For example, in describing the CWA treatment systems at issue, the court stated that:

Following aggregation, the facilities sometimes place the combined stream in an unlined surface impoundment as part of the CWA treatment train. These impoundments do not meet RCRA Subtitle C standards and they are regulated solely under RCRA Subtitle D. Later, the court expressly held that diluted, decharacterized wastes "may be placed in subtitle D surface impoundments that are part of an integrated CWA treatment train," provided that the wastes are themselves treated to meet RCRA standards. Several other references are made by the court to the continued use of unlined impoundments to receive decharacterized wastes, but nowhere in the decision does the court indicate or infer that the use of unlined impoundments is prohibited or that an equivalency demonstration is required.

Further language supporting a conclusion that an equivalency demonstration is not required

may be found in the court's discussion of the integration that is required under section 1006(b)(1) between RCRA and the CWA. In referring to the "accommodation" required by section 1006, the court agreed that "allowing temporary deposit of decharacterized wastes [in a Subtitle D impoundment] is a reasonable accommodation so long as complete circumvention of the treatment standards does not occur."

The court clearly attempted to remove any confusion or doubt regarding its decision, and API believes that it did so with respect to this issue. In explaining the impact of its holding, the court clarified that a decharacterized waste may be placed in a non-hazardous surface impoundment:

if the resulting CWA treatment fully complies with RCRA §

3004(m)(1). In other words, the material that comes out of CWA treatment facilities that employ surface impoundments must remove the hazardous constituents to the same extent that any other treatment facility that complies with RCRA does.

Beyond any doubt, the court considers non-hazardous surface impoundments to be a component of the entire CWA treatment facility, and it is the ultimate discharge of wastes from this facility (i.e., end-of-pipe discharges) and not the status of the facility itself, that is the court's paramount concern. Finally, the most convincing language on this issue is found in the court's summary of whether CWA systems treating diluted or decharacterized ICR wastes satisfy the section 3004(m)(1) standard. In this section of the opinion, the court stated that:

the result here is unique to CWA systems. Nothing herein permits the placement . . . of hazardous wastes or formerly hazardous wastes which have not yet met section 3004(m)(1)

Treatment Standards into non-Subtitle C surface impoundments except in existing CWA treatment systems which ultimately treat the streams to full section 3004(m)(1) standards.

Clearly the court was well aware that these CWA treatment systems do not meet Subtitle C requirements (e.g., they utilize unlined surface impoundments), but it did not make any statement, implicit or otherwise, that the design and operation of the impoundments itself had to be altered.

In summary, there is absolutely no language in the opinion that can support the Agency's interpretation that an equivalency demonstration for surface impoundments treating diluted or decharacterized ICRT wastes is necessary to ensure that the court's mandate is satisfactorily met. In fact, API believes the mandate is clear in its approval of the continued and unaltered use of such impoundments; again, provided only that the wastestreams themselves are ultimately meet RCRA standards.

#### **C. The Non-Hazardous CWA Surface Impoundments Do Not Warrant Further Regulation.**

As EPA observes in the preamble to the proposed rule, there are numerous regulatory authorities that EPA has or may use to regulate non-hazardous surface impoundments that pose unacceptable risks. 60 Fed. Reg. 43659-60. Indeed, since 1990 there have been numerous regulations, several of which are discussed below, which have dramatically reduced the toxicity of water managed in wastewater treatment systems. For example, the organic Toxicity Characteristic (TC) rule became effective subsequent to the promulgation of the "third-third" rule. 55 Fed. Reg. 11798 (Mar.

29,1995). The TC rule regulates the toxic constituents that are most likely to pose a risk to human health or the environment. As a consequence of the TC rule, many surface impoundments that were not regulated when the "Third-third" rule was originally promulgated, have become subject to RCRA Subtitle C or, to avoid such regulation, have reduced the concentration of toxic

constituents entering the impoundments.

Similarly, the Agency has promulgated listings that have subjected CWA surface impoundments to full RCRA Subtitle C regulation. For example, in 1990 EPA listed F037-038, Primary Refining Sludge. 55 Fed. Reg. 46354 (Nov. 2, 1990). This listing resulted in the Subtitle C regulation of surface impoundments upstream of biological treatment at petroleum refineries. If EPA believes that there are unacceptable threats posed by a particular unit, the Agency can apply a more appropriate mechanism to address those threats. A listing determination allows the Agency to target its regulations towards actual environmental threats, rather than employ an over inclusive blunt instrument such as option III in the preamble.

In addition, many federal air requirements reduce the risk posed by leaks and sludges as well as risks posed by air emissions. For example, in the recent Refinery MACT rule 60 Fed. Reg. 43244 (Aug. 18, 1995) the most common compliance strategy is to reduce the concentration of VOCs before the waste water is introduced to the surface impoundment. Since there are less hazardous organics entering the impoundment, the risks from any water leaking is reduced, as well as the potential adsorption of organics in the sludge. In fact, the industries covered by the Phase IV PROPOSAL have or will have air regulations that could cover wastewater treatment systems if they represent a significant source of emissions. All the industries identified as being affected by the Phase IV draft RIA are in whole or in part covered under a source category that is regulated or will be regulated under Section 112 of the CAA. Compare *id.* to 57 Fed. Reg. 31576 (July 16, 1992). As a consequence, EPA either has or will have an opportunity to regulate air emissions from waste water in a manner most appropriate to the covered facility.

In addition to these significant regulations that would directly overlap with any Phase IV regulation of surface impoundments, there are numerous reporting requirements that allow EPA or the States to ensure that toxic constituents do not pose an undue risk. Both CERCLA and the CWA have such reporting requirements. See 40 C.F.R. §§302.6, 122.42. These general requirements are in addition to specific permit conditions.

In addition, regulation of nonhazardous, subtitle D surface impoundments is contrary to the RCRA statutory scheme, and would provide redundant regulation to state Subtitle D regulatory

programs. As EPA knows, RCRA generally reserves the regulation of non-hazardous solid waste units to the states. See RCRA Section 4001 et seq.. Accordingly, EPA should not leverage its authority under section 3004(m) to regulate non-hazardous surface impoundments.

#### IV. Discussion of Option 2.

If EPA decides to regulate non-hazardous surface impoundments under the phase IV rule, EPA should adopt Option 2. As explained more fully below, biological surface impoundments do not pose significant environmental risks for sludges or leaks. Furthermore, since all petroleum refineries are subject to the petroleum refinery MACT, air emissions from waste water units are already regulated under the CAA.

##### 1. Any Water Leaking from ABT Impoundments is Substantially Treated.

The March 2, 1995 proposal states EPA's concern that leaks from surface impoundments may result in the disposal, rather than treatment, of decharacterized wastewaters. Therefore, the Agency is considering the addition of controls on surface impoundments used to manage such wastewaters. API strongly believes that aggressive biological treatment (ABT) units and units downstream used to manage decharacterized wastewaters do not warrant additional controls.

##### 3. Air Emission from Wastewater Treatment Systems are Effectively Regulated under Other Authorities.

As EPA is aware, air emissions from the wastewater treatment systems of petroleum refineries are extensively regulated. The Benzene Waste NESHAP, 40C.F.R. Part 61, Subpart FF, New Source Performance Standards (NSPS) For Petroleum Refinery Wastewater, 40 C.F.R. 60 Subpart QQ; the Petroleum Refining MACT, 60 Fed. Reg. 43244 (Aug. 18, 1995); and the RCRA Subpart CC Rule, 40C.F.R. 264 and 265 Subpart CC; all extensively regulate air emission from non-hazardous surface impoundments. These controls are in addition to state requirements.

API supports EPA's position in Option II that facilities which are covered by CAA regulations (such as petroleum refineries) will automatically fulfill any Phase IV air emission obligations. However, to avoid duplicative requirements, it is essential that EPA clarify that however a facility complies with CAA requirements, through bubbling, de minimis thresholds, or technology standards, it would not be subject to any additional Phase IV air requirements. For example, under the refinery MACT, if a facility manages less than 10 metric tons of benzene per year

in total waste, there are no further waste water requirements. In this instance, even though control measures are not required, such a facility has achieved compliance with CAA regulations. Therefore, since this standard was deemed environmentally protective under the CAA, EPA should not impose further unwarranted regulations on wastewater impoundments in the Phase IV rule.

#### 4. Groundwater Monitoring Provisions

API agrees with EPA that groundwater monitoring should not be required for biological and post biological impoundments. However, API offers the following comments on EPA's discussion of groundwater monitoring. The Option II groundwater monitoring proposal was based the Municipal Solid Waste Landfill (MSWLF) rule, which allows an authorized state to approve a multi-unit groundwater monitoring system. However, this flexibility is not included in Option II of the Phase IV proposal. Under the proposed Option II, a separate groundwater monitoring system is required for each individual treatment unit. API believes that if Option II is chosen, a flexible approach towards monitoring system design should be included in the rule.

For example, there are instances where the addition of monitoring wells between closely spaced impoundments will not significantly increase the effectiveness of a groundwater monitoring system. A mounding effect will be present on the watertable beneath a leaking surface impoundment, locally altering groundwater flow. Therefore, a monitoring well placed between two units will not be able to identify which of the units is leaking, even with prior knowledge of unaltered groundwater flow. While detection may not be as rapid, the only environmental impact that could result from one multi-unit monitoring system is to the soil and groundwater directly beneath the unit(s). Conversely, there are instances where interferences exist between surface impoundments (such as public water bodies, old Solid Waste Management Units or other contaminated property) and the ability to separately delineate the units is essential.

API therefore feels that if Option II is adopted by EPA, a flexible approach is warranted, allowing each facility to design an appropriate groundwater monitoring system based on site-specific conditions.

If a release from a surface impoundment is validated, EPA only allows two options. 60 Fed. Reg. 43672. First, the decharacterized wastestream can be rerouted to a tank. Second, the surface impoundment can be retrofitted with a double liner and leachate collection. Both of these options can be

prohibitively expensive and unnecessary.

Containment and removal/treatment of the groundwater should be acceptable as alternative means to allow continued use of an impoundment. Containment mechanisms such as generation of a cone of depression to collect and treat the contaminated groundwater or installation of a slurry wall around an impoundment provide adequate control of contaminated groundwater and do not force expensive tankage or double liner/leachate collection expenditures.

#### V. EPA Should Not Adopt Option III.

API agrees with EPA's conclusion that Option III would not be an appropriate way to regulate these units. Requiring MTR for surface impoundments managing non-hazardous waste is clearly not required by the "Third-third" decision or the RCRA statutory scheme. It would create an excessive regulatory burden and would override many reasoned and considered decisions that EPA has made in facility specific regulations. Further, retrofitting a large impoundment at a petroleum refinery could cost as much as \$100,000,000 per impoundment. As EPA observed, these costs are not justified by the risks that these units present. However, should EPA make the clearly erroneous decision to adopt Option III, the four year retrofit provision of RCRA SECTION 3005(j)(6) should apply.

If EPA determines that surface impoundments which manage decharacterized ICRT wastes must meet additional technical requirements, then the full four-year compliance period provided by section 3005(j) must be available. The issue is governed by the position adopted by EPA that section 3005(j)(6) provides that non-MTR impoundments must retrofit or close within four years of the date of identification or listing of the newly regulated wastes. See, 57 Fed. Reg. 37218-22 (Aug. 18, 1992). API supported this interpretation in its February 24, 1992 comments on the proposed LDR for Newly Identified Wastes and Hazardous Debris, 57 Fed. Reg. 958 (Jan. 9, 1992), and in its March 20, 1992 comments on the proposed Timing of Surface impoundments Retrofitting Rule, 57 Fed. Reg. 4170 (Feb. 4, 1992), both of which are incorporated here by reference.

API believes the four-year retrofit period should run from the effective date of the forthcoming revised treatment standards for ICRT wastes. First, it would be both illogical and inequitable to conclude the period would run from the initial identification of the ICR wastes (well over four years ago), since generators of such wastes will have no way of knowing that their decharacterized non-hazardous wastes could not be placed in non-MTR surface impoundments. Thus, it would be impossible to comply with that

requirement now and unfair to start the clock before notice is given that additional requirements will apply.

Second, beginning the four-year period from the date new treatment standards take effect would be consistent with EPA's conclusion in the Third-Third rule, that the period for variances from a new treatment standard can begin at the time the new standard is identified, given that for a change in the standard is functionally equivalent to applying a standard in the first instance (e.g., triggers a need to find additional or different treatment capacity). See, 55 Fed. Reg. 22594 (capacity variance for K048-K052 transferred to Third-Third). The same analysis holds for imposing MTR's under section 3005(j), i.e., the affected parties would not know and could not begin to plan for, nor undertake expensive and technically difficult retrofits or replacements of impoundments until they became aware that the decharacterized ICRTs remain subject to section 3004(m) treatment standards.

#### VII. Wet Weather Flow Impoundments Should Be Exempt from the Phase III and IV LDRs.

Because many petroleum refineries are located in areas that receive large amounts of rainfall, most facilities have extremely large stormwater impoundments. These impoundments generally fall under two classifications. One type of system is connected to segregated storm sewers. These systems would not receive any process water, and therefore would not be covered under either the Phase III or IV LDR rules. The second type of system is a stormwater impoundment which receives relatively small amounts of process water which may contain decharacterized wastewaters, along with stormwater. (Hereinafter referred to as "wet weather flow impoundments"). Wet weather flow impoundments further break down into two different types. Sometimes the mixture of stormwater and process water is retained in the basin and fed back through the wastewater treatment system at a controlled rate. In other cases, the mixture of process water and stormwater is sufficiently clean so the water is directly discharged. Separate stormwater impoundments are necessary so that the large amounts of water managed during a storm event will not flood the wastewater treatment system and interfere with the efficiency of the aggressive biological treatment unit. Also, by diverting a large flow of water it helps a wastewater system maintain its effluent discharge limit, especially for total suspended solids (TSS). Wet weather flow impoundments are fundamentally different from process water impoundments considered under this



rulemaking. Typical wet weather flow impoundments only receive waste water infrequently, in some cases only one or two days a year. Thus, they are most often dry, and lack not only the hazardous constituents, but also the hydraulic head necessary to influence migration of constituents. Further, if the UTS are exceeded at all, they are only exceeded for short, transient peaks at the beginning of storm events when the proportion of process water to storm water is the greatest. Consequently, there is limited total loading of UTS constituents into wet weather flow impoundments. Because of the very low levels of UTS constituents

that find their way into such impoundments, and the lack of a migration mechanism for constituents, the environmental risk posed by these units is small or nonexistent.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P068  
COMMENTS Amerada Hess Corp.  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 068  
COMMENT

Amerada Hess Corporation has reviewed both the final regulation and the subsequent revision to the Option 2 flowchart and revisions to the proposed BDAT standards. It believes that Option 1 as set forth in the proposal presents the most reasonable and practicable approach of the options presented in the proposed regulation. Amerada Hess understands that the intent of Option 1 is to allow reliance on Phase III LDR regulations to satisfy the equivalence standard and link Clean Water Act end-of-pipe and LDR standards to assure that the mass removal of Underlying hazardous Constituents (UHC) occurs in the CWA impoundment to the same extent that it does in conventional RCRA treatment systems. If our understanding is correct, we can support promulgation of rules encompassing option 1. We view this mechanism, coupled with existing regulatory mechanisms such as those detailed in the proposal, as preventing or sufficiently diminishing risks due to cross-media releases. Adopting this option will diminish concerns about excessive complexity and cost from the more complicated option 2 and the overregulation represented by option 3, which would undermine the value of impoundment-based wastewater treatment systems.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P071  
COMMENTS SOCMA  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 071  
COMMENT

SOCMA strongly supports Option 1 as an appropriate and reasonable accommodation and integration of the overlapping compliance obligations which otherwise could be imposed on Subtitle D surface impoundments under the Clean Air Act, the Clean Water Act and the Resource Conservation and Recovery Act (RCRA).

As is discussed below, SOCMA opposes both Options 2 and 3 because they could seriously and unnecessarily disrupt the existing wastewater treatment systems used by its members without any demonstrated environmental benefit. Option 2 is of particular concern due to its potential to rely on a series of exemptions which could subject smaller companies or facilities to significant and disproportionate regulatory burdens. SOCMA member small companies and small facilities would be at a significant disadvantage as a result of the significant capital and operating costs which they (but not all others in the industry) would incur in order to cope with the regulatory impact of Option 2.

#### COMMENTS

##### I. The Potential Impact of the Proposed Phase IV Land Disposal Restrictions Rule Must be Assessed Relative to the Batch Manufacturing Typical of SOCMA Members

In order to understand the potential significance of the proposed Phase IV Land disposal Restrictions (LDR) rule on SOCMA members, it is necessary to understand and consider the unique nature of batch processing.

Batch processing provides an efficient and frequently the only method to make small quantities of chemicals to meet specific needs and consumer demands for specialized products. Batch processors must be able to respond quickly to new requirements by customers, fill small market niches and develop new products. They are at the cutting edge of new technology, provide products often made nowhere else in the world and help keep imports down by responding quickly to customer demands for service and delivery. This segment of The Chemical industry retains a high degree of entrepreneurship and must retain the flexibility to meet changing needs and new technological developments.

Batch processes are distinct from continuous operations in that a continuous operation has a constant raw material feed to each unit

operation and continual product withdrawal from each unit operation. A batch process has an intermittent introduction of changing raw materials into the process and varying process conditions imposed on the process within the same vessel. Thus, waste streams from batch processes can vary substantially over time as compared with those of a continuously operating process. Characteristically, this segment of the chemical industry produces small amounts of a large variety of specialty chemicals, which result in the generation of low volume, highly variable wastestreams.

For example, a study conducted by SOCMA of several member company facilities indicated that the number of different products produced at a given facility could vary significantly from one year to the next. In addition, at a facility where the number of products produced was relatively more constant from one year to the next, there still could be an almost complete turnover in product mix, with few repeat products from one year to the next.

Thus, while there are several aspects of batch processing operations that have significant compliance consequences for SOCMA members with respect to the Phase IV LDR RULE, the most notable characteristic is the variable nature of the product mix which makes it impossible to predict which products will be made over the course of a year.

## II. SOCMA Supports Option 1 and Opposes Options 2 and 3 Due to Their Potential to impose Disproportionate Compliance Burdens on Many SOCMA Member Operations

Since many SOCMA members currently commingle formerly characteristic waste with nonhazardous wastewater in Subtitle D surface impoundments and rely on these impoundments to meet wastewater standards under the Clean Water Act, SOCMA is concerned about the potential impact of the proposed Phase IV LDR rule on its members. As SOCMA commented in previous comments on the Phase III LDR proposal, we believe that the court's mandate of minimizing threats to human health and the environment must be read in the context of the overlapping compliance obligations imposed by different environmental programs. SOCMA supports Option 1 as set out in the proposal, because it reflects an appropriate accommodation and integration of the different waste treatment obligations imposed by the Clean Water Act (CWA) and the air emissions standards imposed by the Clean Air Act.

For example, the Clean Air Act Hazardous Organic National Emission Standards for hazardous Air Pollutants (HON) wastewater emissions provisions apply only to plants which are major emission sources of

HAPs. It is unclear from the preamble discussion whether or not plants which would be regulated by the HON but for the fact that they are minor sources would be exempt from the air emissions controls of Option 2. Similarly, the applicability levels for process waste Volatile Organic Hazardous Air Pollutants (VOHAPs) in the HON are significantly higher than the Volatile Organic Compounds (VOC) applicability levels Under Option 2. As a result, many small plants could be subject to Option 2 air emission controls which were not considered to be sufficiently significant sources of air pollutants to be regulated under the HON.

By way of further example, SOCMA notes that the majority of its members that generate hazardous waste have made a conscious decision to manage this waste in 90-day storage areas in order to avoid obtaining a Part B permit for on-site treatment, storage or disposal operations. In order to comply with the provisions of the 90-day exemption, SOCMA members have carefully reviewed their waste generation activities and developed and implemented strategies which ensure that facilities do not generate or store more waste than can be stored and shipped within the constraints of the 90-day time limit. Presumably, there are significant environmental benefits both to SOCMA members and the public as a result of these tailored waste management activities.

Yet, under Option 2, SOCMA members who comply with the 90-day rule are placed at a disadvantage insofar as they would be regulated under Option 2 while facilities with a Part B permit would not. EPA generally justifies the exemption by reference to the RCRA site-wide corrective action program. Yet, even EPA has acknowledged that there is a wide range of experience under the corrective action program. Thus, it is quite possible that Subtitle D impoundments at a particular Part B permitted facility may not be addressed under a corrective action program for some time to come. Yet, Option 2 would automatically impose controls over comparable impoundments at facilities which have used the 90-day storage option notwithstanding the absence of any adequate demonstration of harm or risk from these units.

SOCMA is also concerned about the potential impact of the Agency's proposed exemptions with respect to pending Clean Air Act regulations. It is unclear how these exemptions would be implemented. For example, if those exemptions were not clearly defined by the effective date of Option 2 under Phase IV, then facilities presumably would still have to proceed to comply with the Phase IV regulation in the interim. Insofar as some compliance options would require significant capital expenditures

to modify existing wastewater treatment systems, it is unclear how SOCMA members might benefit from the so-called relief afforded under a subsequently promulgated Clean Air Act regulation. SOCMA appreciates that, in crafting Option 2, the Agency sought to identify simple mechanisms which would allow one to conclude that a facility might present a lower risk and therefore could appropriately be exempted from regulation. SOCMA would like to make three overall comments regarding this approach. First, the exemptions created under Option 2 finesse rather than directly address the key problem which underlies the Phase IV LDR proposal -- the absence of a degree of risk which warrants regulation. Second, a number of the exemptions require knowledge of precise levels of constituents present in a waste and thus would impose the types of testing obligations which are particularly burdensome for SOCMA MEMBERS, as noted below. Third, the exemption approach is also flawed insofar as the exemptions fail to provide equivalent treatment for comparable, or even identical, operations.

**B. SOCMA Members Would Be Disproportionately and Unfairly Burdened By Compliance with Either Option 2 or 3**

Determining that only decharacterized wastes will enter a Subtitle D impoundment, as would be required under Option 1, imposes a manageable compliance obligation on SOCMA MEMBERS. However, adoption of either Option 2 or 3 would impose significant, unnecessary testing burdens on SOCMA members. As noted above, the frequently changing nature of wastestreams from batch processing operations is a characteristic trait of many SOCMA member operations. The frequent testing that would be required for SOCMA members to evaluate these waste streams for either Option 2 or 3 would cause them to incur disproportionate compliance costs and to carry a burden not shared equally by other segments of the chemical industry.

Further, these small companies and facilities would need to assess, prior to deciding whether to make a new or slightly different product, whether the resulting wastestream might trigger any new or different compliance obligations with respect to their Subtitle D surface impoundments. Previously, companies could satisfy this concern by determining that only decharacterized wastes would enter those impoundments. However, under Options 2 or 3, the companies would need to consider how to quantify and treat the relatively insignificant levels of hazardous constituents that might be present in the ultimately non-characteristic wastestream resulting from a new or modified product. Failure to predict accurately or manage correctly the resulting waste stream could

have significant compliance consequences. A small company or facility understandably might be reluctant to undertake a new production activity under these circumstances. Thus, Options 2 and 3 could adversely affect the flexibility that is a critical element of competition in the batch processing sector. By contrast, these same concerns would not be present at ongoing continuous operations which have constant raw material feed and continuous product withdrawal.

A final compliance concern relates to the sheer complexity of both the proposed and existing land disposal restrictions regulations. Small companies often do not have the resources to call upon an outside consultant or lawyer to lead them through this regulatory maze. Nor do they necessarily have extra in-house staff that is in a position to play that same role. Simply understanding when, how and whether the Phase IV LDR regulations would apply to batch operations at small facilities could be a major compliance obstacle. This is particularly true insofar as Options 2 and 3 would take the unprecedented step of imposing these complex, RCRA hazardous waste compliance obligations on previously unregulated, nonhazardous Subtitle D surface impoundments.

Consequently, SOCMA believes that the Agency has failed to understand and assess the potential impact of Options 2 and 3 on many of its members. Given that the Agency has failed to identify any significant environmental benefits from these options, EPA should conclude its Phase IV LDR rulemaking by adopting Option 1.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.



However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P071  
COMMENTS SOCMA  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 071  
COMMENT

The proposed Phase IV LDR rule also discusses two other options: Option 2, which would impose additional regulations on certain facilities with several listed exclusions; and Option 3, which would require full treatment to Universal Treatment Standards (UTS) levels prior to release to a surface impoundment. SOCMA opposes Option 3, because it fails to recognize the need for an accommodation between the CWA and RCRA (as the Agency itself points out in the proposal). SOCMA also opposes Option 2, because its impact on SOCMA members potentially could be the same as Option 3: compliance could require that facilities segregate decharacterized wastewaters and treat them separately from other wastewaters.

RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P071  
COMMENTS SOCMA  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 071  
COMMENT

A. The Proposed Exemptions Noted for Option 2 Could Place an Unjustified Level of Control on Smaller Operations

As an initial matter, SOCMA notes that it is difficult, based upon the preamble discussion alone, to try to determine the exact scope and impact of the multiple exemptions which are used to define the universe of facilities that would be covered by proposed Option 2. Nonetheless, based on the information that is available, SOCMA is concerned that small facilities may not be addressed by these multiple exemptions.

RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P074

COMMENTS Department of Defense

RESPONDER PMC

SUBJECT EQUV

SUBJNUM 074

COMMENT

DoD supports Option One mentioned in the proposed rule. Option One has the advantage of utilizing existing federal and state programs to regulate potential leaks and air emissions from surface impoundments. Option One thus avoids duplication and is consistent with EPA's goal of clarifying and simplifying EPA LDR requirements. 60 Federal Register at 43679.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P080

COMMENTS EASTMAN

RESPONDER SS

SUBJECT EQUV

SUBJNUM 080

COMMENT IV. EPA Cannot Legally Adopt Option 3 In its Chem Waste decision, the court made clear that non-hazardous CWA treatment impoundments can be used to manage untreated characteristic wastes if two criteria are met: (1) the waste is decharacterized and (2) the toxicity of hazardous constituents in the waste has been reduced before exiting the CWA treatment facility. "Thus, we agree with the EPA that, under RCRA, diluted formerly characteristic wastes may be placed in subtitle D surface impoundments which are part of an integrated CWA treatment train. However, in order for true "accommodation" to be accomplished, we find that RCRA treatment requirements cannot be ignored merely because CWA is Implicated; that is, the CWA does not override RCRA. Thus, we hold that, whenever wastes are put in CWA surface impoundments before they have been treated pursuant to RCRA to reduce the toxicity of all hazardous constituents, these wastes must be so treated before exiting the CWA treatment facilities. In other words, CWA facilities handling characteristic wastes must remove the characteristic and decrease the toxicity of the waste's hazardous constituents to the same degree that treatment outside a CWA system would." (976 F.2d at 37) (emphasis added) EPA's option 3 requires that characteristic hazardous wastes meet UTS for underlying hazardous constituents before entering the impoundment. This option is totally inconsistent with the court's dictate since it would prohibit the management of untreated decharacterized wastes in nonhazardous CWA impoundments. It must therefore be rejected by EPA.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air

emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

There is one caveat. Characteristic hazardous wastes that are managed in CWA or CWA-equivalent systems, and for which EPA has promulgated a method of treatment as the treatment standard (e.g., high TOC ignitable wastes for which the treatment standard is recovery of organics) remain prohibited unless treated pursuant by the promulgated method.

DCN PH4P080

COMMENTS Eastman

RESPONDER SS

SUBJECT EQUV

SUBJNUM 080

COMMENT B. EPA Should Include Draft Regulatory Language in Rulemaking

Proposals In the Phase IV rule, EPA has provided preambular discussion of several options for potentially regulating air emissions, leakage and sludges from nonhazardous CWA impoundments that are used to manage decharacterized hazardous wastes. However, the Agency has failed to provide complete draft regulatory language with the proposal. Eastman believes that it is important for regulatory language to be included in proposals so that the public can ascertain whether ideas and concepts discussed in the preamble have been properly carried forward to actual rule language. The current proposal resembles an Advanced Notice of Proposed Rulemaking (ANPRM) in that a number of options are discussed, rather than having a specific proposal from the Agency, and regulatory language is not provided. Eastman believes that the Agency and public are better served when regulatory language is included in a proposal. Review of both the preamble and regulatory language by the public can help identify errors and needed corrections before a rule is finalized.

RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to

determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

Since the Agency is not finalizing any of the options addressing equivalency of treatment in wastewater treatment systems regulated under the Clean Water Act, the commenter's concerns regarding publication of regulatory language for notice and comment is moot.



DCN PH4P080  
COMMENTS EASTMAN  
RESPONDER MC  
SUBJECT EQUV  
SUBJNUM 080

COMMENT A. EPA Should Clarify That the Phase III and IV LDR Standards Are Applicable Only to Nonhazardous Impoundments In the Phase III and IV LDR proposals, the Agency addresses the need to treat underlying hazardous constituents that are present in decharacterized hazardous wastes which are managed in Clean Water Act (CWA) surface impoundments. The discussed in the court's decision and the Agency's Phase III and IV proposals focus on the management of decharacterized wastes in nonhazardous, subtitle D surface impoundments that are not subject to the more rigorous RCRA subtitle C regulations (note the following citations). 1. Chemical Waste Management v. EPA 976 F. 2d, 2, pages 3344 - "Treatment facilities operating pursuant to the CWA often receive waste streams from many sources, and generally these streams are combined for centralized treatment. Following aggregation, the facilities sometimes place the combined stream in unlined surface impoundments. These impoundments do not meet the RCRA subtitle C standards and they are regulated solely under RCRA subtitle D (solid wastes). (emphasis added). 2. 60 FR 11704 - "Characteristic hazardous wastes that are treated or diluted such that they no longer exhibit a characteristic are no longer subject to RCRA Subtitle C management standards, and thus may be discharged into units that are not subject to the stringent RCRA Subtitle C standards, such as [I]C wells." (emphasis added) 3. 60 FR 11705 - "(3) situations where characteristic hazardous wastes are diluted, lose their characteristic(s) and are then managed in centralized waste water management land disposal units (i.e. subtitle D surface impoundments or Class I injection wells) ....(emphasis added) 4. 69 FR 11708 - "EPA is considering, in addition to evaluating equivalence at the point of ultimate discharge to surface waters or to a Publicly-Owned Treatment Works (POTWs) ("end-of-pipe equivalence"), conditions for determining equivalence of treatment for decharacterized wastes managed in nonhazardous waste (subtitle D) impoundments which would ..." (emphasis added) 5. 60 FR 43657 - "Today's options to address surface impoundment releases specifically apply to Subtitle D (nonhazardous) surface impoundments that receive decharacterized wastes." (emphasis added) It is clear

that the court's concern and directives were aimed at decharacterized wastes managed in nonhazardous subtitle D impoundments. It did not express concerns, or require any additional controls, for similar wastes managed in subtitle C permitted impoundments. At two of Eastman's manufacturing plants, decharacterized hazardous wastes are treated in centralized CWA treatment systems that are comprised of state-of-the-art above-ground tank systems followed by land-based surface impoundments. At both facilities, the land-based units are not only permitted under the facility's CWA permit but are also fully permitted under RCRA subtitle C pursuant to the provisions of RCRA 3005(j)(3). Impoundments permitted subject to this statutory provision must be ones which: (A) contain treated wastewater during the secondary or subsequent phases of an aggressive biological treatment facility subject to a permit issued under section 402 of the Clean Water Act (or which hold such treated waste water after treatment and prior to discharge); (emphasis added) (B) are in compliance with generally applicable ground water monitoring requirements for facilities with permits under subsection (c) of section 3005(c); and (C) (i) are part of a facility in compliance with section 301(b)(2) of the Clean Water Act, or (ii) in the case of a facility for which no effluent guidelines required under section 304(b)(2) of the Clean Water Act are in effect and no permit under section 402(a)(1) of such Act implementing section 301(b)(2) of such Act has been issued, is part of a facility in compliance with a permit under section 402 of such Act, which is achieving significant degradation of toxic pollutants and hazardous constituents contained in the untreated waste stream and which has identified those toxic pollutants and hazardous constituents in the untreated waste stream to the appropriate permitting authority. RCRA section 3005(j)(5)(D)(ii) requires that owners/operators provide certification that the impoundments meet the conditions of 3005(j)(3), based on analysis of toxic pollutants and hazardous constituents that are likely to be present in the untreated waste stream. This certification must be made by a registered professional engineer with academic training and experience in ground water hydrology. Eastman believes that neither the court nor EPA intended to impose additional Phase III or IV LDR restrictions on CWA impoundments that are already permitted and stringently regulated under RCRA Subtitle C, such as the Eastman impoundments discussed above. However, Eastman is concerned that

the Agency has loosely used the terms "surface impoundment" and "wastewater treatment systems" when discussing the requirements of the phase m and IV rules, rather than using specific terms like "nonhazardous surface impoundments/I" or "Subtitle D impoundments. (see the following example). 60 FR 43654 - The Environmental Protection Agency is addressing issues arising from the September 25, 1992 decision of the U.S. Court of Appeals in Chemical Waste Management v. EPA, 976 F. 2d (I).C. Cir. 1992) on the equivalency of treatment in wastewater treatment systems regulated under the Clean Water Act (CWA) to treatment required by the Resource Conservation and Recovery Act (RCRA). Specifically, the Agency is considering whether to regulate potential releases to air or groundwater, of hazardous constituents from surface impoundments treating wastes...." (emphasis added). Eastman asks the Agency to add a specific statement to the applicability portions of the Phase m and IV LDR rules clarifying that they only apply to nonhazardous CWA impoundments. Also, Eastman suggests that the language in the second diamond in Figure 1, Option 2 be changed to read: "Is the Decharacterized Waste Managed in a Nonhazardous Clean Water Act or Equivalent Wastewater Treatment System(s)?"

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



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COMMENT C. Sludges Are Prohibited Only If They Are Themselves Hazardous Under option 2 in the proposed rule, sludges removed from prebiological CWA surface impoundments that accept decharacterized hazardous wastes would have to meet UTS levels. Eastman believes that no additional controls for sludges are warranted for the following reasons. First, as the Agency has stated, controls for sludges residing in the impoundments, separate from controls that address impoundment leakage, are not needed. "...EPA does not believe in-place sludges would be a release pathway separate from the leaks pathway. Put another way, by controlling leaks (as explained in the previous section), any risks posed by sludges while in the impoundment should be accounted for." (60 FR 43673) Secondly, sludges represent a new point of generation when they are removed from the impoundment and are, therefore, subject to land disposal restrictions only if they are hazardous (exhibit a hazardous characteristic) at the time they are removed. (see Wow) "EPA also reiterates that, as a legal matter, it can be argued that even no treatment of sludges is equivalent to subtitle C LDR controls. This is because generation of sludges is usually a new point of generation at which the newly-generated waste is reevaluated to determine if it is subject to the LDR standards. If non-hazardous, the sludges would not be so subject (i.e., would not be prohibited wastes). See 55 FR 22661-62. Thus, literal application of an equivalence test would result in no treatment of these sludges, since the sludges will be non-hazardous wastes by definition (they cannot be hazardous wastes because they are being generated in subtitle D impoundment), and so would not require further treatment under the standard subtitle C approach." (60 FR 43673) As the Agency has properly recognized, sludges removed from a nonhazardous impoundment are not hazardous (because they were generated in a nonhazardous impoundment) unless they are determined to be hazardous (exhibit a hazardous constituent) at the point that they are removed. No land disposal restrictions attach to the removed sludges unless they exhibit a characteristic. In its Phase III discussion of sludges generated from the treatment of

characteristic wastes in CWA impoundments (60 FR 11709), the Agency says that "Under EPA's existing interpretations of the rules, such sludges are usually considered to be prohibited wastes only if they are themselves hazardous. This is because generation of a new treatability group is considered to be a new point of generation for purposes of determining where LDR prohibitions attach." In the initial proposed rule setting forth land disposal restrictions (LDR) the Agency recognized that the most effective and efficient way to develop treatment methods would be to divide wastes into treatability groups based on similar physical and chemical properties. See 51 FR 1677. The Agency recognized in this proposed rule that setting treatment standards on the basis of waste codes is not appropriate.

"Because of the large number and variable nature of the waste within most EPA waste codes, it is usually not appropriate to evaluate treatment methods and their effectiveness on a waste code basis.... Waste may also be grouped according to the constituent properties since these properties influence waste treatability. For example, all waste containing volatile organic constituents may form one treatability group, while waste containing soluble organics may form another group. Other groups may consist of waste containing metals or cyanides." It follows from this position that in order to determine what treatment standards apply one must know what treatability group is involved. And the determination of a treatment standard can occur only after the treatability group is generated. EPA confirmed its use of treatability groups in making a determination of applicable restrictions in the final rule issued November 7, 1986, 51 FR 40572. In describing the sequence to be followed in determining LDR the Agency stated at page 40620: "Sequence 1 in the generator's decision-making process commences with a determination of the appropriate treatability group and corresponding Part 268 Subpart D treatment standard ... The Agency is requiring that applicable Part 268 Subpart D treatment standards for a restricted waste be determined at the point of generation." A statement that a change in treatability group creates a new point of generation is found in the final rule for land disposal restrictions for California list waste, 52 FR 25760 at page 25767, which in turn reiterated a statement found in 52 FR 22356 at 22357. In both instances the Agency explained an exception to the principal that treatment residues from prohibited waste must continue to be treated until they meet the treatment standard. As the Agency explains: "This is

where treatment results in a residue that belongs to a different treatability group than the initial waste and the Agency has already determined that there is inadequate nationwide capacity to treat the waste belonging to that group." As an example, the Agency described the incineration of an F001-F005 spent solvent that generates a scrubber water. Further treatment of the scrubber water is not required because ... this scrubber water belongs to a different treatability group ... It is obvious from this discussion that as the treatability group changes the determination of applicable land disposal restrictions changes also. It follows that since land disposal restrictions are determined at the point of generation (as described previously) then a change in treatability group is a new point of generation. See also 55 FR 22520 at 22544: "Additionally, this is in keeping with the general principle established in these rules that determination of whether a characteristic waste achieves BDAT must be reevaluated whenever a treatment residual is generated. Put another way, each new treatability group has a new point of generation for a characteristic waste." See also 53 FR 31138 at 31209: "Of course, if in the course of managing the waste a new treatability group is created, for example, scrubber water from the incineration of a nonwastewater, the treatment standard applicable to this new treatability group will apply." From the above it is apparent that from early on in the development of the land disposal restriction rules the Agency has emphasized both the concept of determining applicability of land disposal restrictions at the point of generation and the concept that treatment standards are based on treatability groups and that a change in a treatability group is a new point of generation. As EPA pointed out in the third-third rule, this approach to treatability group changes "provides a clear line of demarcation, avoids the enormous difficulties associated with determining new treatability groups every time a hazardous waste (in this case non-hazardous waste) is altered in some respect and avoids having an initial waste's status as prohibited determined in all cases by some later management of a residue derived from the initial waste". See 55 FR 2266. It is also apparent that the court in the third-third decision nowhere addressed the issue of a change of treatability groups or, for that matter the issue of treatability groups at all. Thus, EPA cannot rely on the court decision as a mandate to change its position on point of generation or treatability groups. If these changes are to be made they must be made on their own merits and

not as a requirement of the court.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



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COMMENT A. Option 1 Satisfies the Court's Mandate When Congress enacted RCRA in 1976, it recognized the pre-existence of several environment statutes including the Clean Water Act (CWA), and in section 1006(b) of RCRA instructed the Agency to integrate provisions of RCRA and other statutes when implementing RCRA and to avoid duplication, to the maximum extent practicable, with the provisions of those statutes. In the Third Third land disposal restriction (LDR) rule, EPA made a key policy decision consistent with Congress' directive when it determined that characteristically hazardous wastes were no longer regulated by RCRA once they lost their characteristic, thereby allowing decharacterized wastes to be managed in nonhazardous CWA treatment systems without having to meet the requirements of RCRA subtitle C. EPA's policy decision was challenged in *Chemical Waste Management v. EPA*, 976 F. 2d 2(D.C. Cir. 1992). In this Third Third decision, the court said: "Although a surface impoundment is technically a form of "land disposal," and treatment therein normally would be at odds with the commands of RCRA, this approach is nonetheless acceptable because RCRA requires some accommodation with CWA. However, in all other respects, treatment of solid wastes in a CWA surface impoundment must meet RCRA requirements prior to ultimate discharge into waters of the United States or publicly owned treatment works ("POTWs") 976 F.2D at 20. Therefore, the court upheld EPA's accommodation of RCRA and the CWA by allowing continued use of nonhazardous CWA impoundments to treat formerly characteristic hazardous wastes. The court added only one qualifier to this accommodation, that the wastes meet RCRA requirements prior to discharge into surface waters or POTWs. EPA has addressed this requirement in the proposed Phase III rule where it proposed that treated effluent from a nonhazardous CWA system (managing decharacterized hazardous wastes) meet CWA technology-based or water quality-based standards, or the RCRA Universal Treatment Standards (UTS). This "end-of-pipe" treatment demonstrations fully satisfies the courts mandate. Nowhere in the Third Third decision does the court require, or even address, air emissions, leakage, or sludges. In the Third Third rule, EPA acknowledged

that the NPDES technology-based requirements of the CWA provide for treatment of wastewaters prior to discharge and that, indeed, many of the LDR treatment standards are based on data used to set the CWA standards. Therefore, the Agency concluded: "Thus, EPA believes the overlap of an LDR dilution prohibition where an NPDES treatment train includes a nonhazardous treatment impoundment would not substantially further the treatment goals of the land disposal restrictions." (55 FR 22657) Therefore, the Agency need not set any additional requirement other than the Phase m "end-of-pipe" treatment demonstration to meet the court's requirement or the intent of the land disposal program. In fact, to impose VOC, leakage, and sludge controls, beyond the end-of-pipe demonstration, would saddle nonhazardous surface impoundments with more stringent land disposal treatment demonstrations than are required of hazardous waste treatment units. The court did not intend or even suggest that EPA impose this additional burden on nonhazardous impoundments. When it rendered its decision, the court fully understood that the impoundments at question were nonhazardous CWA impoundments not subject to RCRA controls for-VOC emissions, leakage, or sludges. Yet, it did not specify that these issues need be addressed, only that a demonstration be made that hazardous constituents in the characteristic wastes be reduced prior to discharge to the same degree that they would be by other RCRA treatment. Again, this requirement is fully satisfied by the Agency's proposed Phase m "end-of-pipe" treatment demonstration. B. VOC Emissions, Leakage, or Sludges from Nonhazardous Impoundments Do Not Represent a Significant Threat to Human Health and the Environment In the Phase m proposed rule, EPA acknowledged that characteristic wastes treated in nonhazardous surface impoundments pose little risk. "That being said, the risks addressed by this rule, particularly UIC wells, are very small relative to the risks presented by other environmental conditions or solutions. In a time of limited resources, common sense dictates that we deal with higher risk activities first, a principle on which EPA, members of the regulated community, and the public can all agree." (60 FR 11704) The wastes at issue in this rulemaking are low-risk dilute wastewaters containing formerly characteristic wastes that no longer exhibit a hazardous constituent. Managing these wastes in CWA-permitted treatment systems insure that they are properly treated prior to discharge. The end-of-pipe treatment demonstration proposed in the Phase m proposal further insures that hazardous constituents

in the wastes have been treated. EPA has not adequately demonstrated that the residual risks associated with management of decharacterized hazardous wastes in nonhazardous CWA impoundments, after implementation of the Phase m controls, are sufficient to justify additional controls on sludges, VOC emissions, or leaks. Based upon very conservative generic risk assessments which did not include consideration of site-specific parameters, EPA concluded that leakage is likely to be of concern only from pre-biological treatment units and that risks from sludges are low for all industries for which data was available ("Regulatory Impact Analyses of the Phase IV Land Disposal Restrictions; August 7, 1995 p. ES-7). Eastman believes that the Agency's risk screening is flawed and that it overstates the risks associated with nonhazardous CWA impoundments. Eastman is a member of the Chemical Manufacturers Association (CMA). CMA commissioned Gradient Corporation to review EPA's risk assessment methodologies and conclusions. Eastman includes the Gradient study and CMA's comments on the risk assessment by reference in its comments. The CMA review showed that much of the data used in the Agency's risk screening is old, outdated, and not representative of current impoundment operations. Gradient found a number of problems with EPA's screening methodology and concluded that the Agency's estimates of risk are greatly overstated, in some cases by a factor of over 660. EPA has even publicly supported the premise that additional controls on CWA treatment systems are not needed. On July 20, 1995, Michael Shapiro, Director of EPA's Office of Solid Waste, testified before the House Subcommittee on Commerce, Trade and Hazardous Materials, in connection with a bill proposed by Rep. Oxley that would, among other things, reinstate much of EPA's Third Third Regulation. Mr. Shapiro described the Third Third rule as originally promulgated by EPA, and the decision of the D.C. Circuit in *Chemical Waste Management v. EPA*, 976 F.2d 2 (D.C. Cir. 1992) (hereinafter referred to as the "Chem Waste" decision), which forced EPA to modify the rules. He pointed out that the risks addressed by the resulting Phase m rule [and thus those addressed by the Phase IV rule as well] are small relative to the risks presented by other environmental conditions or situations; nevertheless, the Agency is required to set treatment standards for these relatively low risk wastes and disposal practices." (Shapiro Testimony at 13, 14.) Published reports have indicated that Mr. Shapiro stated that he would not oppose the section of the Oxley bill that

would reverse the Chem Waste decision as to wastes managed in CWA systems or UIC injection wells. (Pesticide & Toxic Chemical News, July 26, 1995, at 13.). In March 1995, President Clinton promised to provide Congress with a list of "rifle-shot" legislative proposals that would "[f]ix provisions of RCRA which result in high cost while providing only minimal environmental benefits." The Administration has drafted two rifle-shot reform proposals. One proposes a return to the Agency's position prior to the Chem Waste decision, that is, a complete deferral to CWA regulations for decharacterized hazardous wastes managed in nonhazardous CWA treatment systems (Inside EPA, October 25, 1995, p.1). In light of the low risk posed by decharacterized hazardous wastes that are treated subject to CWA regulations and the Agency's consistent support for the policy decision (to defer to CWA regulations) that it promulgated in the Third Third rule, it cannot in good conscious impose additional costly burdensome regulatory requirements on CWA treatment systems. To do so would be totally inconsistent with the Agency's regulatory reform objectives. The Agency must recognize that many of the additional controls that it is contemplating will be very expensive to implement. Eastman alone could incur costs in excess of \$100 million dollars if it is forced to replace its CWA impoundments with tank systems. EPA has no justification for disrupting these long-standing wastewater treatment operations. Eastman agrees with the Agency's preambular discussion; our energy and capital funds could be much more productively used in other areas. Eastman urges the Administration to accelerate its rifle-shot legislative reform efforts. In the meantime, the Agency should adopt Option I in the Phase IV proposal. C. Air Emission, Leakage and Sludge Concerns Are Already Addressed By Other Statutes and Regulations Section 1006(b) of RCRA instructs the Administrator to avoid duplication, to the maximum extent practicable, with the appropriate provisions of other statutes. In the context of the Phase III and IV rulemakings, it is important not only for EPA to integrate the requirements of RCRA with existing CWA requirements, but that it also avoid duplication with existing federal, state, local and tribal statutes and regulations. Eastman believes that existing regulations are sufficient to adequately address air emissions, leakage and sludge concerns at nonhazardous CWA treatment systems. EPA need not, and should not, add duplicative controls on top of those that already exist. 1. Air Emissions Emissions of hazardous air pollutants are already subject to Section 112

of the Clean Air Act. Section 112 requires EPA to promulgate emission standards for industrial source categories with respect to nearly two hundred hazardous air pollutants, establishing Maximum Achievable Control Technology ("MACT") for such categories. Many chemical companies are already covered by the HON ("Hazardous Organic National Emission Standards for Hazardous Air Pollutants") regulation, promulgated on April 22, 1994 (59 Fed. Reg. 19402), or by the Benzene NESHAPS, promulgated on January 17, 1993. Another relevant NESHAP that has recently been proposed governs off-site waste management operations. These regulations, taken together, place stringent controls on the emission of hazardous air pollutants from the organic chemicals industry. MACT standards for other industrial categories have been or will be promulgated by EPA according to a statutorily-imposed schedule, including some 70 additional chemical production or manufacturing source categories and the organic liquids distribution source category. EPA is also required under section 112(f) of the CAA to review the residual risk after MACT controls are established as part of the overall program to control HAP emissions. This CAA-authorized program will address all emissions of HAPs, including MACT controls on HAP emissions from wastewaters generated from manufacturing operations. Since regulations promulgated under Section 112 are to cover all major sources of hazardous air pollutants, there is simply no need to impose duplicative requirements under RCRA. The provisions of the Clean Air Act governing nonattainment areas (CAA §§ 171-193) may also overlap with the proposed RCRA air emissions requirements. Those requirements impose limitations (including the use of Reasonably Available Control Technology, or "RACT") on the emissions from existing major air pollution sources in areas that have not attained established air quality standards. New or modified facilities may also be subject to several requirements: (a) for certain industries, EPA has promulgated New Source Performance Standards under Section 111 of the Clean Air Act, imposing specific requirements on all facilities within the industrial category; (b) for areas in compliance with air quality standards, Sections 160-169 of the Clean Air Act, governing Prevention of Significant Deterioration, require new or modified sources to install the Best Available Control Technology ("BACT"); or (c) for nonattainment areas, Sections 171-193 require new and modified sources to apply technology that achieves the Lowest Achievable Emissions Rate ("LAER"). EPA should defer to programs already in

place or scheduled for development under the CAA rather than generating separate regulations under RCRA authority. 2. Impoundment Leakage Leakage from impoundments are usually addressed under state water or solid waste authorities. For example, the Tennessee Water Quality Act requires the state to issue a permit for any activities that result in the discharge of sewage, industrial wastes or other waters into surfacewaters or groundwater, or from which it is likely that the discharged substance will move into surfacewaters or groundwaters (IN 69-3-108). Typically CWA surface impoundments employ completely mixed biological treatment such that the concentration of a contaminant in the impoundment and in any leakage is the same as that discharged in the effluent. Since any leakage from these units typically moves toward and discharges into nearby surface waters, and since the volume of leakage is small in comparison to the discharged effluent, no appreciable risks are typically associated with leakage beyond the risks addressed in the CWA permit for the effluent. Many CWA surface impoundments are located at RCRA-permitted or interim status TSDFs and are subject to RCRA 3004(u) or 3008(h) corrective action. Therefore, authority already exists to address leaks from Solid Waste Management Units (SWMUs) at these facilities. In addition, EPA has authority under RCRA 7003 to take action when a leak of any solid or hazardous waste may present an imminent and substantial endangerment to health or the environment.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to

determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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COMMENT Thus, RCRA regulations are adequate to manage sludges from nonhazardous CWA systems. D. RCRA Land Disposal Rules Are Not the Right Mechanism to Regulate Nonhazardous Surface Impoundments Eastman has presented a number of reasons why it is not necessary to impose any additional controls on air emissions, leakage, or sludges. Nevertheless, if the Agency should determine that additional controls are necessary, they should be implemented under more appropriate Subtitle D authority. The impoundments at question in the Phase IV rule are nonhazardous impoundments managing nonhazardous wastes. The proper arena for implementing any additional requirements for these nonhazardous impoundments is through state industrial nonhazardous waste programs. III. Comments on EPA's Proposed Option 2 A. EPA Should Resist Adding the Administrative Burden That Option 2 Imposes Conceptually the approach proposed for addressing air emissions, leaks and sludges in Option 2 is reasonable in that it exempts facilities from additional controls where it is determined that adequate requirements are already in place. However, this option places additional administrative burdens on the Agency and regulated facility, to make that determination, even where adequate controls do actually exist. EPA should refrain from adopting Option 2, including this increased administrative burden, just because it may be more politically palatable. EPA should not fail to adopt Option 1 out of fear of being criticized for not taking any action. There are, as Eastman has previously discussed, adequate technical and policy reasons why the Agency can feel comfortable adopting Option 1 and restoring a measure of the RCRA/CWA accommodation that it promulgated in the Third Third rule. EPA has sufficiently addressed the court's requirements by its proposed Phase m "end-of-pipe" treatment demonstration. Nothing more is needed. B. If Option 2 is Adopted, Exemptions Should Be Broadly Defined As Eastman has said many times in these comments, it believes that EPA can, and should, adopt Option 1 (coupled with the end-of-pipe demonstration proposed in Phase m) to achieve the accommodation between RCRA and the CWA dictated by Congress and the treatment demonstration required by the Chem Waste decision. However, if for any reason EPA decides to adopt



Option 2, it is extremely important that the exemptions proposed in Phase IV be retained. Eastman believes that these exemptions should be written as broadly as practicable so that the Agency can avoid imposing duplicative, unnecessary requirements where federal, regional, state, local or tribal controls already exist. Eastman believes that the general exemption for units located at TSDFs and the exemption from air emission controls for facilities otherwise subject to federal, regional, state, local, or tribal requirements are especially critical.

1. TSDF Exemption - Eastman agrees with the proposed exemption from Phase IV requirements for impoundments located at TSDFs. Units, including nonhazardous CWA impoundments, located at permitted or interim status TSDFs are subject to RCRA corrective action under RCRA section 3004(u) or 3008(h). Any releases from these units are subject to investigation and potential corrective measures. EPA need not add any additional controls under the LDR program. Eastman believes that the diamond dealing with this exemption in Figure 1, Option 2 should be changed to read as follows: "Is the surface impoundment located at a TSDF which is subject to corrective action under RCRA 3004(u) or 3008(h)?"

2. De Minimis Exemption - Eastman believes it is appropriate to establish a de minimis exclusion from the definition of a hazardous waste for decharacterized hazardous wastes managed in Clean Water Act Systems consistent with similar de minimis provisions included in 40 CFR 261.3(a)(2)(iv). The establishment of such a provision would be consistent with EPA's stated goal of providing regulatory flexibility while recognizing the court's desire to avoid a wholesale disruption of existing CWA surface impoundments as long as hazardous constituents are adequately managed so as to assure protection of human health and the environment. 40 CFR 261.3(a)(2)(iv)(D) excludes de minimis losses of commercial chemical products or chemical intermediates (many of which contain high percentages of hazardous constituents) from the definition of a hazardous waste if the de minimis losses are combined with wastewaters for treatment in wastewater systems the discharge of which is subject to regulation under either section 402 or section 307(b) of the Clean Water Act. In addition, 40 CFR 261.3(a)(2)(iv)(E) excludes laboratory operations containing toxic wastes (and, therefore, hazardous constituents) from the definition of a hazardous waste if the generator meets certain conditions. The generator must demonstrate that laboratory wastes are discharged to onsite wastewater treatment facilities the discharge of which

is subject to regulation under either section 402 or section 307(b) of the Clean Water Act. In addition, the annualized average flow of laboratory wastewater must not exceed one percent of total wastewater flow into the headwork of the facility's wastewater treatment or pre-treatment system, or provided the wastes combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pretreatment facility. In both cases, EPA recognizes the practical aspects of materials handling and laboratory waste generation and management activities while recognizing that insignificant contributions of hazardous waste do not measurably compromise the protection of human health and the environment. Eastman recommends that the Agency follow the precedent it set with the lab waste de minimis exclusion by excluding de minimis quantities of solid wastes exhibiting a hazardous characteristic from the definition of a hazardous waste if they are treated in CWA impoundments. This can be accomplished by adding the following at 261.4(b).

261.4(b)(15) Wastewaters which exhibit one of the characteristics of a hazardous waste defined in subpart C of 40 CFR part 261, provided, the generator can demonstrate that the wastewaters are treated in the facility's wastewater treatment or pretreatment system the discharge of which is subject to regulation under either section 402 or section 307(b) of the Clean Water Act and: (i) That the total annualized flow of the characteristic wastewaters does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment system or pretreatment system, or (ii) Provided that the combined average concentration of underlying hazardous constituents in the waste does not exceed one part per million in the headworks of the facility's wastewater treatment facility or pretreatment system.

3. Biological/Post - Biological Exemption for Impoundment Leakage and Sludge Controls - Eastman supports the proposed exemption from Phase IV leak and sludge control requirements for biological and post-biological impoundments but believes that it should be extended to exempt biological and post-biological CWA impoundments from additional air emission controls. From its risk screening evaluations, the Agency concluded that no significant health risks were associated with leakage from CWA biological and post-biological impoundments. "Our analysis also suggests that there is unlikely to be a significant difference in the risk reduction benefits between variants that consider all surface impoundments and

variants that consider only pre-biological surface impoundments. In the baseline risk analysis, we found that no significant health risks were associated with sampling points after the biological pond influent. These data indicate there are no incremental risk reduction benefits of leak requirements for post-biological ponds. Unfortunately, there are no direct measurements of constituent concentrations in biological ponds or in leaks from these ponds. If leaks from biological ponds contain concentrations that are close to the effluent concentrations from these ponds, our analysis indicates that there would be no incremental benefits from requirements on biological ponds either." (Regulatory Impact Analysis of the Phase IV Land Disposal Restrictions and Summary of Data Needs for Phase IV Rulemaking, August 11, 1995, page 2 63) (emphasis added). As stated elsewhere in these comments, biological treatment units usually employ very thorough mixing so it is reasonable to assume that any leaks from the impoundment and the effluent from the impoundment will have essentially the same constituent concentration. Therefore, EPA's conclusion that neither biological nor post-biological impoundment leakage pose a health threat and that imposition of additional controls on these impoundments would result in no incremental environmental benefit is well founded. Similarly, the Agency concluded from its risk screening that requiring removal of sludges from biological and post-biological impoundments and treating hazardous constituents to UTS levels would result in no significant incremental environmental benefit. "In three of the four industries for which sludge data are available, we estimate there are no significant health risks associated with the baseline management practices (i.e., leaving the sludge in place or dredging and disposing without treatment). In the fourth industry, OCPSF, our results indicate there is a small reduction in health risks when OCPSF sludges are treated to UTS levels. When DAF 500 is used, there are potential health risks from one pre-bio sample under baseline management practices and after UTS treatment; however the risk posed is one order of magnitude lower after treatment to UTS. At the bio sampling point, treatment to UTS does not change the distribution of risks presented by the sludges. These results are reported in Exhibit 2-25. If these data are representative, the incremental risk reduction for sludges appears to be minimal. As a result, variants of Regulatory Alternative 2 that include the sludge requirements may have very little additional health risk

reduction benefits compared to variants that exclude sludge requirements. It is important to note, however, that only a very limited quantity of sludge data was available." (Regulatory Impact Analysis of the Phase IV Land Disposal Restrictions and Summary of Data Needs for Phase IV Rulemaking, August 11, 1995, page 2.63 and 2.64) (emphasis added). Eastman believes that the Agency risk screening methodology and underlying data are flawed and overstate the risks associated with CWA impoundments. Even so, the Agency's conservative-screening results fail to demonstrate that sludges in any CWA nonhazardous surface impoundments pose a significant risk or that imposing the proposed Option 2 sludge controls would result in any appreciable incremental environmental benefit, let alone justify the costs associated with implementing those controls. This lack of risk showing, coupled with the Agency's acknowledgment that any concerns over sludges residing in impoundments are adequately addressed by leak controls and the fact that sludges removed from a nonhazardous CWA impoundment represent a new point of generation to which no LDR requirements attach unless the sludge exhibits a hazardous characteristic, lead to the conclusion that no sludge controls for pre-biological, biological, or post-biological CWA impoundments are justified. EPA clearly should adopt Option 1, requiring no additional sludge controls.

4. Biological/Post-Biological Exemption for Air Emission Controls - Eastman believes that the Option 2 exemption from leakage and sludge controls afforded biological and post-biological impoundments should be extended to air emission controls. Eastman has used EPA's WATER 8 emissions model to estimate the potential air emissions from various parts of one of its large wastewater treatment systems. Eastman modeled the 46 organics that are included in its annual TRI report. This system is comprised of equalization and neutralization (pre-bio) conducted in tanks, aggressive biological treatment conducted in tanks (bio), and final polishing conducted in a CWA impoundment (post-bio). While Eastman believes that this model is conservative and overestimates the magnitude of air emissions, it is instructive to compare the relative predicted emissions levels from the three types of units (pre-bio, bio, and post-bio). This comparison shows that, for this Eastman treatment system, 77.7% of the total predicted organic emissions are attributable to the pre-bio units, while 22% is attributable to the bio units and only 0.3% to the post-bio unit. In preparation for

implementation of the RCRA subpart CC rule, Eastman has determined the volatile organic concentration, using EPA method 25D, at various locations in this same treatment system. Specifically, samples from the influent to the pre-bio unit and the effluent from the bio unit were sampled every 15 minutes for three hours on February 22, 1995. These samples were sent to Research Triangle Institute, Research Triangle Park, North Carolina for analysis by EPA Method 25D. Results show that, while the total concentrations of volatile organics introduced to the pre-bio units ranged up to over 200 ppm, none of the samples collected at the effluent from the bio units contained detectable levels of volatile organics. Wastewaters in the biological units are well mixed so it is logical to assume that the measured effluent concentrations (non-detect) are reasonable approximations of the concentrations in the biological units. So, Eastman's data shows that the concentration of volatile organics in its bio and post-bio units are very low (non-detect). Therefore, the potential for volatile organic emissions from these units is immeasurably low. In Exhibit 2-24 of EPA's Regulatory Impact Analysis of the Phase IV rule (August 11, 1995, p. 2-62), the Agency lists the estimated baseline annual population risks attributable to organic air emissions for the eleven industry categories evaluated in the rule. The total estimated baseline cancer cases are 2.3-2.5 annually. Exhibit 2-24 also lists the estimated post-regulatory (after implementing Option 2 air emission controls) annual population risks. The total estimated post-regulatory cancer cases are 1.5-1.6 annually. In other words, the Agency has estimated that implementation of Option 2 organic air emission controls on all types of CWA impoundments (pre, bio, and post) will result in a reduction of .8 to .9 cancer cases per year. Eastman questions whether the Agency's risk assessment methodology is even precise enough to measure this small change with any degree of statistical accuracy, particularly when the Radiant study shows that the Agency's risk estimates related to air emissions are high by a factor of over 600. Eastman believes that the high costs of implementing subpart CC controls on CWA impoundments is totally unjustified relative to the very small reduction in risk that may be achieved. They certainly are not justified for bio and post-bio units. Eastman data shows that only 22.3% of the predicted emissions from its wastewater treatment system can be attributed to bio and post-bio units. Therefore, applying Option 2 air emission controls to these types of units, by EPA's own

estimates, would likely result in a reduction of less than 0.2 cases per year  $[(8-9) \times 22.3\%]$ . EPA must not impose the costly Option 2 controls on these units with such meager, questionable benefits. 5. CAA Exemption - EPA has proposed to exempt CWA surface impoundments from the Option 2 air emission requirements if other federal rules already address VOC emissions. "To avoid duplication with other requirements, EPA would defer to other federal rules which establish controls addressing the same situations. Deferral would occur where the existing program addressed the specific UHCs of concern. In the case of air emissions, EPA would defer to standards regulating total volatile organics, as adequately covering air emissions of UHCs from this type of treatment. In addition to existing regulations, there are some CAA air emission limits under development. Inefficiencies and confusion could occur if Option 2 controls were applied and soon superseded by upcoming CAA standards. Facilities subject to CAA standards for hazardous air pollutants (in particular, those promulgated pursuant to CAA 112) in the near future thus would not be covered by Option 2 air emission controls." (60 FR 43660) (emphasis added) Eastman supports this exemption. It is necessary to avoid the unnecessary overlap between statutes that Congress prohibited at RCRA section 1006(b). Eastman encourages the Agency to structure this exemption very broadly to include air exemptions not only for impoundments subject to federal CAA standards, but also to impoundments that are subject to constituent-specific or total VOC emission controls under regional, state, local, or tribal authorities. This exemption could be implemented simply by requiring the regulated facility to maintain in its operating record verification and a certification that its affected CWA impoundments are regulated for either specific-constituent or total VOC emissions. EPA should not limit this exclusion to a specific list of federal CAA regulations but, rather, should defer to any federal, regional, state, local, or tribal authority that specifically regulates specific-constituent emissions or VOC's from the affected impoundments.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the

President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P081  
COMMENTS Rohm and Haas  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 081  
COMMENT

Rohm and Haas is a world class manufacturer of methyl methacrylate (MMA), a monomer used in the manufacture of Plexiglas<sup>®</sup>. This useful compound finds its way into automobile light lenses, floor polishes, laundry detergent, and numerous other consumer products. Rohm and Haas operates an integrated manufacturing facility for the production of hydrogen cyanide (HCN) and acetone cyanohydrin (ACH) as precursors to MMA and other products. The plant is located on the Ship Channel outside of Houston, Texas.

The HCN and ACH processes generate large volumes of waste water. Some of the waste water streams are hazardous at their point of generation because they exhibit the characteristic of corrosivity, and some of those hazardous waste streams contain low concentrations of cyanide (10 to 50 times the Universal Treatment Standards ("UTS") and ammonia. HCN is also used in the manufacture of various amines in the Primenes<sup>®</sup> area. Some of the internal streams from the Primenes<sup>®</sup> area are also characteristic for corrosivity and contain cyanides.

Most of the hazardous waste water from the units that manufacture or use cyanide-bearing materials is collected in one large tank identified as the 91357 Tank. The individual feed streams to the 91357 Tank have one thing in common - they have the potential to contain and must be treated to remove cyanide. Although the composition and characteristics of the individual waste streams may vary based on the operating parameters and the exact product manufactured, the composition of the waste in the 91357 Tank is relatively uniform over time.

From the 91357 Tank the aggregated waste water is fed to an ammonia and cyanide stripper. The cyanide and waste ammonia streams are destroyed in a flare, and the waste water, containing reduced levels of cyanide, is sent to the centralized waste water treatment plant. However, this treated stream may contain cyanide up to 10 times the UTS after treatment and before commingling. The waste water goes through API-type separators and pH adjustment, followed by aggressive biological treatment in a large, aerated, clay-lined surface impoundment. The treated waste water is discharged under a NPDES permit to the Houston Ship



Channel.

The NPDES permit contains specific limitations on the discharge of cyanide which, for both total and amenable cyanides, are greater than the UTS levels. The Rohm and Haas operation may be severely impacted if Phase IV sets standards for leaking, sludges and volatilization which the surface impoundments will not meet, even though Rohm and Haas is doing appropriate non-land based treatment for cyanide and is subject to Clean Water Act limits at the waste water treatment plant outfall.

Rohm and Haas strongly supports the promulgation of Option 1. Rohm and Haas strongly supports the promulgation of Option 1 as set forth in the proposed Phase IV rule. If the Phase IV Option 1 approach is adopted, Rohm and Haas expects to continue its operations and waste treatment as they are today and to address leaking, sludges and air emissions under the appropriate regulatory schemes. This is clearly Rohm and Haas preferred option.

Rohm and Haas has consistently stated that the LDR program is the wrong regulatory scheme to address the purported risks from waste water treatment plant effluent, and surface impoundment leaks, sludges and air emissions. Rather, the effluent should be addressed by the Clean Water Act (as proposed in Land Disposal Restrictions Phase III 60 Fed. Reg. 11702, March 2, 1995), the leaks should be addressed by corrective action and groundwater protection laws, sludges should be addressed by normal RCRA rules (with the removal of the sludge constituting a new point of generation), and air emissions should be addressed by the Clean Air Act. EPA should use this and every opportunity to halt the tendency of RCRA to encroach into all areas of health, safety and environmental regulation.

#### V. Option 2

Rohm and Haas believes that Option 2 as set forth in the August 22, 1995 proposed rule is too complicated, is overly restrictive, and creates too much uncertainty. The effects of Phase IV Option 2 are unclear at this point, largely because there are so many unanswered questions regarding the implementation details. At best, Rohm and Haas expects to spend \$25,000 - \$50,000 in initial costs and at least 100 hours of engineering and unit personnel time to determine and document the applicability of exemptions from the air emission rules. At worst, Rohm and Haas would be required to move its entire waste water treatment system into tanks, at an estimated cost of \$100 million and a minimum five year time line for design and construction. This represents a major investment and

disruption for the Company with no corresponding environmental benefit. Therefore, Rohm and Haas urges EPA to adopt Option 1.

EPA should not regulate leaking and sludges from biological surface impoundments under the Land Disposal Restrictions. Rohm and Haas agrees that biological surface impoundments should not be subject to LDR regulations for leaking or sludges. These potential pathways are already adequately controlled by existing regulations and present low risks to human health and the environment. For example, groundwater monitoring in the vicinity of the Rohm and Haas impoundments at the Texas facility has not shown significant levels of organics from the surface impoundments. The operation of an activated sludge aerated surface impoundment precludes the accumulation of high concentrations of organics in the impoundment, and therefore there could be no leaking of harmful concentrations to the surrounding soil. Certain sludges from the Rohm and Haas impoundment have been fully characterized under RCRA and have been determined to be non-hazardous. These sludges are landfilled in a permitted and lined municipal landfill and present no threat to human health or the environment.

The air emissions rules in Option 2 would require Rohm and Haas to expend \$100 million with no benefit to the environment.

The largest impact of Phase IV on Rohm and Haas is likely to be caused by the proposed rules regarding air emissions from surface impoundments. In the event that Rohm and Haas does not meet any of the exclusions from the air rules (the lack of clarity of the air rules is addressed below) Rohm and Haas would be required to expend \$100 million to design and install a new tank-based waste water treatment plant. This effort would require a minimum of five years. The tank-based treatment plant would not be subject to the land disposal restrictions, so the RCRA air emissions rules would not apply. Instead, the Clean Air Act HON MACT standards for waste water would apply. Those same Clean Air Act rules will also apply to the air emissions from the existing impoundments.

Therefore, Rohm and Haas expects the regulation and the allowable levels of air emissions will be the same whether Rohm and Haas installs a new \$100 million tank-based system or uses the existing land-based system. In essence, the RCRA LDR air emission rules would simply force Rohm and Haas to spend \$100 million for no added benefit to the environment.

The installation of a cover over the impoundments as proposed in Phase IV is not feasible, and the only option Rohm and Haas would have for compliance would be the construction of a new tank-based

system. At the Rohm and Haas facility in Houston, Texas, a surface impoundment is used as an aeration basin for biological degradation of process waste water as required by the facility's NPDES permit. As detailed above, some decharacterized waste water

is also commingled with other process waste water. The aeration basin is irregularly shaped and approximately five acres in size with a nominal basin depth of eight feet. Twenty surface aerators supply dissolved oxygen to the aeration basin for biological oxidation of soluble organics in the waste water. The basin is located at the western edge of the property adjacent to property owned by another chemical manufacturer and occupied by storage tanks and other chemical process equipment. Rohm and Haas plant processes surround the basin on the remaining sides. Estimated emissions from the basin are less than two tons per year (less than eleven pounds per day) based on modeling. Discharges of treated waste water from the facility are already regulated under the Clean Water Act (CWA).

The basin "cover" required under 40 CFR § 265 Subpart CC and incorporated into the proposed Phase IV regulations would not be technically feasible, let alone economically feasible, to construct at the Rohm and Haas Houston Plant for many reasons. First, it is not possible to design an air handling system which could supply the amount of oxygen needed for five acres of biomass in a covered basin. By design, natural air flow across the basin provides oxygen to the surface aerators and cooling to the basins. The surface aerators capture and disperse oxygen from the air into the basin water to continually replenish dissolved oxygen. A cover would stop the necessary air flow across the aeration basin which is critical for basin operation. Without oxygen, the microbial populations would not be able to process dissolved organics in the basin water and treatment efficiency would be significantly reduced so that it would no longer provide effective treatment.

Surface aerator operation and air flow across the basin also cool the biomass in the basin and prevent the microbial populations from overheating and expiring. Microbial action in the basin is inherently exothermic (i.e. heat is produced). This heat must be removed or the biomass will be unable to support the treatment efficiency required by the permit and the LDR Phase III. Heat exchanger or cooling towers could not be used to remove heat from the biomass in the basin without becoming fouled because of the characteristics of the aeration basin's contents. Without removal of excess heat, covering the basin would create a giant oven in which the microbial populations would be destroyed within a matter of days.

It is not possible to design an economical treatment system for the infinitesimally small amount of contaminants potentially present in the air after it passes over the basin and is captured

by a cover. Moreover, even if the basin could be covered, the blowers needed to supply critical air flow across the basin would likely generate significantly more air emissions than the limited air emissions currently produced by the aeration basin. Covering the basin would not be more protective of human health and the environment than the current treatment system.

There is insufficient available land area to support the structure for a cover. As noted above, the basins are landlocked. Without sufficient space for a support structure, a cover could not be built over the basins alone. A cover over the facility would necessarily cover parts of processes located on both Rohm and Haas and the adjacent property. That would create explosion or fire hazards and jeopardize human health and the environment.

The final reason a cover is not technically or economically feasible is that any modifications to the surface impoundment would require the entire production facility to be shut down. The plant cannot operate without facilities to handle and treat the 3.4million gallons per day of waste water. The facility does not have sufficient storage capacity to hold the process waste water during major modification to the aeration Basin. A shut down of this vital plant would be devastating to the entire North American operations of Rohm and Haas because the Houston plant manufactures most of the monomer that is used at other Rohm and Haas plants.

Therefore, the only technically feasible option for this facility would be to construct a totally new waste water treatment facility.

There is no justification for this expenditure given the fact that the current CWA permits already provide the necessary protection of human health and the environment.

Even if an exclusion applies so that the air emissions do not require controls, the costs and burdens of Option 2 would be heavy. Rohm and Haas would expect to expend \$25,000 - \$50,000 and at least 100 hours of engineer and unit personnel time over the course of six months simply to further statistically sample and analyze the characteristic waste streams, determine the treatment efficiency of the impoundments, evaluate the applicability of the exemptions, and clarify outstanding questions.

Rohm and Haas emphasizes that air emissions from surface impoundments should be addressed under the Clean Air Act rather than under the land disposal restrictions. Aside from high cost and limited environmental benefit, the LDRs will address only a tiny fraction of the potential sources of air emissions, namely the VOCs in deactivated characteristic waste containing underlying

hazardous constituents above UTS. By contrast, under the Clean Air Act, EPA would have jurisdiction to look at the total emissions from the impoundments, make a specific judgment about the overall threat to human health and the environment, and tailor the rules to the actual threats.

The definition of VO must be clarified

In the initial review of the proposed rule, Rohm and Haas has encountered difficulty in determining exactly what is a volatile organic ("VO") that would be covered by the rule. Specifically, the corrosive waste water generated at the Houston facility may contain hydrogen cyanide (HCN), other cyanide complexes, and amenable cyanide above the UTS at its point of generation. The waste water also contains ammonia. These compounds may also exceed 100 ppmw at the point of generation. Rohm and Haas believes these compounds are not VO s and would not be subject to Phase IV or Subpart CC but has been unable to confirm that understanding. Phase IV and Subpart CC give no assistance in determining whether HCN is a VO such that the waste water will be subject to the air emission rules. Subpart CC, 40 CFR § 265.1084(a)(5)(iv)(C), identifies Method 25D of 40 CFR Part 60, Appendix A as a method to measure VO concentration, but it does not identify what compounds should be measured by that method. Several of the air regulations, such as the HON, have lists of VOs, but they are not mentioned or referred to in Subpart CC or Phase IV. Rohm and Haas suggests that the list of VOs subject to the rule be clearly identified, and that HCN and ammonia should not be on that list.

EPA should clarify that the treatment efficiency of the impoundments need only be determined with respect to the LDR regulated constituents

Phase IV Option 2 would extend the Subpart CC to those impoundments that manage deactivated characteristic waste containing underlying hazardous constituents ("UHC") above the UTS and VOs above 100 ppmw at the point of generation. EPA SHOULD clarify that the surface impoundment treatment efficiency determination set forth in 40 CFR § 265.1083(c)(2)(iv)(A) only applies to the individual VOs that are contained in the deactivated characteristic waste that contains UHC above UTS. For example, at the Rohm and Haas Texas facility, assuming for sake of argument only that HCN is a VO, Rohm and Haas would only determine the treatment efficiency of the impoundments for HCN, and not for the methyl methacrylate or other organics that are contributed by non-restricted waste water from other processes. As written, Subpart CC would seem require the treatment efficiency to be

determined for every constituent that enters the impoundment, even those that are not contributed by restricted waste streams.

If EPA adopts Option 2, it must allow sufficient time for facilities to come into compliance

As stated above, if EPA finalizes Option 2 of the proposed Phase IV, Rohm and Haas expects to undertake a major construction project. This will require five years from the effective date to design and construct. Therefore, Rohm and Haas suggests that EPA allow the maximum possible time for compliance. Rohm and Haas supports EPA's proposal to allow an initial two years for compliance plus an additional two years capacity variance. Rohm and Haas has previously submitted a Request for a Case-by-Case Extension and would request EPA to review and approve that Request in addition to the four years that would be available under the Rule.

In the event that EPA decides to extend the RCRA Subpart CC air emissions rules to surface impoundments that are affected by Phase IV, Rohm and Haas suggests that the effective date of Phase IV air rules be postponed until after the uncertainty that currently surrounds Subpart CC is resolved. EPA has said that it will publish a substantive notice and afford additional opportunity to comment on Subpart CC, and EPA is also engaged in legal challenges to Subpart CC. Rohm and Haas further suggests that the effective date of Phase IV should be postponed until after finalization of the Hazardous Waste Identification Rule (HWIR) for process waste. That rule may exclude from Subtitle C standards some of the waste streams that are now identified as hazardous wastes.

#### VI. EPA Must Ensure It Has The Resources To Process A Large Number Of Treatability Variances

In the event that EPA does not adopt Option 1, EPA must be prepared to receive and process in a timely manner a large number of treatability variances. As described above, Rohm and Haas operates a sophisticated system that pre-treats its major characteristic waste stream before commingling in the centralized waste water treatment system. Rohm and Haas believes it can demonstrate that system constitutes the best demonstrated available technology for that stream, and is sufficient to meet the "minimize threat" levels required by CWM v. EPA. If the Land Disposal Restrictions Phase IV severely impacts Rohm and Haas operations, it may well file a request for a treatability variance in order to have its existing pre-treatment regimen declared

sufficient to meet the LDR and thereby be exempt from Phases III and IV. Considering the cost of upgrading impoundments or converting to tank based systems to meet Phase IV requirements, EPA SHOULD expect a great deal of generator interest in treatability variances.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P081  
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RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 081  
COMMENT

In 1990 EPA promulgated the Third Third rule (55 Fed. Reg. 22520, June 1, 1990) that required the deactivation of hazardous waste prior to land disposal. In a centralized waste water treatment system subject to the Clean Water Act, this deactivation could be accomplished by means of dilution or commingling with other waste streams. Rohm and Haas believes that was the correct approach under the Land Disposal restrictions ("LDRs") and would support legislation that would return the program to the status quo prior to Chemical Waste Management v. EPA, 976 F.2d 2, cert. denied 113 S.Ct. 1961 (1992) (CWM v. EPA). Such a bill has recently been proposed in the House of Representatives, and Rohm and Haas urges EPA to actively support passage of a bill that would accomplish that goal. Rohm and Haas is considering communicating its support for this goal to its legislative delegation, and the likelihood of passage may be enhanced if EPA also demonstrates its support.

#### RESPONSE:

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regulation.

The characteristic can be removed by any means, including dilution or other deactivation through aggregation of different waste streams preceding land disposal.

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SUBJNUM 081  
COMMENT

Rohm and Haas Company ("Rohm and Haas") hereby submits its Comments on the Land Disposal Restrictions Phase IV Proposed Rule, 60 Fed. Reg. 43654, Aug. 22, 1995 ("Phase IV"). As discussed in detail below, Rohm and Haas primary focus in these comments is the high costs and minimal benefit that will be realized by the air emission rules of the Phase IV proposal. Specifically, Rohm and Haas expects Option 2 of the proposed rule to require the expenditure of \$100 million for installation of a new tank-based waste water treatment system. However, that system will not be required to reduce air emissions below those of the current land-based system and will have limited benefit for the environment. This result is patently outrageous and should be avoided by adopting Option 1 as described in the proposed rule. Rohm and Haas appreciates the opportunity to participate in this rulemaking and would be pleased to discuss these Comments at EPA's convenience. Rohm and Haas is a member of the Chemical Manufacturers Association ("CMA") and supports the comments submitted by CMA. Rohm and Haas is submitting separate Comments in order to emphasize issues of particular importance to Rohm and Haas.

#### RESPONSE:

The Agency notes the commenter's support for comments submitted by CMA. In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe

### Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P085  
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2. Sludge Management

EPA's proposal would require treatment of the sludge prior to land disposal if any of the underlying hazardous constituents in the sludge exceeds UTS. However, EPA would allow reliance on generator knowledge, in lieu of sampling and analysis, to determine the concentration of contaminants in the sludge. See 60 FR 43675.

EPA offers no evidentiary basis for concluding facility owners/operators can determine sludge concentrations of all underlying hazardous constituents to the degree of precision necessary for determining compliance with UTS concentrations. EPA fails to offer such evidence because none exists- that level of precision cannot be reached for all relevant constituents without sampling and analysis. Therefore, the proposal is substantially deficient in this regard.

RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

There is one caveat. Characteristic hazardous wastes that are managed in CWA or CWA-equivalent systems, and for which EPA has promulgated a method of treatment as the treatment standard (e.g., high TOC ignitable wastes for which the treatment standard is recovery of organics) remain prohibited unless treated pursuant by the promulgated method.

DCN PH4P085  
COMMENTS EDF  
RESPONDER, PMC  
SUBJECT EQUV  
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COMMENT

Option 1 will simply maintain the status quo, and thus fail to establish the systematic and effective program needed to address the risks posed by the impoundments covered in this rulemaking. Existing federal and state requirements are grossly insufficient as a substitute for immediate EPA action.

While Option 2 is superior to Option 1, a series of unwarranted exemptions and a complete lack of emphasis on preventing groundwater releases substantially compromises its ability to protect human health and the environment. Option 3 is prematurely rejected by the Agency in the case of metals.

A strengthened Option 2 combined with prohibitions on metals in wastewater treatment system impoundments would constitute a meaningful response to the Chemical Waste Management decision. Under Option 1, EPA would rely upon the Phase III LDR rules addressing end-of-pipe discharges to comply with the Court decision in Chemical Waste Management. In effect, EPA would defer to existing programs which the Agency argues "tend to protect" against impoundment leaks, improper sludge management, and air emissions. See 60 FR 43659. However, even a cursory review of such programs indicates the absence of the comprehensive and effective controls necessary to meet the standard governing this rulemaking -- that the threat from decharacterized wastewaters are "minimized" pursuant to Section 3004(m) of RCRA.

First and foremost, the human health and environmental threats from decharacterized wastewater impoundment air emissions, leaks to groundwater, and improper sludge management are not systematically addressed at all under the Clean Water Act or any other federal environmental law. Indeed, "in reviewing EPA regulatory programs, the Agency determined that there was no existing or planned program specifically addressing leaks, sludges, and air emissions from surface impoundments accepting decharacterized wastes." Technical Support Document at 41.

Therefore, EPA attempts to justify Option 1 through a patchwork of existing programs that cannot possibly substitute for a meaningful outcome in this rulemaking. For example, EPA suggests since 42% of the facilities that would be affected are RCRA treatment, storage, and disposal facilities (TSDs) requiring a permit for

units other than the decharacterized

3 Effluent guidelines sampling and analysis data undergo technical review by the regulated community, and are subject to "strict" data quality assurance and quality control procedures administered by a Sample Control Center dedicated for this purpose. EPA Technical Support Document at 5-20, 5-21.

wastewater impoundments, reliance on Section 3004(u) of RCRA corrective action authority may adequately protect against groundwater releases. 60 FR 43659. This suggestion is absurd for at least the following reasons. First, if 42% are RCRA TSDs, 58% are not, so the Agency's Section 3004(u) argument is inapplicable to most of the facilities. Second, corrective action is not an adequate substitute for preventing environmental releases in the first instance, since the principle purpose of RCRA generally and the LDR program particularly is release prevention or minimization. Finally, Section 3004(u) of RCRA does not even require the monitoring of decharacterized wastewater impoundments to detect contamination, so identifying leaks will be unlikely. 4 EPA then observes some of the industrial sectors covered by this rulemaking are or will be subject to air emission control requirements promulgated pursuant to Section 112 of the Clean Air Act. While EPA is factually correct in this regard, other sectors will not be subject to air emission controls absent EPA action in the Phase IV LDR rulemaking. See 60FR 43660. Thus, significant air emissions will remain uncontrolled in the absence of the phase IV rules. 5

EPA fails to identify even one federal program addressing improper sludge management, and acknowledges 37 states lack any sludge requirements. 6 60 FR 43660.

In short, except in the case of air emission controls for some industrial sectors, there is no federal program that acts to prevent or minimize releases to air, groundwater, or land from either decharacterized wastewater impoundments or the disposal of the sludge accumulating therein.

Faced with little or no federal basis for Option 1, EPA then suggests state programs may form a basis for taking no action in this rulemaking, particularly with respect to impoundment leaks. In support of this concept, the Agency merely asserts 36 states have "some" regulations applicable to decharacterized wastewater impoundments, admittedly without an analysis of the nature or efficacy of those requirements. 60 FR 43660.

4 See the comments below on proposed Option 2 for additional



discussion on the inadequacy of relying upon corrective action authorities alone to comply with the Court of Appeals opinion, and on the shortcomings of deferring to Section 3004(u) authorities.

5 Where meaningful Clean Air Act controls are actually in place, it may be appropriate to defer to such rules, therefore EPA may still promulgate air emission controls in this rulemaking and avoid applying unnecessary and duplicative requirements. See discussion below on Option 2.

6 EPA notes it is "actively" investigating whether to list such additional wastes as hazardous, but this "active investigation" does not match the priority sectors covered in this rulemaking. In fact, EPA has no plans underway which commit the estimated \$1.4 million and 9.5 FTE necessary to undertake such listings over a 3-5 year period. See Attachment to letter from Robert Hickmott, EPA Assistant Administrator to Congressman Ron Wyden, November 3, 1995, at 4.

Presumably, this number "36" is derived from the recently released EPA study of state nonhazardous waste programs. The study includes a section on surface impoundment requirements, including design standards and groundwater monitoring, the cornerstone of an effective surface impoundment regulatory program.

According to the EPA study, only 26 states require "some form of liner" for any industrial waste surface impoundments, and substantially fewer require leachate collection systems. EPA State Program Report at 6. Therefore, EPA's own data indicates almost half of the states completely lack programs aimed at preventing or minimizing groundwater releases from industrial waste impoundments heretofore unregulated under Subtitle C of RCRA.

Significantly, a closer review of individual state programs reveals even less coverage for the surface impoundments at issue in this rulemaking. The Illinois design standards do not apply to onsite facilities, the Florida requirements apply only to impoundments handling landfill leachate, and the standards in New York and Colorado do not apply to facilities subject to Clean Water Act discharge requirements. *Id.*, Table 3. In addition, the Texas requirements are voluntary, and the state does not even perform an engineering review of a surface impoundment design. *Id.* See also Environmental Safeguards for Industrial Facilities need to be Developed, United States General Accounting Office, April 1990, p. 30. In South Dakota, Rhode Island, and South Carolina, grandfathering and other provisions likely exempt many of the impoundments covered in the instant rulemaking. Therefore,

the number of states with relevant design standards is no more than 18.

In the vast majority of the remaining 18 states, design requirements are applied on a case-by-case basis. EPA State Program Report at 9. EPA makes no attempt to evaluate whether the design standards would actually be imposed on the surface impoundments at issue in this rulemaking, and whether such design standards are adequate. For example, Maine is counted among the states with case-by-case liner requirements, but in fact Maine officials do not typically assess the need for liners or impose such requirements when processing permits for Clean Water Act wastewater treatment systems. Therefore, while states may possess the authority to prevent groundwater releases, EPA provides no evidence the authority is actually used, and used appropriately.

Similarly, according to the EPA study, only 28 states require groundwater monitoring for any industrial waste surface impoundments. EPA State Program Report at 8. Therefore, almost half the states completely fail to impose requirements to detect groundwater releases from industrial waste surface impoundments heretofore unregulated under Subtitle C of RCRA.

Again, a closer examination of individual state programs indicates the Illinois, Florida,

7 State Requirements for Industrial Non-Hazardous Waste Management Facilities, Office of Solid Waste, EPA, October 1995 (hereafter "EPA State Program Report").

Colorado, New York, South Dakota, South Carolina, and Texas requirements are inapplicable to the impoundments at issue in this rulemaking for the same reasons as the liner requirements. *Id.*, Table 3A. In addition, the Montana requirements apply to facilities not discharging to surface waters. *Id.* Moreover, grandfathering provisions may exempt decharacterized wastewater impoundments from groundwater monitoring requirements in New Mexico. Therefore, the number of states with relevant monitoring requirements is no more than 19.

In many of these 19 states groundwater monitoring requirements are imposed on a case-by-case basis. The observation above regarding states such as Maine not typically using available authorities applies with equal force to both liner and groundwater monitoring requirements. Therefore, while states may possess the discretion to impose certain requirements, there is no evidence in the record that the authorities are used, and used appropriately.

Furthermore, there is no evidence the requirements are properly enforced even when initially imposed. For example, New Hampshire is

counted as a state with groundwater monitoring requirements, but EDF is unaware of any regular inspection program applicable to the relevant impoundments in that state.

In summary, there is no factual foundation for Option 1. The Phase IV LDR rules provide the only opportunity for timely and systematic controls over non-surface water toxic contaminant releases from decharacterized wastewater impoundments.

Although Option 2 would establish a set of requirements for decharacterized wastewaters, the option as proposed contains numerous exemptions. In addition, the management standards themselves have important weaknesses, as discussed in subsection B of this section.

#### A. Proposed Exemptions

##### 1. Secondary and Tertiary Impoundments

EPA proposes to exclude biotreatment and post-biotreatment impoundments from the management standards discussed below governing leaks and sludge management. The basis for the exemption is the allegedly "lower risks" posed by such impoundments. See 60 FR43660.

This generic exemption for leaks is inappropriate for several reasons. First, EPA proposed a second risk-based exemption for leaks discussed immediately below, based upon the concentration of toxic constituents in the impoundment wastewaters. A risk-based exemption taking into account actual constituent concentrations has greater validity and precision than the instant exemption based upon impoundment function.<sup>8</sup> Accordingly, secondary and tertiary impoundments should be judged individually under the other risk-based exemption rather than generically excluded.

The importance of evaluating each secondary and tertiary impoundment is underscored by EPA's own sampling data. In the pharmaceuticals sector, the majority of biotreatment impoundment wastewater samples and facilities sampled exceeded a  $1 \times 10^{-5}$  cancer risk. In addition, at 60% of the facilities with post-biological treatment impoundment wastewater sampling data, the impoundment wastewaters posed a cancer risk greater than  $1 \times 10^{-5}$ . RIA, Exhibit 2-22.

Similarly, in the OCPSF sector, at half of the facilities with biotreatment impoundment sampling data, the wastewaters exceeded a  $1 \times 10^{-5}$  cancer risk level, and at 40% of the facilities the wastewaters exceeded a cancer risk of  $1 \times 10^{-4}$ . Id. Therefore, the function of the impoundment is not a reliable indicator of safety.

on a generic basis.

Second, secondary and tertiary impoundments are not entitled to special status as a class in the instant rulemaking. While EPA correctly notes (at 60 FR 43663) that such impoundments are exempt from minimum technology requirements under Section 3005(j)(3), the Agency fails to acknowledge the more relevant provision of RCRA which does not exempt such impoundments from the land disposal restrictions program. See Section 3005(j)(11) of RCRA. Indeed, other impoundments may be used to treat restricted wastes without complying with minimum technology requirements (MTRs), but secondary and tertiary impoundments are not similarly authorized, presumably because the terms of the Section 3005(j)(3) exemption fail to ensure the impoundment contents will not leak into the environment. See 51 FR 40602 (November 7, 1986).

## 2. Risk-Based Exemption

EPA proposes to exclude from the requirements governing leaks those surface impoundments containing hazardous constituents below a trigger level. The proposed trigger level is 10 times the Maximum Contaminant Level (MCL) if the constituent has an 8 Option 2 is proposed by EPA as a methodology for distinguishing between treatment impoundments, and impoundments operating as both treatment and disposal units. See 60 FR 43657. A generic exemption based solely upon the method of treatment employed in an impoundment cannot possibly identify those impoundments also functioning as disposal units (i.e., treatment units that also leak), and is therefore inconsistent with the underlying rationale of the proposal.

MCL; if no MCL exists, then 10 times the state or tribal risk-based number; and in the absence of either an MCL or other risk-based number, the Universal Treatment Standard (UTS) becomes the trigger level. 9

While EDF does not oppose a properly constructed risk-based exemption, the terms of the proposal are substantially flawed in many respects. First, MCLs are not an appropriate basis for trigger levels in this context. MCLs are drinking water standards for public water supplies which may be substantially affected by irrelevant considerations such as the cost and technologies associated with public drinking water treatment systems. Moreover, MCLs do not apply to private water systems where water treatment may be unavailable, and protection of such private wells is a principal purpose of the RCRA program. The use of MCLs also fails to consider ecologic risks and potential human exposure routes other than groundwater ingestion. Accordingly, MCLs are not pure or

comprehensive risk-based standards, and are often based upon factors unrelated to whether wastewater contaminants would pose a threat to human health when released into the groundwater.

9 The Universal Treatment Standards are concentrations of over 200 toxic compounds that hazardous wastes must meet prior to land disposal. See 59 FR 47982 (September 19, 1994).

Significantly, for some hazardous constituents, the pure risk levels underlying the MCLs are exceedingly high. Approximately half

of the existing MCLs are for carcinogens, and the vast majority of those MCLs are set at levels exceeding a  $1 \times 10^{-5}$  cancer risk, including arsenic and other MCLs posing a greater risk than  $1 \times 10^{-4}$ .<sup>10</sup> Therefore, both the variability between and the weakness of some MCLs precludes their use as valid risk-based numbers. Second, there is no evidentiary support in the rulemaking record or otherwise for a dilution and attenuation factor (DAF) of 10 in this context. Previous EPA modeling efforts employing a DAF of 10, such as in the delisting context, involved disposal in landfills. As EPA readily acknowledges, the DAFs associated with surface impoundments are smaller than for landfills, thus the Agency's modeling probably understates downgradient contaminant concentrations. See 55 FR 11825 (March 29, 1990). Accordingly, if EPA utilizes 10 as the appropriate DAFs for delisting high volume landfilled wastes, a smaller DAF is necessary in the instant rulemaking.<sup>11</sup> Indeed, in a very recent letter to Congressman Wyden, EPA observes DAFs of 6 can occur at surface impoundments covered in this rulemaking. See Attachment to letter from Robert Hickmott, Assistant Administrator to Representative Wyden, November 3, 1995, at 3.

Third, EPA's proposal ignores the cumulative risks associated with multiple constituents leaking from the impoundment at the same time. Since the typical groundwater damage case involves the release of multiple contaminants simultaneously, and many of the impoundment wastewaters at issue in the instant rulemaking contain multiple constituents of concern (see 60 FR 43658-9), The Agency's proposed trigger levels substantially understate the risks posed by leaking impoundments. This failure to consider risks posed by the release of multiple constituents is contrary to EPA risk assessment policy in the RCRA program and elsewhere throughout The Agency. See e.g., 59 FR 66075 (December 22, 1994). Risks are also understated because of the failure to consider the additive impacts of exposure to background levels of contamination and/or other sources of contaminant exposure in addition to surface impoundment leaks. Therefore, EPA's proposed trigger levels are not based upon the true health risks posed by the groundwater releases.

Fourth, automatic use of a state or tribal groundwater protection number, without a minimal federal standard as to human health and environmental risks allowed by such a state/tribal number, fails to assure protection of human health and the environment or

compliance with the minimized threat standard underlying Section 3004(m) of RCRA. For example, Montana recently adopted a groundwater standard for arsenic consisting of the  $1 \times 10^{-3}$  risk level or the MCL, whichever is more stringent. As discussed above, even the more stringent of these standards does not adequately protect human health and the environment. For other carcinogens, Montana adopted a  $1 \times 10^{-5}$  risk level groundwater standard. Again, this dichotomy between arsenic and other carcinogens cannot be justified based upon considerations relevant to this rulemaking.

10 In addition, it is unclear whether EPA would deem the existing 15 ppb "action level" for lead an MCL for the purposes of this rulemaking. Such a course of action would be inappropriate, since the action level applies to first draw samples from the consumer's tap, and is used to trigger a response by the drinking water system when exceeded in more than 10% of the taps tested. As EPA noted when promulgating the action level, it corresponds to approximately 5 ppb as an average lead exposure. 56 FR 26460, 26477 (June 7, 1991). In other words, the higher action level was designed to reflect the elevated concentrations experienced in first draw samples, so that overall lead exposures would not exceed 5 ppb if the first draw samples did not exceed 15 ppb. Therefore, at most, 5 ppb is the appropriate risk-based number for lead in this rulemaking.

11 Even if EPA presented evidence in the record supporting a DAF of 10 for surface impoundment wastewaters in either the delisting or HWIR context, the DAF of 10 is still inappropriate in this context because the "minimized threat" standard in Section 3004(m) governing the instant rulemaking requires a more stringent analysis than simply determining levels for classifying a waste as hazardous. As the Court held in *Chemical Waste Management*, the fact that a waste no longer meets EPA's definition of a hazardous waste does not necessarily mean The Agency has satisfied the minimized threat standard of Section 3004(m) of RCRA. Indeed, EPA must take action pursuant to Section 3004(m) unless EPA can demonstrate the risk from surface impoundment leaks is "minimal" for the wastewaters covered in the instant rulemaking. EPA cannot meet this evidentiary burden by simply borrowing DAFs from other portions of the regulatory - program where they are used for different regulatory purposes under less stringent statutory directives.

Fifth, the proposed adoption of the UTS number as the default "risk-based level" is inappropriate for both legal and policy reasons. Pursuant to Section 3004(m)(2) of RCRA, the UTS values

are intended to satisfy the minimized threat standard for wastes when land disposed in units meeting subtitle C design requirements -- multiple liners with leachate collection/leak detection systems, not the unlined surface impoundments at issue in this rulemaking. Moreover, the UTS represents the concentration of contaminants remaining after applying Best Demonstrated Available Technology (BDAT), thus it is not risk-based. Therefore, the release of contaminants into groundwater at UTS concentrations (or 10 times this level) cannot ensure protect human health and the environment and does not comply with the minimized threat standard governing this rulemaking. 12 The UTS number is neither relevant nor valid for this purpose. 13

12 Significantly, EPA does not even attempt the slightest demonstration in the record for this rulemaking that UTS numbers are adequate surrogates for meaningful health and environmental risk-based standards.

13 EPA's proposal regarding groundwater protection standards essentially acknowledges the irrelevance of UTS numbers as indicators of human health or environmental risks. The proposal requires use of MCLs, and where MCLs are unavailable, use of the background concentration as the groundwater protection standard. See 60 FR 43672. The use of UTS numbers as appropriate measures of groundwater contaminant risks is not even discussed by the Agency. It should also be noted that use of the MCL as a groundwater protection standard is inappropriate for the reasons provided above regarding the proposed trigger level. Sixth, annual sampling of the wastewaters is proposed to determine whether wastewaters qualify for the risk-based exclusion. No evidence is provided which would demonstrate annual sampling is sufficient to determine compliance, taking into account routine but significant variation in wastewater concentrations, particularly at batch plant operations. Significantly, EPA often requires weekly or monthly sampling under the Clean Water Act for the same industrial sectors and the same chemicals at issue in this rulemaking. For example, EPA recently proposed weekly sampling for toxic contaminants generated by the pharmaceuticals industry. See 60 FR 21657 (May 2, 1995). Discharge limits promulgated for the OCPSF sector are based upon daily maximum and monthly average limits. See 40CFR 414.91. See also 60 FR 5483 (January 27, 1995). If these sampling frequencies are necessary to ensure compliance with impoundment effluent standards, at least such frequencies are required to ensure compliance with concentrations applicable to impoundment inputs which may be subject to even greater



variation since they are often pre-treatment concentrations. Similar sampling approaches are especially appropriate in this context given EPA's desire to accommodate and integrate the RCRA and Clean Water Act requirements as much as possible.

### 3. Deferral to Clean Air Act Rules

EPA proposes to exempt impoundments from air emission controls in the instant rulemaking if Clean Air Act rules currently regulate VOC emissions from such impoundments or if CAA rules covering the impoundments are anticipated "in the near future." See 60 FR 43660. Insofar as EPA's proposal defers to Clean Air Act rules currently in effect which actually address the VOC releases from the impoundments covered by this rulemaking, the concept has merit. However, since EPA never defines what is meant by "in the near future," the aspect of the proposal regarding anticipated rules is extremely ambiguous. Any deferral applicable to CAA RULES which are not finalized prior to the effective date of the rules will delay control of the emissions in violation of the minimized threat standard governing this rulemaking. 14 As discussed further below, EPA's proposed effective date for the instant rules is contrary to law and sound policy. The appropriate national effective date is no later than two years from date of promulgation.

14 An exception may be appropriate for rules proposed but not yet finalized prior to the effective date, where the final rules are scheduled for promulgation within the coming year to 18 months, and the exception expires by the expected promulgation date.

### 4. Deferral to State/Tribal Programs

EPA proposes to defer regulation under the instant rulemaking if state/tribal programs control releases of hazardous constituents in a manner rendering Phase IV controls unnecessary. 60 FR 43661. With respect to the leak standards, EPA indicates it would defer to state/tribal programs that are "substantially similar" to the proposed requirements. 60 FR 43669.

Since no discussion is provided as to the scope of the requirements that may be deferred, the meaning of "substantially similar," the criteria for determining whether a state/tribal program meets this test, the process by which EPA would determine "substantial" equivalency, and whether the public would be provided an opportunity to comment on such a determination, this aspect of EPA's preamble cannot possibly constitute a concrete proposal ripe for public comment. However, EPA must bear in mind that if it wishes to develop a proposal along these lines, Sections 3006 and 3009 of RCRA explicitly reject reliance on state requirements less stringent than

comparable federal requirements, and expressly provide for public notice and participation in the state authorization process.

EPA CANNOT bypass these statutory provisions by calling its approval process a "deferral" rather than an "authorization."

#### 5. Deferral to Section 3004(u) Regulations

EPA proposes to exempt from regulation the decharacterized wastewater impoundments at 42% of the affected facilities simply because those facilities require a Subtitle C permit for units other than the impoundments. EPA reasons the permit for the other units subjects the decharacterized wastewater impoundments to corrective action requirements pursuant to Section 3004(u) of RCRA. 60 FR 43659. Moreover, EPA (incorrectly) asserts if these facilities are currently in compliance with Subtitle C requirements for groundwater monitoring and corrective action, the monitoring and controls associated with air emissions, leak controls, and sludges provided in the instant rule for decharacterized wastewater impoundments would already be in place. RIA at 2-10.

However, as even a cursory review of EPA's rules indicates, Section 3004(u) requirements are not even remotely equivalent to the Option 2 controls. There are no monitoring requirements for either air or groundwater releases at decharacterized wastewater impoundments or any other solid waste management units. See 40 CFR 264.101. In fact, the only evaluation such units are required to receive consists of a desk top review of available information, and a visual site inspection. See 55 FR 30801 (July 27, 1990). Releases to the air and groundwater prior to the evaluations may remain undetected, and no ongoing monitoring of the unit is required after the initial evaluation is performed.

Furthermore, no threshold for controlling air emissions is established, and no standards governing air emission controls are imposed. In addition, no requirements apply to the management of sludge that may be removed from the unit. Therefore, the fact that an impoundment may be subject to Section 3004(u) authorities does not mean there are comparable air or groundwater monitoring requirements, air emission controls, or sludge management requirements under EPA's rules which would ensure equivalent Protection to the Option 2 controls.

#### 6. Minimum Technology Requirements

EPA proposed exempting units meeting minimum technology requirements (MTRs) from all Option 2 requirements, including sludge management and air emission controls. See 60FR 43660. Yet mere compliance with MTRs accomplishes little or nothing to ensure

threats are minimized from the disposal of impoundment sludge or VOC air emissions. Indeed, Congress recognized these potential impacts by: (1) adding annual sludge removal as a condition of allowing the continued use of certain storage and treatment impoundments meeting MTRs; (2) linking the no migration standard for LDR exemptions to releases into any environmental media; and (3) requiring the promulgation of air emission standards for surface impoundments in addition to the MTRs and LDR program. See Sections 3004(g)(5), 3004(n), and 3005(j)(11)(B) of RCRA. Therefore, the proposed MTR exemption for sludge management and air emission controls lacks both a legal and factual foundation.

#### B. Management Requirements for Non-Exempt Units

##### 1. Leak Controls

EPA's proposed leak controls consist entirely of groundwater monitoring and corrective action. While the proposed requirements contain significant shortcomings, the principal deficiency of the proposal is its failure to prevent or minimize groundwater releases into the environment. As EPA has acknowledged from the early days of the RCRA program, groundwater monitoring/corrective action provides a useful second line of defense in the event release control requirements fail, but such requirements rely upon complicated and uncertain predictions regarding contaminant fate and transport that do not provide an adequate margin of safety by themselves to protect fragile groundwater resources. See 47FR 32283-85 (July 26, 1982).

This need for release prevention was emphasized and incorporated into RCRA by the 1984 Amendments, particularly in the case of surface impoundments like those covered in the instant rulemaking. See Section 1002(b)(6),(7); 1003(a)(5). In the context of the land disposal restrictions program, only surface impoundments that are not leaking were authorized by Congress to receive for storage or treatment otherwise restricted wastewaters. See Section 3005(j)(11)(A) of RCRA. Accordingly, EPA's failure to incorporate release prevention/minimization into the Option 2 controls violates both the statutory land disposal restriction requirements and the underlying objectives of RCRA generally. The Agency proposal also violates the policy embedded in the Pollution Prevention Act of 1990 of encouraging pollution prevention and discouraging environmental releases.

EPA's failure to stress release prevention is all the more egregious because of the special challenges posed by releases of chlorinated solvents and other Dense Non-Aqueous Phase Liquids (DNAPL) compounds. The Agency's own policy directives stress the

unpredictable nature of these compounds in groundwater due to their insolubility and propensity for migration as a separate liquid phase moving across groundwater flow. 15 Leading groundwater scientists confirm the extraordinary difficulty associated with both monitoring the migration of DNAPLs and cleaning up releases once they are detected. 16 Some of the principal constituents of concern in this rulemaking are DNAPLs, including methylene chloride, chloroform, 1,2-Dichloroethane, 1,1,2,2-Tetrachloroethane, and carbon tetrachloride. 17 See RIA, Exhibit B-2.

15 See e.g., OSWER Directive 9283.1-06 (May 27, 1992); DNAPLs -- A. Workshop Summary, EPA Office of Research and Development, EPA/600/R-92/030, February 1992.

16 See e.g., Pankow and Cherry, Dense Chlorinated Solvents and other DNAPLs in Groundwater, Waterloo Press, 1996, pp. 14, 15.

17 Id. At 4, 5.

Therefore, while reliance on groundwater monitoring and corrective action is inadequate by itself generally, it is particularly foolhardy in the case of DNAPLs because contaminant detection is extremely uncertain and restoration of the aquifer may not be possible using available remediation technologies. Allowing groundwater releases with a high probability that such releases may not be detected or remediated will not protect human health and the environment and cannot possibly comply with the statutory "minimized threat" standard governing this rulemaking. 18

18 The Agency also violated the Pollution Prevention Act when it failed to consider the impact of allowing additional releases of hazardous constituents into the environment, particularly DNAPLs, on otherwise available source reduction efforts. See 42 U.S.C. 13103(b)(2).

At a minimum, the Agency must incorporate into the leak controls a requirement which ensures that surface impoundments receiving decharacterized wastes are designed to prevent the release of hazardous constituents into the environment. EPA can accomplish this goal through a similarly drafted performance standard or minimum design specifications, or both. However, should EPA utilize a performance standard, a process must be created whereby unit designs are reviewed by regulatory officials to determine compliance with this standard and an opportunity for public participation in such review is provided.

In addition to the failure to emphasize release prevention, particular aspects of EPA's proposed groundwater monitoring/corrective action requirements lack merit. In some

cases, EPA adopts the Part 258 requirements without evaluating whether the underlying rationale for their adoption applies in the instant rulemaking.

For example, EPA proposed extending the point of compliance for monitoring groundwater releases and taking corrective action up to 150 meters from the surface impoundments, simply because that is the maximum distance allowed for municipal landfill monitoring systems under Part 258. See 40 CFR 258.40(d). In contrast, the relevant point of compliance for hazardous waste units is the edge of the unit boundary because early detection facilitates successful and cost effective corrective action, and reduces substantially the possibility the plume will migrate beyond the owner/operator's control. See 40 CFR 264.95; 47 FR 32285 (July 26, 1982).

In the case of municipal landfills, EPA promulgated the 150 meter provision because of the "unique characteristics of municipal landfills." The landfills are owned and operated by local governments with very limited technical and economic resources, and since the landfills are owned by local governments, potential groundwater use within the 150 meter radius of the unit can be controlled in perpetuity through local land use authorities. See 56FR 51068 (October 9, 1991). Neither characteristic of municipal landfills is factually relevant to the instant rulemaking, and as a matter of law, the owner/operator "practical capability" factor decisive to the Agency in the municipal landfill rulemaking under Section 4010 of RCRA cannot be applied in the instant rulemaking. 19 Instead, EPA is compelled as a matter of law and policy to establish the point of compliance at the waste management boundary. 19 EPA's finding that 42% of the facilities covered by the instant rulemaking are facilities requiring a Subtitle C permit illustrates that largely the same industries already regulated under subtitle C of RCRA are the principal industries affected by the instant rulemaking. These industries now comply with the Subtitle C point of compliance, and have substantial technical and economic resources available to meet RCRA standards. Therefore, EPA's appropriate "preference" for detecting contamination at the earliest opportunity is the only relevant factor for consideration in this proceeding. See 56 FR 51068 (October 9, 1991).

EPA also proposed adoption of the remedy selection criteria of Part 258, and self-implementation for all aspects of the groundwater monitoring/corrective action program, including but not limited to the selection of remedy at the site. Since the

remedy selection criteria in Part 258 include the "practical capability" of the owner/operator justified in that rulemaking solely due to the statutory provisions of Section 4010 of RCRA, the adoption of the same criteria in the instant rulemaking lacks a sound legal and factual basis. See 56 FR 50983, 51090 (October 9, 1991).

Moreover, EPA's twin rationales for the self-implementing aspects of the municipal landfill program governing corrective action were the difficulties associated with authorizing from scratch state municipal landfill programs in only a 24 month period, and the expectation of additional rules covering public participation with respect to both permitting and corrective action. See 56 FR 50995, 51091 (October 9, 1991). Again, neither rationale is relevant in the instant rulemaking since no further rules are contemplated, and EPA is required to administer the LDR requirements until states are authorized for the LDR revisions. Equally important, in the Subtitle C context, EPA has stressed the importance of both public participation and regulatory oversight in the corrective action process. See 55 FR 30834, 30847-50 (July 27, 1990).

EDF urges EPA to review all the municipal landfill groundwater monitoring and corrective action requirements the Agency is considering applying in the instant rulemaking, compare those criteria to Subtitle C requirements, and revise the proposed requirements which reflect inapplicable statutory or factual bases. Significantly, EPA did perform such an analysis in at least one area, and concluded that monitoring for the regulated constituents covered in the rulemaking is more effective than monitoring for the indicator parameters specified in the municipal landfill rule. See 60 FR 43671. EDF agrees, and urges EPA to extend this analysis to other portions of the Phase IV rules as well.

In its proposal, EPA indicated facilities with existing groundwater monitoring and/or corrective action programs "may be able to continue those programs in lieu of the proposed regulations," even if such programs are not required by state or federal law and presumably were never reviewed or approved by regulatory authorities for efficacy or consistency with the upcoming regulations. See 60 FR 43669. Insofar as EPA contemplates deferring Option 2 controls to inferior monitoring or corrective action programs already in place, such deferral violates Sections 3006 and 3009 of RCRA, and fails to protect human health and the environment. Deferral to a substandard program violates the Congressional purpose underlying Sections 3006 and 3009 of RCRA that minimum federal requirements are applied nationally.

EPA proposes to reject the conceptual approach of restricting the placement of wastes not amenable to treatment in Clean Water Act systems. EPA's rationales for rejecting this approach lack merit as applied to metals.

First, EPA argues restricting land placement is not necessary because promulgation of the Option 2 controls would protect human health and the environment. See 60 FR 43677. As discussed above, Option 2 as proposed would not protect human health and the environment. Of equal importance, even if Option 2 was strengthened by limiting exemptions and including design controls to prevent groundwater releases, two key purposes of RCRA are restricting land placement due to the "long-term uncertainties" associated with land disposal, and simultaneously encouraging source reduction as the preferred form of waste management. See Sections 1002(b)(7), 1003(b), 3004(g) of RCRA. The LDR restrictions were enacted by the Congress in addition to provisions related to strengthening minimum technology standards and groundwater monitoring/corrective action requirements. And exemptions to the LDRs were expressly crafted by the Congress to ensure mere compliance with the MTRs and other requirements did not undermine the congressional intent that land disposal would be severely restricted. 20 Therefore, it is inappropriate for EPA to equate the imposition of monitoring and cleanup requirements with the policies underlying the LDR program.

Second, the technical concerns EPA raises about expressly excluding certain types of wastes from biological treatment all relate to organic wastes. There is no disagreement about the inability of biological systems to treat metals, regardless of system type or waste feed variation.

According to a study prepared for the Environmental Technology Council, most metals and inorganic chemicals are not used by microorganisms thus they are not biodegradable, and the presence of metals can inhibit the proper functioning of wastewater biological treatment systems. 21 In addition, the Chemical Manufacturers Association retained a consultant to determine which compounds were amenable to biotreatment utilizing both literature sources and professional judgment, and no metals appear on that list. 22 Similarly, EDF is not aware of any evidence in the record linking the uncertainties of concern to EPA to metals.

Finally, EPA argues that by controlling the emissions and leaks, EPA can be reasonably certain that "treatment" in the impoundment is adequate. This argument is wholly without merit. Monitoring and cleaning up metal contaminant releases to groundwater

hardly ensures treatment within the impoundment. In fact, compliance with surface water discharge standards may be obtained through the accumulation of metal contaminants in the sludge and/or groundwater releases, not treatment prior to discharge.

20 See e.g., H. Rep. 98-198 Part 1, 98th Cong., 1st Sess. at 38 (1983) ("The Committee does not intend that the Administrator circumvent the Committee's intent to restrict land disposal by simply imposing additional conditions on land disposal.")<sup>21</sup>

Evaluation of the Biodegradability of UTS Constituents in Industrial Wastewater Treatment Lagoons, JHE Technology Systems, Inc., April 1995, pp. 10, 11, Table 7.

22 See July 16, 1993 and September 8, 1993 letters with attachments from Cindy Bryck, CMA to David Case of ETC.

## RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P085  
COMMENTS EDF  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 085  
COMMENT

2. Sludge Management

EPA's proposal would require treatment of the sludge prior to land disposal if any of the underlying hazardous constituents in the sludge exceeds UTS. However, EPA would allow reliance on generator knowledge, in lieu of sampling and analysis, to determine the concentration of contaminants in the sludge. See 60 FR 43675. EPA offers no evidentiary basis for concluding facility owners/operators can determine sludge concentrations of all underlying hazardous constituents to the degree of precision necessary for determining compliance with UTS concentrations. EPA fails to offer such evidence because none exists- that level of precision cannot be reached for all relevant constituents without sampling and analysis. Therefore, the proposal is substantially deficient in this regard.

RESPONSE:

The issue raised by the commenter pertains to the sampling and analysis requirements that were proposed as part of Option 2 of the Agency's original Phase IV proposed rule (60 FR 43654) addressing equivalency of treatment in wastewater treatment systems regulated under the Clean Water Act. In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these

surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

**NOTE to EPA:**

**Should this response also address methods and analytical precision for sludge matrices?**

DCN PH4P085  
COMMENTER EDF

RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 085  
COMMENT

**B. The Importance of this Rulemaking**

At present, wastewaters that contain significant levels of toxic constituents are routinely managed in unlined, unmonitored surface impoundments that are not regulated under existing federal programs, and are largely unregulated at the state level as well. Though the contaminant levels do not trigger the hazardous waste toxicity characteristic (in large part because the characteristic only covers 38 chemicals), they are comparable to concentrations found in many listed hazardous wastes, as discussed below.

These contaminants can and do migrate both to air and groundwater. Significantly, many of the compounds found in these wastewaters include chlorinated solvents and other halogenated organic chemicals that, upon leaking from an impoundment, form a Dense Non-Aqueous Phase Liquid, or DNAPL. As 15 years of experience in the Superfund program has painfully shown, such releases "are, in general, exceptionally difficult to clean up," and can persist for decades or centuries.<sup>1</sup> In addition, DNAPL plumes can migrate in ways that are exceedingly hard to locate, thus plumes may unexpectedly contaminate wells used for drinking water or other purposes. To protect drinking water sources, the release of DNAPL compounds must be prevented.

**RESPONSE**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe

#### Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P085  
COMMENTS EDF  
RESPONDER MC  
SUBJECT EQUV  
SUBJNUM 085  
COMMENT

Several proposed generic changes to the LDR program lack merit, particularly eliminating the submission and review of generator sampling plans. Without such submissions, EPA and state agencies are largely dependent upon generator inspections to review such plans. Current and future generator inspection frequencies of about once every 25 years or less cannot possibly ensure generator sampling plans will produce valid LDR determinations.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P089  
COMMENTS ASTSWMO  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 089  
COMMENT

1. On the discussion concerning the different levels of treatment of primary versus secondary and tertiary, the usage of the term "treatment" is not as appropriate as the term "destruction." A case could be made that more treatment occurs in the primary ponds, as these concentrate more solids than the secondary and primary impoundments. Instead of comparing treatment, destruction of organic would be the distinguishing factor between primary, secondary and tertiary systems.

**RESPONSE:**

The Agency appreciates the commenter's offered analogy of the distinguishing differences across primary, secondary and tertiary systems. However, the Agency did not present its analogy of the differences between these three types of surface impoundments to spark debate regarding the exact types of treatment being conducted in each unit. The Agency was merely providing an overview of some potential differentiations among types of surface impoundments to help in distinguishing which impoundments most resemble permanent disposal. Using the commenter's suggested analogy, rather than that offered by the Agency, the same conclusions could be drawn.

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may

result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P089  
COMMENTS ASTSWMO  
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COMMENT

8. The regulatory status of the decharacterized waste should be clarified. Many State agencies' ability to regulate a waste is based on RCRA classification. For example, if decharacterized waste was considered a Subtitle C RCRA waste, existing State law would not allow such waste to be disposed in Clean Water Act (CWA) surface impoundment systems.

RESPONSE:

The manner in which "decharacterized wastes" are regulated under any particular state regulatory program depends, in authorized states, upon how the state program defines the regulatory status of such wastes. In unauthorized states, such wastes must be managed in accordance to federal regulations.

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



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COMMENTS ASTSWMO  
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COMMENT

4. The fact that the air emission standards would require a membrane or a cover with ventilation to a control device is not practical. For example, in April 1991 in California, the San Joaquin Air Pollution Control District required similar controls for ponds from crude oil production. The regulated industry has not installed such controls, but has converted the storage of crude oil from ponds to tanks. Given that the economics of crude oil has a higher payback than wastewater treatment, one would not expect wastewater plants to retrofit their ponds to include covers or membranes to allow acceptance of higher VOC waste.
5. On page 43666, reference to Method 27 seems to be incorrect. Should it be Method 21?

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P091  
COMMENTS FMC  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 091

COMMENT b. The Phase III and Phase IV rules should have a common effective date. FMC believes that significant disruption could arise if EPA establishes different effective dates for the Phase III and Phase IV rules. At the outset, it must be noted that the two rules are ostensibly part of the same effort, to determine what regulations to impose on decharacterized wastes placed in CWA surface impoundments. Having the two rules as separate proposals with separate but overlapping comment periods is already creating difficulties for industry. More importantly, however, serious problems could result if the Phase III rule is promulgated and made effective before the Phase IV rule is promulgated. On the effective date of the Phase III rule, companies will be forced to decide whether to continue to place decharacterized wastes in CWA surface impoundments, or to switch to other forms of management (such as tank-based systems). In many cases, because the new requirement to meet UTS at the point of discharge for constituents is not addressed in the NPDES permit, significant capital expenditures may be required in order to continue operating the surface impoundments. Additional treatment steps may have to be added, either in the impoundments or before them. In other cases, NPDES permits may be amended to add additional constituents, often requiring additional treatment steps as well. However, companies taking these expensive steps may discover later that the regulatory option ultimately chosen under Phase IV for cross-media contamination makes such treatment or permit limits impracticable or too costly. Furthermore, the particular combination of Phase IV requirements EPA chooses (if any) could determine the most cost-effective way to modify a CWA system to meet the new UTS requirements at the point of compliance. /21 EPA is considering three different options for Phase IV. Companies cannot adequately plan for compliance with Phase III without a decision by the Agency on which option (if any) will be chosen under Phase IV. In short, staggered effective dates for Phases III and IV would result in a tremendous waste of resources for companies, as well as significant confusion and difficulty in compliance. /21 If EPA chooses Option 3, essentially all of the affected surface impoundments will have to be replaced with

tank-based systems, because UTS will have to be met before wastes can be placed in the impoundments. If EPA makes that choice, any changes made within surface impoundments to allow UTS to be met at the CWA point of compliance would be wasted. If, on the other hand, the Phase III and Phase IV requirements are made effective simultaneously, companies will be able to make an informed decision about whether to retain CWA surface impoundments, and whether and how to modify them to comply with the new requirements. c. EPA has Authority under RCRA to Delay the Effective Dates of the Phase III and Phase IV Rules. Subject to court-approved schedules for developing the LDR and HWIR rules (which can, of course, be changed with leave of court) /22, EPA has ample authority to establish a common effective date for the Phase III and IV rules, and to delay that effective date until after promulgation of the final HWIR rule. First, the Phase III and IV rules are not new treatment standards or prohibitions subject to the immediate effective date under RCRA section 3004(h). /23 Section 3004 (h) provides that prohibitions from land disposal shall become effective immediately upon promulgation, and section 3004(m)(2) provides that treatment standards are to become effective "on the same date" as the corresponding prohibition. In the case of the wastes addressed in Phase III and IV, EPA has already promulgated the prohibition, in the Third Third rule. /24 Furthermore, EPA has already promulgated currently applicable treatment standards applicable to these wastes. /25 EPA has stated clearly that treatment standards are currently in place for these wastes, and that the Phase III and IV rules will merely amend these standards. /26 /22 In most cases, court-established schedules merely set the date for a final rule to be promulgated, leaving the effective date up to the Agency's discretion. /23 As explained in more detail below, the requirements contained in Option 2 of Phase IV would not be treatment standards at all. /24 40 C.F.R. §268.33 /25 40 C.F.R. §§268.41-43 /26 58 Fed Reg. 29863, 5/24/93 Accordingly, it is not possible for the Phase III and IV regulations to become effective on the same date as the prohibitions to which they will correspond, because those prohibitions occurred in the past. The statute does not say that amendments to treatment standards must be effective immediately, and there is no reason that they should be. /27 In fact, as noted above, EPA should ensure that the regulations do not become effective until after the HWIR rule is finalized. /28 /27 Clearly, the statute required prohibitions to be effective

immediately because Congress set stringent deadlines for promulgating prohibitions. RCRA sections 3004(d)-(g). Treatment standards were to be set on the same date so there would be no gap between prohibitions and the corresponding treatment standards. Here there will be no gap if the amended treatment standards are not effective immediately, because there are already prohibitions and treatment standards in place. /28 Nothing in RCRA Section 3006(g)(1) changes this conclusion. That section provides, in pertinent part: Any requirement or prohibition which is applicable to the generation, transportation, treatment, storage, or disposal of hazardous waste and which is imposed under this subchapter pursuant to the amendments made by the Hazardous and Solid Waste Amendments of 1984 shall take effect in each State having an interim or finally authorized State program on the same date as such requirement takes effect in other States. Accordingly, while amendments to LDR treatment standards might arguably have to be effective in authorized states at the same time as in non-authorized states, there is nothing in this provision that states such amendments must be immediately effective in any states. Furthermore, the Phase IV rules, if Option 2 is chosen, would not be subject to the LDR timing requirements in section 3004 at all, because they would not be LDR rules /29 RCRA sections 3004(h) and (m) refer to "prohibitions" and "treatment standards." The requirements that are contemplated in Option 2 of the Phase IV proposed rule are neither one. The proposed requirements, addressing air emissions, sludges, and leaks from CWA wastewater surface impoundments, would be neither prohibitions from land disposal under Sections 3004(d) through (g), nor treatment standards pursuant to Section 3004(m). If there is any authority in RCRA for such requirements, /30 it does not come from the LDR provisions. The technical surface impoundment requirements in Option 2 of the Phase IV proposal are clearly not "prohibitions," because, as noted above, the hazardous wastes involved are already prohibited from land disposal. The proposed Option 2 requirements cannot be treatment standards, because they are not "levels" or "methods" of treatment as set out in section 3004(m) of RCRA. The Option 2 requirements would not be prohibitions or treatment standards, and thus are not subject to the LDR timing requirements in section 3004. /31 /29 Option 1, to rely on Phase III alone, would essentially mean that there would be no Phase IV requirements. Option III, to require UTS standards to be met

before placement in a surface impoundment, would supersede Phase III. /30 As discussed elsewhere in these comments in connection with the MSWLF standards, there in fact is no such authority anywhere in Subtitle C of RCRA. The Phase IV Supplemental LDR rule will be a new prohibition and treatment standard, and as such is required to be effective within six months of mineral processing wastes being listed or identified. Because the relevant six month period has already expired, the Agency clearly cannot comply with this requirement. As a result, the Agency should promulgate the rule at a time that makes sense from a policy perspective. In this case, that means that the Agency should issue the Phase IV supplemental rule with an effective date after that of the HWIR rule. /31 If EPA believes that authority exists for the Option 2 requirements in some part of RCRA other than the LDR provisions, one remaining issue would be whether RCRA §3010(b) would require the regulations to be effective within six months of final promulgation of the rule. EPA has determined that it has the discretion to stay the effective date of RCRA rules where necessary (as with the Subpart CC rule, see 60 Fed. Reg. 50426 (Sept. 29, 1995)). If such a stay is not an option, however, EPA should delay final promulgation of the Phase IV rule until after the HWIR rule is promulgated. As noted above, EPA has sufficient authority and discretion to promulgate all four of the rules described above in an order that prevents waste and confusion. However, it should be added that EPA also has authority to grant National Capacity Variances under §3004(h)(2) for the Phase III, IV and IV Supplemental LDR rules so that the ultimate effective dates will fall after to the effective date of the HWIR. d. If EPA Fails to Promulgate the Rules Discussed Above in a Proper Order, Real Harm Will Result for Many Companies, Including FMC. If EPA promulgates the four rules discussed above in an unreasonable order (as described above), the confusion and unnecessary costs described above will be substantial, and will affect many companies, including FMC. The example of a single FMC facility illustrates the point. At its facility in Institute, West Virginia, FMC generates waste that has been newly listed as K157 in EPA's February 6, 1995 rule addressing carbamates. /32 The effective date for the listing was August 9, 1995. Currently, that waste is piped to a NPDES treatment system owned by Rhone-Poulenc. Rhone-Poulenc's system includes a surface impoundment utilizing aggressive biological treatment. FMC's contract with Rhone-Poulenc states that if new regulations cause

changes in the regulatory status of the wastes, Rhone-Poulenc can refuse to accept the wastes. FMC does not have sufficient space at its leased facility to construct its own wastewater treatment system, and the only alternative to Rhone-Poulenc's system would be shipment offsite by rail or truck. The Phase III proposed rule includes a land disposal prohibition and treatment standards for this carbamate waste, and the current proposal is for these requirements to go into effect 90 days after the publication of the final Phase III rule, while two-year national capacity variances are granted for other wastes. /32 60 Fed. Reg. 7824, 2/9/95 This situation creates a substantial dilemma for FMC. Rhone-Poulenc's wastewater treatment system does not currently satisfy the treatment standard for K157, and it would be extremely expensive to alter the system to meet that standard. From a purely technical standpoint, it is probably impossible to design, purchase the equipment needed, install and start up a tank based biological treatment system before the end of 1996. As suggested above, the only other alternative for FMC would be to ship the waste offsite for treatment elsewhere. FMC generates 2,350,000 gallons per year of wastewater that would have to be shipped offsite. This amounts to 130 railroad tank cars or 295 tank trucks. The disposal cost for this material would be \$242,000 per year and the transportation cost would be \$658,000 for a total of \$940,000 per year. To impose this tremendous expense for an interim period is clearly unreasonable. This is particularly the case where FMC believes that the upcoming HWIR rule is likely to remove this waste from coverage by Subtitle C of RCRA. It would be unfair and wasteful to require either extensive retrofitting or offsite shipment of a waste that is likely to become exempt from Subtitle C requirements within a short time. /33 Proposed 40 C.F.R. §268.39(a); 60 Fed. Reg. 11,742 While FMC believes that the problem at the Institute facility could be addressed with a national capacity variance, a better solution would be to defer the Phase III rule until after the HWIR rule. IV. EPA Should clarify That the Phase IV Regulations Apply Only to Subtitle D Surface Impoundments Receiving Decharacterized Wastewater. Both Subtitle C and D wastewater surface impoundments may receive decharacterized wastewaters. However, only Subtitle D surface impoundments should be impacted by the Phase IV regulations. This is consistent with the Court of Appeals in *Chemical Waste Management v. EPA*, 976 F. 2d 2 (D.C. Cir. 1992), cert. denied 113 S. Ct. 1961 (1993) decision which was directed towards

Subtitle D surface impoundments and not to Subtitle C surface impoundments. As the court stated, "Thus we agree with the EPA that, under RCRA, diluted formerly characteristic wastes may be placed in Subtitle D surface impoundments which are part of an integrated CWA treatment train." /34 This applicability difference between Subtitle C and D wastewater surface impoundments is further acknowledged by EPA in Section I.C. of the preamble: /34 976 F 2d at 22 "Today's options to address surface impoundment releases specifically apply to Subtitle D (non-hazardous) surface impoundments that receive decharacterized wastes." /35

**RESPONSE:**

EPA promulgated the Phase III final rule on April 8, 1996. Prior to finalizing that rulemaking, EPA considered and responded to all public comments received in response to the proposed Phase III rulemaking. Whenever relevant, and as time and resources allowed, the In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

Agency considered additional comments and data submitted by the public in response to the Phase IV rulemaking, prior to finalizing the Phase III standards. Given this, the Agency saw no need to delay the effective date of the Phase III rulemaking so that it corresponds with the effective date for the Phase IV rule.

Although the Agency cannot predict exactly how the constituent-specific exit levels for certain low-risk solid wastes in the HWIR final rule will compare with the UTS levels, the Agency did

consider available risk information when making decisions regarding final treatment standards in the technology-based LDR program. During the development of final treatment standards, the Agency examined whether the UTS for some metals may be far more stringent than any reasonable minimize threat level. The initial reasoning was that if the Agency found evidence that the final HWIR minimize threat level was likely to be much higher than the proposed UTS for any toxic characteristic wastestream, EPA would consider whether to raise the proposed treatment standard prior to finalizing the Phase IV rule. EPA examined the proposed HWIR exit levels for the toxic metal wastes including in the Phase IV rulemaking. When EPA compared the proposed HWIR exit levels to the UTS for each metal constituent, the Agency found that the BDAT level was, in most cases, within an order of magnitude of the proposed HWIR exit level. There were significant differences between the proposed HWIR exit level and UTS for two metals, \_\_\_\_ and \_\_\_\_\_. As discussed in section \_\_\_\_ of the preamble to the Phase IV final rule,.....[need to complete once preamble language is written]

In light of the differences in timing between the HWIR and the Phase IV final rule, there is too much uncertainty about what the final HWIR levels will be to incorporate those levels into the UTS for any constituents. Section 3004(m) of RCRA requires that the Agency promulgate treatment standards that specify levels or methods of treatment that "substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized." The proposed HWIR levels have not yet been established as "minimize threat" levels. Therefore, EPA is promulgating the Phase IV rule and the HWIR rule independently. EPA will address any differences between the UTS and the HWIR exit levels either in the final HWIR rule or once both rules are promulgated.



DCN PH4P091  
COMENTER FMC  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 091

COMMENT a. The Regulatory "Trigger" for Groundwater Monitoring Using the UTS level Should be a Multiple Greater Than 1. The current proposal specifies that groundwater monitoring for a decharacterized surface impoundment will be required if the regulated constituent in the impoundment is greater than: (1) 10 times the Maximum Concentration Limit (MCL), or if no MCL exists, then (2) 10 times the State/Tribal groundwater protection number, or if none exists, then (3) The Universal Treatment Standard (UTS). /52 By using the UTS without a Dilution Attenuation Factor (DAF) multiplier on the surface impoundment, the Agency has failed to equalize the concentrations between the various values. As the Agency is aware, the UTS levels are likely to be significantly revised upon the promulgation of the HWIR proposal. This rulemaking is not final (and not even formally proposed) at this time. FMC believes it inappropriate for the Agency to base a proposal requiring the installation of a monitoring system upon values that have not been subject to notice and comment; there is no certainty for the regulated community in what the "trigger value" will be. This represents an unknown target for purposes of either commenting or compliance. It is impossible for the regulated community to either comment on this portion of the proposal because no values have been proposed, nor can the regulated community adequately plan the future compliance. If the UTS based upon HWIR is to be the trigger levels, FMC requests that EPA delay the final date (i.e., effective date of Phase IV) until after HWIR is final and proper notice and comment is made available; see comments in Section III. /52 60 Fed. Reg. 43669 Even if HWIR is published on schedule in December 1996, without changes to the values in the unpublished proposal, there is a six-month gap between when the existing values take effect and the new values are promulgated. It is uncertain what UTS values will be used by the regulated community as the basis for these values during the interim period. FMC believes that to alleviate this problem, EPA should either postpone this section of the regulation (until the HWIR values are final, the UTS is adjusted and adequate notice and comment is allowed on the Phase IV proposal) or similar to the MCL and

State/Tribal values include a multiplier (of at least 10) to the current UTS. b. The Regulatory "Trigger" for Groundwater Monitoring Should be Adjusted on a Site-Specific Basis The proposal for the regulatory triggers is based on a fixed Agency dilution factor "taking into account the reasonable dilution and attenuation that would occur." /53 Using the "one size fits all" approach defeats the general approach that EPA proposed taking in that the regulation should be self-implementing based on site specific conditions. FMC believes that the proposal should be modified to allow, on a site-by-site basis, that the affected location to be able to adjust the DAF, based on sound technical justification. This modification would be self-implementing with the Regional Administrator or Authorized State having the ability, after notification from the affected location, to readjust the DAF. This would be with no penalty for use of a higher DAF prior to Agency reconsideration. c. Statistically Significant Releases Should Not Require the Owner to Move Directly to Corrective Action. FMC believes that any corrective action measures should be based upon risk to human health and the environment and not result from a statistically significant increase over a fixed value. Even the evaluation of various remedial alternatives should not be done until a demonstrated threat to human health and the environment exists. The expenditure of time and effort by the regulated community to implement potentially unneeded corrective action measures is unwarranted. /53 60 Fed. Reg. 43669 The trigger for moving from detection monitoring should be based upon risk either through a site specific risk evaluation or through generalized values developed by EPA such as Preliminary Remediation Goals (PRGs) whichever the regulated facility chooses to use. PRO's have been developed by Region IX, San Francisco, CA, which can be made available to the regulated community.

#### RESPONSE:

The commenter's reference to the Phase IV ground-water monitoring requirements refers to requirements included in Option 2 of the Agency's original Phase IV proposed rule (60 FR 43654) addressing equivalency of treatment in wastewater treatment systems regulated under the Clean Water Act. In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the

wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P091  
COMMENTS FMC  
RESPONDER MC  
SUBJECT EQUV  
SUBJNUM 091

COMMENT EPA should specifically state in the final regulations that the Phase IV regulations for decharacterized wastewaters only apply to Subtitle D surface impoundments. V. FMC Supports Option 1 and is Opposed to Option 3. FMC believes that EPA should select Option 1 in the Phase IV rule. FMC believes that any further regulation of decharacterized land based waste units is better regulated under other Agency programs. As the Agency has stated in the Phase IV preamble<sup>36</sup>, the Chern Waste decision specified that "...[the] court's opinion does not explicitly require more..." than meeting the UTS or CWA treatment standards at end-of-pipe. Discussion of the various options has satisfied any other additional requirements of the opinion and if the Agency believes it is necessary to further regulate these units under Subtitle C of RCRA, this can be construed as nothing more than regulation for regulation's sake. Additional regulations, if any, for decharacterized waste surface impoundments, to control releases from these units, would be better promulgated under the CWA, Clean Air Act (CAA), or RCRA, Subtitle D (for industrial units) rather than by LDR program. /35 60 Fed. Reg. 43657 /36 60 Fed. Reg. 45, 659, 8/22/95 FMC agrees with EPA that it is "unwise" to require decharacterized waste to meet the UTS before entering the surface impoundment as would be required under Option 3. This was clearly the court's intent in the Chern Waste decision. /37 Requiring industry to further treat decharacterized wastes (they have already been subject to some treatment to remove their hazardous waste characteristic) would add an unnecessary and undemonstrated burden on industry. In these times of global competitiveness, additional burdensome and unwarranted regulations cannot be justified. /37 976 F.2d at 23 (Noting that RCRA § 1006 requires accommodation with the CWA)

VI. The Phase IV Rule Should Not Apply The Municipal Solid Waste Landfill Standards (MSWLF) To Clean Water Act Surface Impoundments. (Option 2) As part of Option 2, EPA has proposed to apply certain MSWLF standards under 40 CFR Part 258 to CWA surface impoundments receiving decharacterized wastes. However, RCRA does not authorize the Agency to promulgate such standards, and even if EPA had such authority, it should refrain from promulgating such standards as a matter of policy. a. EPA Lacks

Authority Under RCRA To Apply Municipal Solid Waste Landfill Standards To Clean Water Act Surface Impoundments. Under RCRA section 3004(m)(1), EPA is authorized to issue treatment levels or methods of treatment for prohibited wastes. The Municipal Solid Waste Landfill Standards are neither levels nor methods of treatment, and thus are not authorized under section 3004(m). Furthermore, because they would apply to units that are receiving no hazardous wastes, they are not authorized elsewhere in Subtitle C of RCRA. As explained elsewhere in these comments in connection with the Option 2 requirements in general, EPA's proposed use of selected Part 258 MSWLF standards is neither a treatment level nor a method of treatment. The MSWLF standards proposed for use in the Phase IV LDR rule concern groundwater monitoring and corrective action at Subtitle D surface impoundments. They do not set an acceptable level of constituents or provide a method of reducing constituent concentrations to acceptable levels. Indeed, the standards have nothing to do with the treatment methods employed in the surface impoundment. Accordingly, these requirements cannot be imposed as part of the LDR program. Furthermore, if the MSWLF standards cannot be imposed as LDRs, EPA lacks authority elsewhere in Subtitle C to impose the requirements, because they regulate Subtitle D units that do not receive any hazardous wastes. The Chem Waste decision /38 allowed EPA to impose certain continuing requirements on wastes that were no longer hazardous wastes (i.e., imposing Best Demonstrated Available Technology (BDAT) levels below the characteristic level) but only because of the special nature of the LDR program. Apart from the LDR program, EPA is limited to the regulation of hazardous wastes under Subtitle C. In *American Mining Congress v. EPA* /39, the court rebuffed EPA's attempt to expand its Subtitle C jurisdiction by broadening its regulatory definition of "solid waste." The court stated: "RCRA includes two major parts: one deals with nonhazardous solid waste management and the other with hazardous waste management. Under the latter, EPA is directed to promulgate regulations establishing a comprehensive management system. [42 U.S.C. § 6921] EPA's authority, however, extends only to the regulation of "hazardous waste." /40 /38 976 F.2d at 12-19 /39 *American Mining Congress v. EPA*, 824 F.2d 1177 (D.C. Cir. 1987) /40 824 F.2d at 1179, See also *American Mining Congress v. United States Environmental Protection Agency*, 907 F.2d 1179, 1185 (D.C. Cir. 1990). The court went on to say that "[t]he very care evidenced by Congress in defining RCRA's scope

certainly suggests that Congress was concerned about delineating and thus cabining EPA's jurisdictional reach." /41 The surface impoundments being considered in the Phase IV rule are Subtitle D units that are part of CWA or CWA-equivalent systems. They do not accept hazardous wastes. EPA thus has no authority to regulate them under Subtitle C of RCRA. /42 /41 824 F.2d at 1189 /42 Furthermore, even if EPA could find general authority elsewhere in RCRA to impose the Option 2 requirements on Subtitle D units, it still could not lawfully do so because those requirements are not "necessary to protect human health and the environment." RCRA §§3002(a), 3004 (a). EPA has made it quite clear that it does not consider the Phase IV rules to be necessary -- indeed, it does not even consider the Phase III rules to be necessary. Although the D.C. Circuit rejected EPA's legal construction in the Third Third rule, the court did not disturb EPA's finding that further regulation of decharacterized wastes placed in CWA systems was unnecessary as a matter of policy and environmental protection. Accordingly, because the MSWLF standards cannot be applied to CWA surface impoundments as LDR requirements, and because there is no authority for the requirements elsewhere in Subtitle C, EPA is precluded from imposing these requirements as part of the Phase IV regulations.

b. Application Of The MSWLF Standards In Phase IV Is Inappropriate And Unnecessary Even if EPA believes that it has statutory authority to impose the MSWLF standards as part of Phase IV, it should decide not to do so, because imposition of the standards is inappropriate and unnecessary. First of all, use of modified federal MSWLF standards for CWA surface impoundments will add unnecessary complexity to the regulation of solid and hazardous wastes. It will mean that there will be one set of technical standards for Subtitle C units, a second set of federal standards for CWA surface impoundments accepting decharacterized wastes, and a third set of standards imposed by states under Subtitle D programs. This added level of regulation is particularly unnecessary when many states already have Subtitle D regulations in place that govern the same surface impoundments. For Subtitle D units, the double set of regulatory standards (LDR for decharacterized wastes and state programs) will add a level of complexity as to which regulation is applicable that will cause confusion both to the regulated community and the various federal and state agencies. Second, the MSWLF standards will create additional confusion and complexity because they are too dissimilar from other elements

of the LDR program. The MSWLF standards are not focused on treatment of particular wastes but are technical standards for landfill units. They raise entirely different compliance and enforcement issues. In addition, design and operational requirements for landfills and surface impoundments is quite dissimilar, further adding to the confusion. Third, imposition of the MSWLF standards is unnecessary because there are already substantial regulations and other legal requirements in place to address leaks from CWA surface impoundments. In addition to the state Subtitle D regulations referred to above, there are already RCRA regulations in place that address potential leakage at CWA impoundments. At RCRA-permitted or interim status TSDFs, the RCRA corrective action requirements apply to all SWMUs, including CWA surface impoundments. /43 Furthermore, the statute allows EPA to take action when management of any solid or hazardous waste "may present an imminent and substantial endangerment to health or the environment." /44 Clearly, this provision could be invoked to prevent such endangerment resulting from CWA impoundment leaks. In addition, all owners and operators of surface impoundments have powerful incentives to prevent leakage of hazardous constituents, because of the risks of Comprehensive Environment Response Cleanup and Liability Act (CERCLA) liability and the tremendous costs that can result /45, as well as the risks of common law tort liability resulting from leakage of toxic constituents. Finally, as the Agency has conceded, the risks presented by decharacterized wastes in CWA impoundments are low. In the original Third Third rule, EPA determined that once a characteristic waste no longer exhibits any hazardous characteristic and it is either (i) treated in a wastewater treatment system regulated under the CWA, or (ii) disposed of in an underground injection well regulated under the Safe Drinking Water Act (SDWA), then imposing additional treatment requirements under RCRA is unnecessary as a matter of law and unwarranted as a matter of environmental policy. /46 EPA determined that the CWA regulatory program already imposes adequate treatment requirements and dilution restrictions on industrial wastewater treatment systems. /47 EPA's reasonable approach was rejected by the court in the Chem Waste decision. /43 For the scope of EPA's enforcement power with respect to corrective action, see the recent consent decree in *U.S. v. Eastman Kodak Co.*, No. 94-CV-6503T (W.D. N.Y.) /44 RCRA §7003 /45 42 U.S.C. §§9606, 9607 /46 55 Fed. Reg. 22, 656-59, 6/1/90

/47 See, e.g., 55 Fed. Reg. 22,651-52,22,656-57 In the Phase III proposed rule preamble, EPA pointed out that the Chem Waste decision was forcing EPA to address risks that did not justify Agency action from a policy perspective: "First, the risks addressed by this rule . . . are very small relative to the risks presented by other environmental conditions or situations. In a time of limited resources, common sense dictates that we deal with higher risk activities first, a principle on which EPA, and members of the regulated community, and the public can agree. Nevertheless, the Agency is required to set treatment standards for these relatively low risk wastes and disposal practices during the next two years, although there are other actions and projects with which the Agency could provide greater protection of human health and the environment." /48 Similarly, OSW Director Michael Shapiro testified before the House Subcommittee on Commerce, Trade and Hazardous Materials on July 20, 1995, that the risks addressed by the Phase III rule (and thus those addressed by the then yet-to-be proposed Phase IV rule as well) "are small relative to the risks presented by other environmental conditions or situations." In a recent letter from Robert Hickmott (Associate Administrator USEPA) to U.S. Rep. Ron Syden, EPA confirmed that the risks are low, and that there is little data showing risks. Given these small risks, it is unreasonable to impose the significant costs on industry that would result from application of the MSWLF standards on CWA surface impoundments. /48 60 Fed. Reg. 11704 c. EPA Should Not Impose MSWLF Requirements Without Also Including The Variance Provisions In Part 258. If EPA decides, despite the arguments outlined above, to impose the MSWLF standards on CWA surface impoundments, FMC strongly urges the Agency to apply the same variance provisions that are found in Part 258. EPA has indicated that its preference is to make the standards self-implementing, and requests comment on how to deal with provisions that are not self-implementing in Part 258, such as the multi-unit provision. /49 FMC believes that all such provisions allowing for variances and exceptions should be included, and should be made self-implementing to the greatest degree possible. Particularly considering the low risks that would be addressed by any such standards, the regulated community should be afforded the maximum possible flexibility in applying the standards. VII. If Option 2 is Selected, then the MSWLF Standards Must be Further Modified to Better Reflect Industrial Unit Operations and Requirements If the EPA decides



to pursue this option, revisions to the MSWLF standards /50 beyond those expressed in the Phase IV preamble /51 are needed. However, it is extremely difficult, if not impossible, to comment on the specifics of Option 2 without the proposed regulatory language. /49 60 Fed. Reg. 43671 /50 40 C.F.R. §258 /51 60 Fed. Reg. 43666-73

## RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P091  
COMMENTS FMC  
RESPONDER MC  
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COMMENT d. Corrective Action Should be Based Upon Risk and a "No Action" Alternative Should be Allowed. The EPA proposal, in the Selection of Remedy section (adopted from 40 CFR 258) /54, requires that the owner/operator select a remedy that meets several protectiveness standard /55 and that the facility either cease discharge of decharacterized wastewater to the impoundment or install a double liner system. The protectiveness standards are not based on risk nor do they include a "No Action" alternative. FMC believes that it is particularly important that there be an opportunity for a decision of no remedial action, pursuant to 40 C.F.R. §258.57(e), because in many cases such a decision will be appropriate for a particular site and will prevent wasteful expenditures on unnecessary remediation activities. /54 60 Fed. Reg. 43671-72 /55 ibid Similar to FMC's comment on statistically significant releases (see item c. above), any corrective action selected should first be protective of human health and the environment. This can only be demonstrated through a risk analysis of the release and the various protective measures being contemplated including No Action. No Action is a plausible scenario, for example, where the natural groundwater quality makes it unfit for human/animal consumption, or the rate and direction of groundwater movement is such as not to represent a threat, or where, due to natural attenuation, the groundwater is not a threat at the property line. This is especially true where the Agency has already stated that the waste in question, prior to any treatment in the impoundment, represents only a small threat to human health and the environment. FMC requests that EPA specify that any remedy selection be based on a risk evaluation and that an alternative to corrective action include the No Action alternate. Further the No Action alternative, if selected, should include the continued use of the surface impoundment without modification e. EPA Should Grant a General Applicability Exemption for Subtitle D Impoundments that Receive Stormwater. Numerous industrial facilities utilize integrated sewer systems in which both process wastewaters and stormwaters are managed in the same collection system. Surface impoundments are commonly used in

integrated sewer systems to temporarily receive excess water flow during storm events. These impoundments can include both stormwater and firewater. Firewater ponds are used to store water for use in fire emergencies and are normally maintained at relatively high levels. Water (or excess water from firewater ponds) diverted to these units during storm events are either transferred to the wastewater treatment system at controlled rates or, if sufficiently clean, allowed to discharge to the receiving body. FMC's Bayport, TX facility discharges its combined process water and stormwater to Gulf Coast Treatment facility (POTW). FMC collects all its stormwater (non-hazardous) from its process area in the process sewer prior to discharge. This is combined with the plant's process water in a process water tank. One stream, a city water deionizer regeneration stream, is characteristically hazardous due to corrosivity at the point of generation (if the Point of Rejection from the process rather than the headwork to the wastewater treatment system is used as the Point of Generation) but is neutralized prior to discharge. During heavy storm events, Gulf Coast discontinues taking FMC's discharge. Since the storage capability is minimal, and the amount of storm collected water can be quite large, the current procedure is to overflow the process water tank to the firewater system and pond. Any excess water is then discharged after Gulf Coast begins receiving water again. This is an infrequent occurrence but without an exemption as proposed, FMC's firewater system would be subject to the Phase IV requirements. The cost to separate out this stream and build separate tankage is not warranted by the environmental risk it represents. FMC believes that these impoundments should be exempted due to their low environmental risk, their importance to the operation of the facility's wastewater management system, and for existing systems, the impracticality of closing the impoundments. Stormwater and firewater impoundments pose an inherently low environmental risk since: Underlying Hazardous Constituents (UHCs) in the influents to these impoundments have the potential to exceed UTS only for very short periods of time. Such exceedances will only occur during the very beginning and end of the storm events when the proportion of process wastewater to stormwater is at the greatest. The UTS levels will not be exceeded during the majority of the time when the flowrate of water to the stormwater impoundment is at the greatest. Thus, the flow-rated average concentration of UHCs in the influent will be

significantly below the UTS levels. Stormwater impoundments are generally empty, so the residence time of the UHCs is short. Thus, the already diluted UHCs will have only a relatively brief time to cause any penetration into the underlying soil (low potential for ground water contamination) and to generate any emission to the atmosphere (low, intermittent exposures to down wind receptors). Stormwater and firewater impoundments are important units to the facility's wastewater management system since temporary storage during storm events is necessary so that the large amounts of water managed during a storm event will not overwhelm the waste treatment system and interfere with the efficiency of the treatment system. It is impractical to close firewater or stormwater impoundments since: It would be prohibitively costly to close them because of their sheer size (greater than 25 acres at some facilities). Closure would entail one or more of the following: - Replace the impoundments with a vast storage tank system to manage the large volume of fire/storm/process water. One inch of rainfall over a ten acre facility is equivalent to 270,000 gallons of stormwater. During a major storm event, such as four inches of rainfall this represents 1,000,000 gallons of stormwater. - Significantly enlarge the capacity of the wastewater transfer system downstream of the point where stormwater is currently diverted to the impoundments AND significantly enlarge the treatment system capacity to manage peak flows that will only occur during storm events. - Segregate the process wastewater from stormwater which, in many cases, would be prohibitively expensive due to the size and location (under operating units) of sewer systems in well-established industrial complexes. Thus, FMC believes EPA should grant a general applicability exemption for firewater and stormwater impoundments that receive decharacterized wastewaters.

**f. EPA Should Not Regulate Non-Hazardous Sludges Removed From CWA Surface Impoundments In The Phase IV Rule.** FMC believes that it is both unlawful and unnecessary for EPA to impose additional regulations on sludges as part of the Phase IV rule. First, it is unnecessary for EPA to impose new regulations on sludges removed from CWA impoundments in order to ensure that treatment in such impoundments is equivalent to RCRA treatment. When sludges are removed from surface impoundments, they are newly generated wastes at a new point of generation, just as is the case with sludges removed from Subtitle C units, including tanks. /56 EPA's own discussion in the preamble conclusively shows that

sludges from CWA impoundments need not be further regulated to achieve equivalent treatment: "EPA also reiterates that, as a legal matter, it can be argued that even no treatment of sludges is equivalent to subtitle C LDR controls. This is because generation of sludges is usually a new point of generation at which the newly generated waste is reevaluated to determine if it is subject to the LDR standards. If non-hazardous, the sludges would not be so subject (i.e., would not be prohibited wastes). See 55 FR 22661-62. Thus, literal application of an equivalence test would result in no treatment of these sludges, since the sludges will be non-hazardous wastes by definition (they cannot be hazardous wastes because they are being generated in subtitle D impoundments), and so would not require further treatment under the standard subtitle C approach." /57 In other words, the LDRs never attach to non-hazardous sludges, because they are newly generated wastes. /56 60 Fed. Reg. 43673 /57 ibid Second, as with the MSWLF standards discussed above, regulation of nonhazardous sludges from CWA surface impoundments would be neither a prohibition nor a treatment standard under RCRA section 3004(m)(1), and thus EPA lacks authority to regulate such sludges under the LDR program. Furthermore, because the sludges are not themselves hazardous and are being removed from Subtitle D units that do not accept hazardous wastes, EPA is without authority to regulate them under any other portion of Subtitle C. Before sludges are removed from the surface impoundment, they do not pose risks different from those potentially posed by leaks, and are thus would be addressed by leak prevention measures. As EPA says, "EPA does not believe in-place sludges would be a release pathway separate from the leaks pathway." /58 Thus, EPA should not address sludges as a separate issue in the Phase IV regulations, for both legal and policy reasons. /58 60 Fed. Reg. 43673

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air

emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P092  
COMMENTS Union Carbide Corp.  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 092  
COMMENT

I.C. The phase IV wastewater landban rules should not apply to subtitle C impoundments receiving decharacterized wastewater. The preamble statement "Today's options to address surface impoundment releases specifically apply to Subtitle D (nonhazardous) surface impoundments that receive decharacterized wastewaters" (page 436457), implies that the phase IV rule would not apply to Subtitle C impoundments. EPA should make this explicit in the final rule. In particular, the following types of subtitle C surface impoundments need not be subject to the phase IV wastewater landban standards because they are already subject to subtitle C controls:  
impoundments operating under 265.113 (d) and (e), delayed closure provisions

impoundments which have received a 3005(j)(3), aggressive biological treatment variance

I.G. Union Carbide Supports Option 1

Union Carbide agrees with EPA that this rulemaking will achieve little risk reduction for the effort involved. In particular, there would be no significant risk reduction at Union Carbide facilities which treat decharacterized wastewater in surface impoundments. A plant by plant description and analysis is attached to these comments.

Union Carbide believes subtitle D surface impoundments should be regulated through Federal guidelines implemented by the states. EPA has embarked on a program to do just that. Union Carbide supports EPA's approach for developing industrial subtitle D guidelines and is participating in the program via the Chemical Manufacturers Association.

I.G. Option 3 would impose significant, unnecessary costs on Union Carbide

The cost of option 3 would probably exceed \$100 million, more than Union Carbide has spent on all other facility modifications driven by RCRA subtitle C to date. See the plant by plant description, attached, for details.

I.H.2 Union Carbide supports the proposed exclusion for subpart C permitted facilities under option 2

A condition for granting an RCRA permit for treatment, storage or

disposal is that the entire facility be subject to corrective action for releases from Solid Waste Management Units(3004(u)). Thus, all wastewater treatment units, including surface impoundments, must meet a standard of release prevention and remediation that protects human health and the environment. EPA or the delegated state agency already has the authority and ongoing programs to regulate releases from these solid waste management units.

I.H.2The subpart C permitted facility exclusion should include facilities subject to Subpart C permit requirements.

The exclusion should be worded along the following lines: "if an impoundment is located at a facility subject to RCRA permitting, no further control would be adopted under Phase IV" rather than the preamble statement (page 43661], "if an impoundment is located at a permitted TSDF, no further ...." The reasons are as follows:

1. EPA has not yet issued final permits to all facilities subject to RCRA permitting because of the large administrative burden involved. Eligibility for the exclusion should not depend on a Region's or State agencies resource limitations or priorities.
2. EPA has directed its regions to issue corrective action permits based on a "worst first"priority, a sound policy which Union Carbide supports. Thus, facilities which the Region believes pose the lowest risks will receive their permits last. It would be illogical to subject these lowest risk facilities to the new phase IV standards, while facilities judged to be higher risk are excluded.
3. Some facilities subject to RCRA permitting may not have received permits because they are newly regulated from expansions to the hazardous waste definition (e.g. the 1990expansion to the Toxicity Characteristic).
4. Some facilities subject to RCRA corrective action have closed their subtitle C treatment, storage and disposal units. These facilities are nevertheless subject to postclosure care requirements and to corrective action for releases from all Solid Waste Management Units, even though they no longer are permitted for treatment, storage or disposal of hazardous waste.

I.H.2Union Carbide supports the concept of exempting wastewater treatment surface impoundments from phase 4 emissions standards where emissions are subject to alternative state, Federal or tribal requirements.

Air emissions should be regulated under air programs and not subject to overlapping or duplicative RCRA requirements.

I.H.2EPA should clarify which future alternative Federal, state



and tribal emissions control programs qualify for the option 2 exclusion.

How near is "near future?" MACT standards will be promulgated over the next several years on a schedule established under section 112 of the Clean Air Act Amendments of 1990. The listing and schedule were published on December 3, 1993 at 58FR page 63941. EPA should explicitly state that, for purposes of exemption from the phase IV emissions standards, "CAA standards for hazardous air pollutants" includes all sources listed at in the December 3, 1993, Federal Register notice and wastewater from all sources listed in the December 3, 1993, Federal Register notice. This is particularly important to Union Carbide locations. Union Carbide currently generates characteristic wastewater in units subject to future Olefins MACT standards, which we understand EPA will list soon, and may generate characteristic wastewater from groundwater remediation activities subject to future MACT standards for corrective action, scheduled for 2000. In addition, Union Carbide treats decharacterized wastewater in offsite impoundments in a POTW (scheduled for MACT standards in 1995).

H.2 Option 2 emissions standards should not apply to wastewaters subject to alternative state, Federal and tribal standards.

EPA creates some confusion in the preamble by using the terms "addressed in CAA standard" (Figure 2) and "subject to CAA standards" (page 43660). Alternative Federal, state or tribal standards typically do not require controls on all wastewaters from a source. Air regulations have complex applicability criteria in order to focus control efforts on the most significant emissions.

For example, for Texas RACT standards apply controls to wastewater using applicability criteria based on their potential to emit, estimated by a formula based on Henry's law. It would make little sense, and create much confusion and unnecessary expense, to require additional controls for wastewaters with low potential to emit. In other words, the phase 4 rule exemption should not be narrowly limited to wastewaters for which physical controls are required.

I.H.2 UCC supports allowing alternative standards that control either VOC's or Hazardous Air pollutants in lieu of phase 4 land ban standards for emissions.

In particular, wastewater from sources subject to RACT standards for volatile organics should be excluded from phase 4 land ban standards for emissions.

I.H.2 Surface impoundments at offsite TSD's should be excluded from

phase 4 Emission Standards if the dischargers' ICRT wastewaters are subject to alternative state, Federal or tribal standards.

Union Carbide uses an industrial, nonhazardous POTW to treat wastewaters from one of its major facilities. This POTW does not, at present, accept domestic sewage and is therefore not presently eligible for the domestic sewage exclusion. Consequently, the surface impoundments at this POTW would be subject to the phase 4 emission standards under option 2.

The current preamble implies that the POTW facility must itself be subject to Clean Air Act Standards to be exempt from the Option 2 emissions standards.

The phase 2 option should be revised so that facilities subject to CAA standards for hazardous air pollutants in the near future or facilities that receive, treat, or store influent wastewaters from sources which are subject to Clean Air Act requirements (such as MACT standards promulgated under Section 112 of the CAA or state RACT standards for volatile organic emissions) would not be covered by Option 2.

The state RACT standards and MACT standards for major sources include specific provisions for control of emissions of hazardous air pollutants from wastewaters generated by the source.

For example, the HON MACT imposes standards on wastewaters from SOCMU units which ensures that the emissions of HAPS from such wastewaters are appropriately regulated. Thus, it should not be necessary for the Phase IV rule to address air emissions from POTWs which receive wastewaters subject to a MACT standard, since the air emissions from such waters have already been assessed and addressed under the CM.

## RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated

in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P092

COMMENTS Union Carbide Corp.

RESPONDER SS

SUBJECT EQUV

SUBJNUM 092

COMMENT

I.H.2 EPA's flow diagrams, which combine applicability logic and summaries of requirements, are excellent and should be included in the final rule, if options 2 or 3 are selected.

These flow charts are among the best descriptions of a complex rule we have seen. We encourage EPA to include this type of diagram in all major rules with complex applicability criteria.

EPA needs to be careful that the flow charts are fully consistent with the rule. For example, options to (1) pretreat wastewater to 95% VOC reduction/50 ppmw and (2) pretreat wastewater to site specific exit concentration determined by an equation should be included in the figure 2 flow chart for completeness.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe

Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P092  
COMMENTS Union Carbide Corp.  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 092  
COMMENT

III. EPA should add additional flexibility to the LDR program by adding an emergency response exemption worded along the lines of the emergency response exemptions from permitting and other RCRA standards at 264.1(g)(8), 265.1(c)(11) and 270.1(c)(3).

Union Carbide manages reactive materials which also exhibit RCRA characteristics. The safest way to manage large spills of these materials is to dilute them with large quantities of water and send to the location's wastewater treatment system. This practice is far safer than retaining them in an undiluted form where they could react or ignite. The 264, 265 and 270 exemptions make it permissible to manage

large spills in the safest way, but 268 illogically forbids it.

**RESPONSE:**

The emergency response exemptions cited by the commenter apply to treatment and containment activities during *immediate* response to hazardous waste discharges. The exclusions do not apply to the ultimate disposal of hazardous wastes. All three exclusions provide that "any person who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements..." The intent of each of these exclusions is to facilitate the quick implementation of immediate response activities to ensure immediate containment and initial treatment. The ultimate treatment and disposal of any hazardous wastes, including contaminated media, that is generated during immediate response activities must be conducted in full accordance with all applicable hazardous waste management regulations to minimize any continual or potential threats to human health and the environment.

**NOTE to EPA: how do we respond to the commenter's specific example of large spills of reactive materials that exhibit one or more characteristics? Tell them to ask for a treatability variance?**

DCN PH4P092  
COMMENTS UNION CARBIDE  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 092  
COMMENT

I.G.

Option 2 needs further clarifications and modifications to avoid duplication or overlap with other programs.

Land ban regulations should not impose overlapping or duplicative requirements over other statutes or regulations. Several clarifications and modifications are needed in option 2 to fully meet this goal. These concerns are elaborated in greater detail elsewhere in these comments. Without these changes, significant disruptions and costs of \$40 million or more to Union Carbide are possible.

I.H.2

The exemption for "facilities which meet the pollution prevention" compliance option should be available to off-site facilities if the dischargers to the off-site facility meet the appropriate requirements.

This will not penalize facilities in states that have designed their programs to encourage source reduction approaches in their air programs.

I.H.2

Option 2 leakage standards appropriately recognize the substantial difference in risk between pre biological and biological/post-biological treatment impoundments.

Any seepage from biological or post biological impoundments has already undergone biological treatment. Hazardous constituents have been substantially, if not completely degraded. In addition, the seepage contains nutrients and, for aerobic impoundments, oxygen, which stimulates biological activity within the natural soil liners. Congress recognized the substantially lower risks posed by these units by including the 3005(j)(3), Aggressive Biological Treatment, variance from minimum technology requirements.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the

wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P093  
COMENTER Heritage Environmental  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 093  
COMMENT

**The Applicability of the Characteristic Waste Treatment Standards is not Clear Relative to Tank-Based CWA Systems**

As a result of the Chemical Waste Management v. EPA court decision regarding decharacterization of hazardous waste by dilution, EPA has implemented the concept of Clean Water Act (CWA), or CWA-equivalent, treatment versus non-CWA treatment. In the May 24, 1993 interim final rule for ignitable and corrosive wastes (58 FR 29860), EPA addressed treatment of D001 and D002 wastes managed in treatment systems other than centralized wastewater management systems covered by 40 CFR 268.1(c)(3) (Class I underground injection wells) and 268.3(b) (CWA treatment systems). A CWA treatment system is defined by 40 CFR 268.3(b) as, "...a treatment system which treats wastes subsequently discharged to a water of the United States pursuant to a permit issued under section 402 of the Clean Water Act (CWA) or which treats wastes for the purposes of pretreatment requirements under section 307 of the CWA...." This definition seemingly includes tank-based as well as land-based (surface impoundments) treatment systems.

However, throughout the preamble discussion of the Phase IV treatment standards regarding meeting universal treatment standards (UTS) for the underlying hazardous constituents of characteristic wastes treated in CWA systems, EPA only discusses treatment in surface impoundments. In fact, Sections I and II of the proposed rule are limited to discussion of surface impoundments. Nowhere are tank-based treatment systems discussed relative to this proposed rule. Yet, the actual proposed language for 40 CFR 268.40 did not specify that these Treatment Standards would apply only to CWA systems involving surface impoundments or Class I injection wells (i.e., land-based treatment systems). Thus, it is not clear which CWA systems would be subject to the requirement to identify and treat underlying hazardous constituents in characteristic wastes.

Although Heritage has already submitted comments regarding this issue in response to the proposed LDR - Phase III rule, we would like to reiterate that the treatment standards for underlying hazardous constituents in characteristic hazardous wastes should





be limited to non-CWA treatment systems, surface impoundments and injection wells due to the potential risks to human health and the environment inherent in these activities. There is no land disposal involved with tank-based wastewater treatment, particularly in situations involving indirect discharges. CWA systems that do not include surface impoundments do not present the same level of potential risk of leaks, as such systems are typically tank-based with associated secondary containment structures.

In addition, concerns regarding tank leakage, air emissions and discharges to POTWs or surface waters are already addressed by a myriad of existing regulations including: technical requirements for the design and operation of tanks under Subpart J of 40 CFR Parts 264 and 265; RCRA CORRECTIVE action requirements to address releases from permitted facilities; release reporting requirements under Comprehensive Emergency Response, Compensation and Liability Act (CERCLA) and state and local spill reporting regulations; air emissions standards under federal Clean Air Act regulations and similar state and local requirements, as well as the new organic air emission control standards under Subpart CC of 40 CFR Parts 264 and 265; and permitting requirements with stringent constituent limitations under provision of the Clean Water Act and state and local regulations.

In fact, discharges from centralized waste treatment facilities following treatment of hazardous wastes will be subject to the applicable constituent limitations in each facility's discharge permit. EPA is well aware that such limitations will become even more stringent upon promulgation of the pretreatment standards for centralized waste treatment facilities. The dewatered (i.e., nonwastewater) residues resulting from such CWA treatment will be subject to the Treatment Standards applicable to the wastes treated in the system prior to land disposal. Thus, there seems to be no rational argument for additional regulation of wastes treated in a CWA tank-based system. Heritage requests that EPA specifically address how the requirement to identify and treat underlying hazardous constituents applies to tank-based CWA treatment systems, as opposed to the land-based systems discussed at great length in the proposed Phase III and Phase IV rules.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that

underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P094  
COMMENTS General Motors Corp.  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 094  
COMMENT

Integration with Other Statutes Sec. 1006(a) and (b)

Several of the options discussed in this preamble overlap with regulations and programs covered more appropriately under other specific statutes. These RCRA regulations are focused on hazardous waste emissions or discharges taking place in media other than solid waste, that is, water and air. What appears to be happening with the Phase III and Phase IV proposals is that the RCRA regulation writers are unaware of the imbalances that are being created with the CWA and the CAA. Conflict with this portion of the statute has arisen; because other sections of RCRA have caused the Agency to develop duplicative regulations which are obvious in some of the options discussed in this proposal. Two examples are described below:

Example 1

Section 3004(n) Air Emissions.--Not later than thirty months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall promulgate such regulations for the monitoring and control of air emissions at hazardous waste treatment, storage, and disposal facilities, including but not limited to open tanks, surface impoundments, and landfills, as may be necessary to protect human health and the environment. [§3004(n) added by PL 98-616]

This section of RCRA has generated the Subpart CC regulations<sup>2</sup> that are designed to control volatile organic emissions from TSD and generator tanks, containers and surface impoundments. In fact, the Agency acknowledges that "many industrial sectors that may manage hazardous waste are listed as specific NESHAP source categories. Consequently, facilities at which hazardous waste are managed may be subject to both NESHAP and the RCRA air standards ..." The Agency failed to recognize other areas of the Clean Air Act [New Source Review in Non-Attainment Areas at 40 CFR 51.165(a) or Prevention of Significant Deterioration at 40 CFR 51.166] also regulate the emissions from hazardous waste units.

In fact, certain sections of RCRA seem to be conflicting with itself. Subpart CC regulations enabled under Sec. 3004(n) have been developed to control organic emissions from tanks, containers and surface impoundments. This Phase IV proposal suggests that the

Subpart CC regulations be expanded to include "decharacterized" wastes in an apparent over expansion of 3004(n).

#### Example 2

#### 3004(m) Treatment Standards for Wastes Subject to Land Disposal Prohibition.--(1) Simultaneously with the promulgation of

regulations under subsection (d), (e), (f), or (g) prohibiting one or more methods of land disposal of a particular hazardous waste, and as appropriate thereafter, the Administrator shall, after notice and an opportunity for hearings and after consultation with appropriate Federal and State agencies, promulgate regulations specifying those levels or methods of treatment, if any, which substantially diminish the toxicity of the waste

or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized.

Although, the statutory conflict is less apparent then in the previous example all the same a conflict which involves the Clean Water Act does exist. LDR treatment levels are based upon Best Demonstrated Available Treatment (BDAT) technology for both solid and liquid forms of hazardous waste. Setting BDAT for liquids that are treated prior to disposal is technologically feasible.

However, the LDR Phase III and portions of the Phase iv proposals state that an impounded liquid hazardous waste must meet LDR treatment levels prior to treatment; a technological impossibility.

The Phase iv proposal suggests that certain nonhazardous impounded wastewaters (decharacterized wastes) also meet the LDR treatment levels. This requirement may be acceptable for those wastewater systems that use impoundments after treatment (final polishing); but those systems that utilize impoundments in the early stages of their treatment train (equalization, recirculation or settling basins) this is a technical impossibility since any wastewater treatment occurs after the basin itself. By definition BDAT levels are based upon wastewaters that have been treated with the Best Available Treatment technology.

#### Phase III Definition of De-minimis Volume and Malfunction Exemptions (Discussed on 60 FR11714)

If the Agency decides that decharacterized wastes must meet LDRs then exemptions should be written into the final rule which account for small volume waste streams and operational anomalies that occur beyond the control of the facility operator (i.e., spills, equipment malfunctions). Additionally, the increased regulation of waste generated by laboratories and low-volume-low-concentration waste streams require significant allocation of resources

and provides very little benefit to the environment. Exemption language could be drafted to include a maximum concentration of each constituent as a function of its UTS and a maximum flow rate (volume per unit time).

Malfunctions of properly maintained equipment or processes resulting in specific, finite releases should be provided for in the final rule. Facilities should not be immediately subject to Phase III

or Phase IV if a malfunction of a single process causes a normally non-hazardous waste stream to exhibit hazardous characteristics. Language should be added to exempt a facility from applicability to Phase III and Phase IV requirements if it can be demonstrated that the equipment was properly designed and operated with appropriate maintenance procedures in place in the case of a malfunction.

Inclusion of exemption language to cover these two general categories would significantly reduce the burden of the regulation on these de-minimis sources. Analytical requirements should be minimized in the implementation of any exemptions for their practical application. If the cost of analysis and record keeping approach that of the alternative; the efficacy of the exemption is

**Definition of Decharacterized**

The word decharacterized although used a couple of times in two previous Federal Register preamble discussions it has never been codified. General Motors does not accept this term on its face as defined by language in the preamble to this rulemaking for reasons stated previously. General Motors recommends that the term "decharacterized" be defined in a regulatory proposal and published for proper public commenting and then codified into 40 CFR 260.10.

## **RESPONSE**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not

apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P094  
COMENTER General Motors Corp.  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 094  
COMMENT

Executive Summary - The following sections [Statutory Authority - Judicial Ruling Integration with Other Statutes Sec. 1006(a) and (b) Intentional and Unintentional Dilution Effects Described by CWM v. EPA and Point of Generation] describe and pose several arguments favoring Option 1, and disfavoring Options 2 and 3. These arguments are based primarily on statutory and judicial interpretations which explained in detail in the following sections and are summarized as follows:

The Court in CWM v. EPA stood mute in distinguishing between unintentional and intentional dilution. Congress clearly intended to not to include in the LDR program those streams that are unintentionally diluted in a manufacturing process (emphasis added). RCRA Sec. 1006 states that RCRA should not conflict with other environmental statutes or with itself as in the case of controlling organic air emissions (emphasis added). Statutory requirements under Sec 3004(d) have not been satisfied when considering the regulation of "decharacterized" wastes. A particular waste's characteristics as described under 3004(d) at the point of environmental impact should be the factors that are considered when expanding the LDR program and not what the waste may have been at its point of generation. Unintentional dilution effects are accepted and dealt with in other environmental programs. Increases in capital, labor, administrative cost and risk to the workforce outweigh any environmental benefit that may be realized. Options 2 and 3 are counter indicative of the goals of pollution prevention.

#### Intentional and Unintentional Dilution

Discussion of the Legislative History in the Phase III proposal (60 FR 11707) describes legislative intent with regard to dilution of hazardous constituents either intentionally (diluting for purposes only to meet LDR) and unintentionally (dilution that occurs as part of the manufacturing process). Footnote 5 (60 FR 11707) states:

"The Committee intends that dilution to a concentration less than the specified thresholds by the addition of other hazardous waste or any other material during waste handling, transportation, treatment, or storage, other than dilution which



occurs as a normal part of a manufacturing process, will not be allowed. Such hazardous waste would still be prohibited from land disposal."iv (emphasis added)

Clearly, Congress expressly intended a prohibition against the intentional dilution of hazardous waste to comply with LDR as supported by the court in CWM v. EPA. However, Congress also expressly intended to not include that "dilution which occurs as part of the manufacturing process." iv To this point, situation or intent the Court in CWM v. EPA appeared to stand silent.

#### Dilution Effects Described by CWM v. EPA

Additionally, in CWM v. EPA the Court states that dilution does not destroy, remove or immobilize hazardous constituents. It should be noted that dilution does indeed cause a drop in the concentration of hazardous constituents where the toxicity or the likelihood of migration of the hazardous constituent has been substantially diminished or reduced to a point where 3004(d)4 and 3004(m)(1) as satisfied. However, the Court in CWM v. EPA failed to recognize that the ability for a contaminant to migrate and cause detrimental effects upon the environment are directly proportional to that contaminant's concentration in a particular environmental media. Granted, as pointed out by the Court (976 F 2d 2 at 23), that a threefold increase in water causes a threefold decrease in the contaminant's concentration the net effect on the mass of contaminant is zero. That is, regardless of the amount of dilution occurring the amount of contaminant remains the same. What the Court did not acknowledge is that threefold increases in dilution; decrease effects of toxicity and the ability to migrate approximately three times.

EPA has considered such unintentional "dilution" effects in the management of contaminants in other media. For example, concepts of "mixing zones" and "dilution factors" in Clean Water Act regulations; air dispersion modeling in the Clear Air Act and multipath analysis in the Hazardous waste Identification Project of RCRA, are used to assess a contaminant's detrimental effects(toxic) on aquatic life, etc., and its ability to migrate at the point of environmental impact.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized

wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

There is one caveat. For characteristic hazardous wastes that are managed in CWA or CWA-equivalent systems, and for which EPA has promulgated a method of treatment as the treatment standard (e.g., high TOC ignitable wastes for which the treatment standard is recovery of organics) remain prohibited unless treated pursuant to the promulgated method.

**NOTE TO EPA: This response may still need to address the larger comment of intentional vs. unintentional dilution. Direction is need to develop this response.**

DCN PH4P094

COMMENTS General Motors Corporation

RESPONDER SS

SUBJECT EQUV

SUBJNUM 094

COMMENT

Conclusion and Recommendation with Regard to Judicial and Legislative Intent (Options 1, 2, or 3)

Arguments presented in the preceding sections have been summarized as follows:

The Court in CWM v. EPA stood mute in distinguishing between unintentional and intentional dilution. Congress clearly intended to not include in the LDR program those streams that are unintentionally diluted in a manufacturing process (emphasis added).

RCRA Sec. 1006 states that RCRA should not conflict with other environmental statutes or with itself as in the case of controlling organic air emissions (emphasis added). Statutory requirements under Sec 3004(d) have not been satisfied when considering the regulation of "decharacterized" wastes. A particular waste's characteristics as described under 3004(d) at the point of environmental impact should be the factors that are considered when expanding the LDR program and not what the waste may have been at its point of generation. Unintentional dilution effects are accepted and dealt with in other environmental programs.

Increases in capital, labor, administrative cost and risk to the workforce outweigh any environmental benefit that may be realized. Options 2 and 3 are counter indicative of the goals of pollution prevention.

For these reasons the only Option the Agency should consider is Option 1 as described in the preamble on 60 FR 43659.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe

### Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P095  
COMMENTS GE  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 095  
COMMENT

A. The Agency should adopt Option 1 because it is consistent with the Chemical Waste Management court's decision and represents sound policy.

1. The Agency should adopt Option 1 because the court's decision in Chemical Waste Management only requires control of hazardous constituents prior to discharge from CWA SURFACE impoundments. EPA indicates that it is disposed toward interpreting the Chemical Waste Management decision to require that the Agency takes steps to regulate cross-media transfers of UHCs from CWA surface impoundments, including subjecting CWA surface impoundments to leak detection and air emission requirements, as well as standards for sludge that accumulates in impoundment even if that sludge does not exhibit a hazardous waste characteristic.<sup>6</sup> With the exception of the court's statement that EPA must "propose a method of treatment" that would deal with significant threats to human health and the environment posed by decharacterized ignitable wastes containing "high levels of hazardous constituents" that may volatilize in surface impoundments,<sup>7</sup> there is no basis whatsoever in the opinion for EPA's suggestion that it is required, or allowed, by RCRA to promulgate surface impoundment standards. As indicated by the following messages from the court's decision, the decision is absolutely clear that if a formerly characteristic waste no longer exhibits a characteristic at the time it enters a CWA surface impoundment, the surface impoundment should not be regulated under RCRA:

"Congress, when enacting RCRA, was cognizant of the substantial development of CWA systems, and, thus, permitted regulatory "accommodation" of RCRA and CWA systems. Thus, we agree with the EPA that, under RCRA, diluted formerly characteristic wastes may be placed in Subtitle D surface impoundments which are part of an integrated CWA treatment train."<sup>8</sup>

"Although a surface impoundment is technically a form of 'land disposal', and treatment therein normally would be at odds with the command of RCRA, this approach is nonetheless acceptable because RCRA requires some accommodation with CWA."<sup>9</sup>

"The EPA's decision to permit 'decharacterized' hazardous wastes

to be deposited in surface impoundments as part of continuing treatment is a reasonable accommodation."<sup>10</sup>

3. The Agency should adopt Option 1 because planned, proposed, and existing state and federal requirements provide adequate protection of human health and the environment, deferral to those programs would avoid confusing, potentially overlapping regulatory programs, and adoption of Option 1 would avoid significant regulatory disruption incurred at great expense with relatively little benefit.

As the Agency has pointed out in the Technical Support Document, there are a number of existing statutory and regulatory provisions that address risks intended to be addressed by the proposed Rule.<sup>20</sup> These state and federal provisions include regulations covering construction and design of Subtitle D municipal solid waste landfills, air emissions from certain non-hazardous wastewaters, and design and operation of wastewater surface impoundments. The Agency did not, however, consider one important category of state law. In many, if not all, states, the state water pollution control acts and regulations prohibit the discharge of pollutants into groundwaters of the state.<sup>21</sup> Accordingly, in these states, leaks of wastewater from a CWA surface impoundment would be flatly prohibited without a state discharge permit. These latter permits generally set limits on the amount of toxic substances that can be discharged.

These state provisions, therefore, prohibit the very releases that Option 2's leak detection requirement are intended to prohibit. Based upon the totality of provisions that may apply to risks posed by air emissions, leaks, and sludges from surface impoundment, it is clear that the Proposed rule will provide little environmental benefit.

At the least, the Agency should include consideration of these potentially available protections when assessing the risks posed by surface impoundments. The essential question in this case is whether additional regulations are necessary to reduce risks posed by surface impoundments to acceptable levels. As such, surface impoundment risks cannot be considered in a regulatory vacuum. Rather, the risks must be considered in light of existing statutory and regulatory controls. Otherwise, the Agency runs a significant risk of promulgating regulations that overlap with existing regulations, thereby creating a confusing mass of requirements. The Agency has already recognized this concept in its proposed exemption for corrective action.<sup>22</sup> GE's review of the

Agency's risk determination methodology, however, indicates that existing prohibitions on unpermitted groundwater discharges were not factored in to this risk determination.<sup>23</sup> Accordingly, the Agency's risk determination does not accurately reflect the potential risks posed by surface impoundments.

B. If the Agency nonetheless adopts Option 2, the Agency should modify and clarify the proposed Rule.

1. If the Agency adopts Option 2, the Agency should exempt from Option 2 wastewater sumps, wet wells, and lift stations because such units do not meet the Agency's definition of "surface impoundments" and do not present the risks that the Proposed Rule is intended to address.

The Proposed Rule applies to certain "surface impoundments". This definition of a surface impoundment is therefore critical to the applicability of Option 2. The Agency's regulations and background documents supporting the Proposed Rule indicate that the Proposed Rule is intended to apply only to those units that are commonly thought of as surface impoundments. Such units include wastewater holding ponds, settling basins, aeration ponds, and clarification and finishing ponds. In applying its regulations in the past, however, the Agency has adopted an extremely broad definition of surface impoundments. Under the Agency's broad interpretation of the definition of surface impoundments, Options 1-3 of the Proposed Rule would apply to units that are not commonly thought of as surface impoundments and are not utilized for those purposes identified above. Such units include concrete wastewater treatment system sumps, wet wells, and lift stations.

The Agency's regulations define a surface impoundment as A facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials. . . which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.<sup>24</sup>

This definition indicates that a surface impoundment is a basin-like structure with earthen sides and foundation. This view is supported by the background documents for the Proposed Rule. The technical support document for the Proposed Rule states that CWA surface impoundments are basins used to hold large quantities of wastewater and are comprised of a foundation and an earthen dike with a sloping side.<sup>25</sup> Both the Agency's regulatory definition

and the Technical Support Document also indicate that in wastewater treatment systems, surface impoundments are used for wastewater clarification, equalization, and treatment.<sup>26</sup>

It is unclear, however, whether the Agency would interpret the definition of a surface impoundment much more broadly than the above sources would suggest. Previously, the Agency has addressed the issue of how to distinguish a tank from a surface impoundment for the purposes of RCRA. The Agency has essentially stated that a tank is any unit which, if free standing (i.e., not surrounded by earth) and filled to capacity with the material it was intended to hold, would maintain its structural integrity.<sup>27</sup> This could arguably be read as implying that any unit not meeting the definition of a tank would be considered a surface impoundment. If so, under such a broad view of what constitutes a surface impoundment, the applicability of the Proposed Rule would also be much broader than the Agency apparently intended. Under such a broad view, a concrete sump used to aggregate wastewater in a treatment system could be considered a surface impoundment and, accordingly, would be subject to the Proposed Rule.

Most of GE's facilities have extensive systems to collect, transport, and treat wastewater from a large number of individual sources within a facility, as do most manufacturing facilities. These systems often include numerous concrete structures that are either partially or completely surrounded by earth and that are used to aggregate two or more wastewater streams for more efficient transport or treatment. In some cases, these units are also used for elementary neutralization of highly acidic or basic wastewater streams. In essence, these units serve as a part of the wastewater collection system. As an example, at one of GE's facilities, 50 percent of the potentially affected units are sumps that are integral to the proper operation of the facility's wastewater treatment system.

Comparing the construction and uses of these sumps, wet wells, and lift stations to the construction and uses of surface impoundments as described by the Agency in the Technical Support Document, it is clear that the Agency did not intend for the Proposed Rule to apply to such sumps, wet wells, and lift stations. As noted above, the Agency describes a surface impoundment as a large basin-like structure that is constructed primarily of earthen materials and that is used to contain wastewater for some period of time in order to conduct some form of treatment. In contrast, sumps, wet wells, and lift stations are usually much smaller structures that are constructed of reinforced concrete and used primarily to



aggregate and transmit wastewater to other units.

In addition, sumps, wet wells, and lift stations would not generally pose the same level of risk that may be posed by a surface impoundment. Because sumps, wet wells, and lift stations are generally much smaller than surface impoundments, and accordingly have a much smaller liquid surface area, the air emissions from sumps, wet wells, and lift stations would be considerably less than from surface impoundments. As a result, risks posed by air emissions from sumps would be correspondingly less than from surface impoundments. Also, because of their uses, sumps, wetwells, and lift stations would generally not accumulate large amounts of sludge, whereas surface impoundments are designed generally to accumulate sludge. Therefore, the overall risks posed by sumps, wet wells, and lift stations is much less than the risks posed by surface impoundments and require less regulation than surface impoundments.

2. If the Agency adopts Option 2, the Agency should clarify that Option 2 does not apply to corrosive wastewater that is neutralized.

The brief description of the Proposed Rule suggests, but does not clearly indicate, that Option 2 would not apply to units managing waste water that was corrosive at the point of generation but that has been "decharacterized" by neutralization rather than dilution.<sup>29</sup> The Agency does make this point in the Technical Support Document, which states that if the characteristic wastewater is decharacterized by any means other than dilution, then the Proposed rule does not apply.<sup>30</sup> Moreover, in Chemical Waste Management, the relevant portion of the court's holding was limited to the narrow issue of whether decharacterization by dilution is an acceptable form of treatment.<sup>31</sup>

As such, the Proposed Rule should be similarly narrowly tailored to address only situations where the characteristic of corrosivity is removed by dilution. Where corrosive wastewater is chemically neutralized, the court's edict is satisfied because neutralization effectively eliminates the risk posed by such waste and therefore meets the requirements of RCRA § 3004(m).<sup>32</sup> It should also be pointed out that neutralization can occur, and is the case for several of GE's facilities, by mixing an acidic wastewater with a basic wastewater. This type of neutralization should also exempt wastewater from Option 2 because it is chemically removing the hazardous characteristics of both streams just as if each stream were separately neutralized. This "mutual neutralization" of acidic and basic wastewater streams

also eliminates the need to transport and use hazardous material for neutralization of these streams, thereby eliminating risks to human health and the environment. Accordingly, the final rule for Option 2 should clearly state that the rule does not apply to surface impoundments managing wastewater that exhibited the corrosivity characteristic but was decharacterized by neutralization.

8. If the Agency adopts Option 2, the Agency should exempt from Option 2 surface impoundments that are used for spill containment or storm water overflow.

Several GE facilities have surface impoundments that are used for spill containment and containment of wastewater during overflow conditions. These surface impoundments are used only occasionally. For example, wastewater would be diverted to a spill containment basin if a spill occurs in the manufacturing area and contaminates the wastewater with an excessively high concentration of pollutants. Such high levels pose a risk to the biological treatment system. Accordingly, such wastewater must be isolated and bled into the system over time. Because such events are not part of the normal manufacturing operations, the spill containment basin would contain wastewater only occasionally. Moreover, because many of GE's operations are batch operations and wastewater can be diverted to the spill basin from several areas of the plant, it is also possible that when such an event does occur, the wastewater that is discharged to the spill containment basin would not contain decharacterized ICR Wastewater. This means that a spill containment basin is likely to contain decharacterized ICR Wastewater very occasionally.

Similarly, several GE facilities utilize surface impoundments to contain wastewater during overflow events. These events are typically due to the fact that storm water runoff from process areas is discharged to the wastewater treatment system. During times of unusually heavy storm events, this stormwater runoff may overload the wastewater treatment system's hydraulic capacity. Therefore, it is necessary to have a way to contain this overflow until it can be bled back into the system gradually. For the same reasons explained above, these overflow basins would contain decharacterized ICR wastewater only occasionally.

As such, these basins do not pose anywhere near the same risks posed by wastewater surface impoundments that contain wastewater continuously. It would not make sense to require facilities to

undertake costly modifications of spill and overflow containment basins in order to protect against releases of hazardous constituents that may occur only rarely. Moreover, it is clear that the Agency did not include such basins in its cost and risk estimates. For these reasons, the Agency should exempt from Option 2 any surface impoundments that are part of a CWA WASTEWATER treatment system and are used to contain wastewater overflow or spill containment.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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4. The Agency should adopt Option 1 in order to avoid imposing any potentially unnecessary requirements on CWA surface

impoundments until the Agency finalizes other relevant rules and the Agency obtains more data regarding risks posed by CWA surface impoundments.

GE believes that the Agency should defer promulgating a final rule until after the Agency has resolved issues raised by related proposed and final rules. Previously, the Agency has proposed or finalized a number of rules that raise issues pertinent to the Proposed Rule. One such rule is 40 C.F.R. Parts 264 and 265, Subpart CC. Under Option 2 of the Proposed Rule, the Agency is currently proposing to adopt Subpart CC requirements for controlling air emissions from surface impoundments. Subpart CC, however, is currently being challenged and may change. Most notable, the method to be used to determine the concentration of VOCs in the wastewater is in dispute. Because of the uncertainty in measuring applicability levels, interested parties cannot determine whether the Proposed Rule applies to them.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

Risks from air emissions will be considered in this study. The commenter is correct in noting that Parts 264 and 265, subparts CC, of 40 CFR regulate certain air emissions from hazardous waste management units such as surface impoundments, as well as all units downstream from the

point of introduction of a specific hazardous waste, until such time that treatment of the volatile organic chemicals occurs. The subpart CC requirements are limited to specific volatile organic chemicals present at greater than 100 ppmw in these hazardous wastes. EPA cannot predict at this time whether additional volatile or semi-volatile organics not addressed by the subpart CC requirements may pose a potential risk to human health and the environment. EPA may consider additional requirements for air emissions from hazardous waste management units if such requirements are indicated by the risk assessment.

DCN PH4P095  
COMMENTS GE  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 095  
COMMENT

4. If the Agency adopts Option 2, GE supports the Agency's proposal to exempt all facilities that are subject to RCRA's corrective action provisions because such provisions give the Agency adequate and flexible authority to address any unacceptable risks posed by CWA surface impoundments.

The Agency has proposed exempting from Option 2 all facilities that are part of a permitted hazardous waste treatment, storage, and disposal facility because RCRA's corrective action authority would provide adequate authority to address releases from the surface impoundment. GE fully supports this exemption. A number of U.S. facilities operated by GE currently have Part B permits and additional facilities are or were under interim status. All of these facilities are subject to the Agency's corrective action authority. Requiring these facilities to also comply with the extensive and expensive requirements of Option 2 would be unnecessary and would provide no additional environmental benefit. Therefore, if the Agency adopts Option 2, GE strongly urges the Agency to exempt facilities that are subject to RCRA corrective action.

GE would also note that the scope of this exemption should be coextensive with the corrective action jurisdiction. Accordingly, because this authority also applies to facilities that previously had a TSD part B permit but have since converted to generator-only status, 36 the exemption should apply to these facilities as well.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR

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However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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10. If the Agency adopts Option 2, the Agency should seek public comment on the precise language of the regulation prior to promulgating the final rule in order to provide for adequate public review and comment.

Option 2 of the Proposed Rule is set forth in the Federal Register in narrative form only. The Agency did not provide the text of Option 2. As the Agency is well aware, however, the precise wording of a regulation is extremely important in determining whether and how a regulation will work in practice. As such, it is imperative that the Agency provide interested parties with an opportunity to comment on the text of Option 2 before the Agency finalizes this rule. Therefore, if the Agency adopts Option 2, the Agency should publish the text of Option 2 as a proposed rule and seek comment on such text.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.





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SUBJNUM 095  
COMMENT

Of greater significance is the impending hazardous waste identification rule ("HWIR"). It is GE's understanding that the HWIR will set concentrations of hazardous constituents below which a waste would no longer be subject to regulation under RCRA, including the land disposal restrictions. It is also GE's understanding that these HWIR "exit criteria" are risk-based and, accordingly, for some hazardous constituents will be lower than the universal treatment standards, which are technology-based. If the Agency promulgates the Proposed Rule before the HWIR, a number of facilities would be required to come into compliance with the Proposed Rule's requirements only to be exempted under HWIR.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 097  
COMMENT

Options To Ensure That Underlying Hazardous Constituents In Decharacterized Wastes Are Substantially Treated Rather Than Released Via Leaks, Sludges, And Air Emissions from Surface Impoundments (60 FR 43655)

The Agency proposes three options for addressing cross-media releases via leakage, air emissions, or disposal of untreated sludges from Subtitle D surface impoundments which receive decharacterized wastewater discharges. Of the three options presented, the HWMA favors Option 1 because it is the most practical approach proposed and does not add another layer of requirements to existing regulations which adequately address Subtitle D surface impoundments when they are located at RCRA permitted or interim status facilities. Because 42% of these Subtitle D surface impoundments are located at TSDFs which already have monitoring and release requirements (60 FR 43659), if cross-media releases occur from these unpermitted impoundments such impoundments can be addressed by the Agency under the authority of RCRA §3004(u) or §3008(h).

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to

determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P099  
COMMENTS Ohio EPA  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 099  
COMMENT

Ohio has few pre-biological wastewater surface impoundments in Ohio. Most of the surface impoundments remaining are post-biological polishing ponds. Ohio has some aged ponds which are still in operation which have no liners, no leak detection, and no groundwater monitoring. In addition, some surface impoundments are operating with no point of discharge.

DHWM disagrees with the position that properly operating surface impoundments that receive decharacterized waste should be considered land disposal units. However, it is conceivable that leaks from these units may be considered disposal of UHCs. Contamination may enter drinking water tables via groundwater thus potentially harming human health and the environment. If there is a substantiated risk from UHCs, DHWM supports option 2 proposed by U.S. EPA. Ohio believes that this option will best control those impoundments which are not being managed properly.

Wastewater treatment facilities in Ohio are subject to regulations promulgated under the Clean Air Act (CAA). Ohio EPA's Division of Air Pollution Control requires facilities emitting more than 10 lbs/day/unit to obtain permit and maintain records. Facilities emitting less than 10lbs/day/unit are required to keep records for verification. DHWM prefers that our progressive air pollution control division continue to successfully oversee CAA programs that regulate surface impoundments. In addition, it is realized that the CAA programs is developing regulations that will address air emissions from wastewater surface impoundments in certain industries.

The presence of volatile organic compounds (VOCs) does not guarantee that these compounds will be released into the atmosphere. Many factors affect VOC emissions, such as evaporation rates of wastewater, flow rate through the impoundment, type of VOC's, and chemical makeup of wastewater. Therefore, wastewater impoundments should be evaluated on an individual basis. DHWM prefers that the regulation of air emissions from surface impoundments remain solely under the oversight of CAA program.

DHWM request's detailed guidance on how deferral to CAA

regulations will be implemented. It is unclear as to whether a facility which is excluded from CAA will also be excluded from the proposed RCRA extended Subpart CC rules. Will a facility need to hold a permit issued by CAA program to be excluded from these RCRA rules?

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P099  
COMMENTS Ohio EPA  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 099  
COMMENT

Ohio EPA's Division of Hazardous Waste Management (DHWM) reviewed the above referenced Federal Register and has the follow comments.

Although the U.S. EPA has good intentions, we did not find evidence that the presence of Underlying Hazardous Constituents (UHCs) in surface impoundments containing decharacterized wastewater pose a risk to the environment that justifies adding them to the universe of facilities regulated under RCRA. We agree that additional regulation of these types of impoundments may be necessary. However, RCRA is not the best program to regulate them. Most of Ohio's wastewater surface impoundments are secondary or tertiary treatment units regulated under the Clean Water Act (CWA). DHWM does not believe properly operating surface impoundments otherwise regulated under the CWA need to be regulated under RCRA.

Ohio has few primary surface impoundments. Wastewater surface impoundments are not required to remove sludges based upon a time schedule. Sludges are removed when it is deemed necessary by the facility. By managing leaks, DHWM feels that any risk posed by sludges in the surface impoundment will be controlled. We are confident that any situation resulting from improper handling of sludge will be regulated under other laws. Regulation under RCRA is not necessary.

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated

in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P100  
COMMENTS Phillips Petroleum  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 100  
COMMENT

II. Wet Weather Flow (Stormwater) Impoundments Should be Exempt from Phase III and IV LDRs

Because many petroleum refineries are located in areas that receive large amounts of rainfall, most facilities have large stormwater impoundments. These stormwater impoundments ("wet weather flow impoundments") receive relatively small overflows of process water which may contain decharacterized wastewaters, along with stormwater. After the storm event, the mixture of stormwater and process water can be retained in the impoundment and fed back through the wastewater treatment system at a controlled rate, or if sufficiently clean, may be directly discharged. Separate stormwater impoundments are necessary so that the large amounts of water managed during a storm event will not flood the wastewater treatment system and interfere with the efficiency of the aggressive biological treatment process.

Wet weather flow impoundments are fundamentally different from the process water impoundments considered under this rulemaking. Typical wet weather flow impoundments receive water infrequently, and after receipt are drained to make space available for the next storm

event. If the UTS are exceeded at all, they are only exceeded for short, transient peaks at the beginning of storm events when the proportion of process water to stormwater is the greatest. Consequently, there is limited total loading of UTS constituents into wet weather Flow Impoundments. Because of the very low levels of UTS constituents that find their way into such impoundments, and their short-lived residence time, the environmental risk posed by these units is small or nonexistent. Because of the low risk associated with these units, and high cost of alternative means of managing stormwater, EPA should exempt wet weather flow impoundments from the Phase III AND Phase IV rules. A similar finding was made in the F037 and F038 (Primary Refining Sludge)listing [55 Fed. Reg. 46374 (Nov. 2, 1990)]. The environmental benefits offered by these units, by insuring the quality of the wastewater treatment in the process wastewater treatment system, when balanced with the very minimal risk and high cost of alternative means of configuring the stormwater management

system, suggest that these units should be exempt from the Phase III and Phase IV rules.

### III. EPA Should Adopt Option 1, No Further Requirement for Non-Hazardous Surface impoundments.

EPA discusses three potential options for addressing what, if any requirement should attach to land based units that manage decharacterized wastes. Phillips urges EPA to adopt Option 1, which provides for no additional controls outside of the Phase III LDR. As discussed more fully below, the "Third-third" decision does not require, or even suggest, any additional requirements for surface impoundments receiving decharacterized waste, nor was the "treatability group doctrine" affected by the court's decision. Furthermore, the low risks posed by Clean Water Act(CWA) surface impoundments do not warrant any additional regulation under RCRA Subtitle C.

Unfortunately, while EPA seems to support the "treatability group doctrine" in the early pages of the Phase IV preamble, the sludge management standards presented in Option 2 undermine the "doctrine". Instead of the trigger for sludge treatment being the TC levels (as would be the case if the "treatability group doctrine" was followed), EPA designates UTS levels as the trigger for requiring LDR treatment of sludges. Phillips urges EPA to reexamine its position and maintain the "treatability group doctrine" as it was originally applied.

### V. If EPA Should Adopt Option 2

If EPA decides it must regulate non-hazardous surface impoundments under the Phase IV rule, EPA should adopt Option 2. As explained in the Comments of the American Petroleum Institute(API) submitted to the docket in response to this proposal, biological surface impoundments do not present significant environmental risks for sludges or leaks. Furthermore, since all petroleum refineries are subject to the petroleum refinery MACT, air emissions from wastewater units are already regulated under the CAA.

### VI. EPA Should Not Adopt Option 3.

Phillips agrees with EPA's conclusion that Option 3 is not appropriate. Requiring MTR for surface impoundments managing non-hazardous waste is clearly not required by the Third-Third decision of the RCRA Statutory scheme. It would cause excessive cost and regulatory burden and would trump many reasoned and considered decisions that EPA made in facility-specific regulations. As EPA observed, the costs are not

justified by the risks that these units present. It would be clearly erroneous for EPA to adopt Option 3. It would be completely unconscionable should EPA do so and not allow the full four-year compliance period provided by Section 3005(j). The issue is governed by the position adopted by EPA that Section 3005(j)(6) provides that non-MTR impoundments must retrofit or close within four years of the date of identification or listing of the newly regulated wastes.

It would be both illogical and inequitable to conclude the period would run from the initial identification of the ICR wastes (well over four years ago), since generators of such wastes will have no way of knowing that their decharacterized non-hazardous wastes could not be placed in Non-MTR surface impoundments. Thus, it would be impossible to comply with that requirement now and unfair to start the clock before notice is given that additional requirements will apply.

#### VII. Non-Hazardous CWA Surface Impoundments Simply Don't Warrant Further Regulation.

As EPA observes in the preamble to the proposed rule, there are numerous regulatory authorities that EPA has or may use to regulate non-hazardous surface impoundments that pose unacceptable risks [60 Fed. Reg. 43659-60]. Indeed, since 1990 there have been numerous regulations, several of which are discussed below which dramatically reduced the toxicity of water managed in wastewater treatment systems since 1990. For example, the organic Toxicity Characteristic (TC) rule [55 Fed. Reg. 11798 (Mar. 29, 1990)] regulates the toxic constituents that are most likely to pose a risk to human health or the environment. As a consequence of the TC rule, many surface impoundments have become subject to RCRA Subtitle C, or to avoid such regulation, have reduced the concentration of toxic constituents entering the impoundments. Similarly, the Agency has promulgated listings that have subjected additional CWA surface impoundments to full RCRA Subtitle C regulation. For example, in 1990 EPA listed F037 and F038, (Primary Refining Sludge) [55 Fed. Reg. 46354 (Nov. 2, 1990)]. This listing resulted in the Subtitle C regulation of surface impoundments upstream of biological treatment at petroleum refineries. If EPA believes that there are unacceptable threats posed by a particular industry, the agency can apply a more appropriate mechanism to address those threats. A listing determination allows the Agency to target its regulations towards actual environmental threats. An overly inclusive instrument such as proposed Option III is simply not warranted.

In addition, many federal air requirements reduce the risk posed by leaks and sludges as well as risks posed by air emissions. For example, in the recent Refinery MACT rule [60 Fed. Reg. 43244 (Aug. 18, 1995)] the most common compliance strategy is to reduce the concentration of VOCs before the wastewater is introduced to the surface impoundment. Since there are less hazardous organics entering the impoundment, the risks from any water leaking is reduced, as well as the potential adsorption of organics to the sludge. In fact, the industries covered by the phase IV proposal have or will have air regulations that could cover wastewater treatment systems if they were significant source of emissions. As a consequence, EPA either has or will have an opportunity to regulate air emissions from wastewater in a manner appropriate to a particular industry or facility.

In addition to these significant regulations that would overlap with any Phase IV regulation of surface impoundments, regulation of non-hazardous (Subtitle D) surface impoundments is contrary to the RCRA statutory scheme, and would provide redundant regulation to State regulatory programs. RCRA generally reserves the regulation of non-hazardous solid waste (Subtitle D) units for the state. See RCRA Section 4001 et seq.. Accordingly, EPA should not leverage its authority under Section 3004(m) to regulate non-hazardous surface impoundments.

#### VIII. EPA Should Allow Public Review of the Regulatory Language for the Option Selected.

EPA has not proposed any specific language for the three options discussed in the preamble. To the extent that this suggests that the Agency is inclined to adopt Option 1, Phillips supports EPA's approach. However, should EPA choose Options 2 or 3, the Agency should allow public review of the regulatory language. The details of the regulatory language are particularly important in the implementation of a complex regulatory scheme, such as the LDRs. While EPA has explained its intent in the preamble, it is important for the regulated community to have an opportunity to review the actual regulatory language.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the

President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P101  
COMMENTS Oregon DEQ  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 101  
COMMENT

1. Cross-Media Releases

If an environmental regulation addresses specific hazardous constituents, and those constituents default into another program, then it too should evaluate those same constituents for environmental effect before they are ultimately disposed. There is no rationale addressing the constituents in the first place if only to ignore them when they are disposed. For instance, it does not make sense to evaluate hazardous wastes at the point of generation for underlying constituents (UHCs) and then not address them at the point of disposal in a surface impoundment regulated under the Clean Water Act. EPA's proposed Phase IV rule does not adequately resolve this issue. The options being considered are very complicated and confusing. Instead, EPA should streamline the program by evaluating UHCs at the point of generation, during the hazardous waste characterization phase, rather than under the LDR as is done currently. The multi-pathway analytical model being considered under HWIR could serve as basis for a revised toxicity characteristic (TC) determination regulation, which could include the UHCs. Under this scheme, generators would evaluate UHCs up front and know whether they pose a hazard to human health or the environment. This would eliminate having to regulate the UHCs under LDR if the waste is hazardous or has been decharacterized.

RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR

43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P102  
COMMENTS Chevron  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 102  
COMMENT

1) Option #1 Complies with the Court's Chem Waste Decision.

As noted in Chevron's May 1, 1995 comments to EPA on the proposed Phase III LDR rule, achievement of CWA NPDES permit requirements including compliance with whole effluent toxicity limits should constitute treatment equivalent to RCRA LDR standards. Thus, because the court in the Chem Waste decision made it clear that satisfying RCRA treatment standards at the point of CWA discharge is sufficient to satisfy RCRA section 3004(m) requirements, any further LDR regulation of CWA surface impoundments is not necessary under the court's decision, because any such regulation would not accommodate the LDR requirements and the CWA "to the maximum extent practicable." As such, EPA should adopt Option 1 (no new LDR regulations) because it complies with the court's decision.

2) EPA's Risk Assessment Is Flawed And Can't Be Used To Justify New LDR Controls on Subtitle D Surface Impoundments.

Besides the above argument, there are other valid reasons that EPA should adopt Option 1. Foremost, EPA has simply not shown that the risks justify additional regulations. EPA's Risk Assessment lacks thoroughness and sufficient documentation, and certain risk calculation uses worst-case and extreme assumptions (contrary to EPA's own guidance), and can not be relied upon to justify new rule making. Specifically:

Leak Risk Assessment Used an inappropriate and overly conservative DAF of six, and old wastewater data developed before many industries upgraded their practices, processes and wastewater systems to comply with CWA NPDES permits, the Toxicity Characteristic rule, or other laws/regulations, or as a result of changing business needs. Even so, the Risk Assessment supports EPA's analysis that biological treatment and post-biological treatment surface impoundment do not pose significant risks and should not be regulated by the phase IV rule.

Sludge Risk Assessment Also used an inappropriate and overly conservative DAF and out-of-date data. Even so, the assessment showed that only three pre-bio surface impoundments, out of some 377 industry-wide units evaluated by EPA, may potentially pose unacceptable risks. These risks are driven by two UTS



constituents, which we understand are detected today in wastewater systems at significantly lower concentrations than assumed by EPA in the risk assessment. Clearly, even using the existing estimate of risk, sludges in non-hazardous surface impoundments do not pose significant risks to justify industry-wide controls.

Air Emissions Risk Assessment Relies completely on EPA's flawed risk assessment from its problematic Subpart CC rule. Extremely conservative assumptions are used, like assuming that all VOCs act as carcinogens and basing maximum individual risk calculations on exposure occurring continuously 24 hours per day for 70 years, 25 yards from the source. In addition, EPA did not distinguish risks from surface impoundments compared to risks from tank units when it applied the assessment to the Phase IV rule (As EPA noted in footnote 34, page 246 of RIA) and did not present any breakdown of risk by type of surface impoundment. Yet, EPA has applied the results of its flawed risk estimate equally to all types of surface impoundments. Clearly, the flawed Subpart CC Risk Assessment should not have been simply transferred to this rulemaking.

### 3) Air Emissions From Phase IV Surface Impoundments Do Not Warrant Further Regulation.

Since regulations promulgated under Section 112 of the Clean Air Act are to cover all major sources of hazardous air emissions within relevant source categories, there is no need to impose duplicative requirements under RCRA. Under Section 112, emerging MACT standards (e.g., Refinery MACT) and existing Hazardous Organic and Benzene NESHAPs regulations currently or soon will adequately address air emissions from Chevron's surface impoundments.

### 7) Stormwater Impoundments Which Receive Small Amounts Of Process Water With Previously Characteristic Waste During Storm Events Should Be Exempt From The Phase IV Rule.

A number of Chevron facilities are located in areas that receive large amounts of rainfall. These facilities have stormwater impoundments which are used to manage large quantities of stormwater runoff. These impoundments can receive relative small, intermittent quantities of process water for limited amounts of time during storm events.

Because Chevron's stormwater impoundments are regulated by NPDES direct discharge permits and pose negligible risks, they should be exempt from the Phase IV rule. The negligible risks associated by these units would not justify the large cost and technical difficulty associated with alternate means of managing large quantities of stormwater.

## RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P106

COMMENTER Pharmaceutical Research Manuf. Assn.

RESPONDER PMC

SUBJECT EQUV

SUBJNUM 106

COMMENT

PhRMA agrees with EPA's deferral to existing federal rules and rules underdevelopment, such as Pharmaceutical MACT and Off-Site Waste Operations NESHAPS, to avoid duplication of air rules.

As stated in the preamble to Phase IV, EPA is presently implementing Section 112 of the CAA to impose technology-based standards for hazardous air pollutants at enumerated major sources, requiring control by means of Maximum Achievable Control Technology(MACT).

Examples of forthcoming standards are the Pharmaceutical MACT and Off-Site Waste Operations NESHAPS. These rules are subject to explicit deadlines, and will address emissions from wastewater potentially affected by the Phase IV Land Disposal Restrictions proposed rule.

PhRMA notes that categorical rulemakings are now in progress that will apply specifically to pharmaceutical operations. Under these new rules pharmaceutical firms need to meet the requirements of the Pharmaceutical Effluent Guidelines (Office of Water) and the Pharmaceutical MACT (Office of Air). Both of these are technology-based regulations, one addressing treatment for constituent concentration in wastewater the other dealing with percent removal requirements to control air emissions. The disposal of residuals (e.g., wastewater treatment sludge) from pharmaceutical wastewater treatment operations would also be addressed by the Off-Site Waste Operations NESHAPS (Office of Air).

PhRMA believes that once the above regulations are in place, EPA's concerns will be more than adequately satisfied with the need for any additional requirements under HSWA.

Therefore, PhRMA suggests that EPA include an exemption from the Phase IV Landban rule for surface impoundments that comply with the forthcoming Pharmaceutical Effluent Guidelines or the Pharmaceutical MACT and for residuals from surface impoundments that comply with the Off-Site Waste Operations NESHAPS.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the

environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P107

COMMENTS Uniroyal Chemical Co.

RESPONDER PMC

SUBJECT EQUV

SUBJNUM 107

COMMENT

1. Uniroyal Chemical recommends that the USEPA address releases related to Subtitle D surface impoundments through existing and future Agency programs as proposed in option 1 rather than moving forward with the proposed rule.

The proposed rule regulates releases to the air, releases to the groundwater, and releases from management of "derived from" wastes such as sludges removed from the impoundments. In Uniroyal Chemical's opinion, moving forward with options 2 or 3 will result in unnecessary regulatory redundancy and yet will not further the goals of the 1984 Hazardous and Solid Waste Amendments (HWSA) to the Resource and Recovery Act (RCRA). The USEPA has embarked on a regulatory simplification process this past calendar year. Moving forward with either Option 2 or 3 is inconsistent with this goal as these options will add air standards to RCRA rather than the air regulatory program, these options will add standards to Subtitle C for Subtitle D impoundments, and these options will revise the definition of "point of generation" in 40 CFR 268 rather than 40 CFR 261.

The HWSA statute requires that any treatment standards established under the land disposal prohibition program substantially diminish the toxicity or mobility of hazardous waste such that short and long term threats to human health and the environment are minimized. Uniroyal Chemical does not believe that the proposal is dealing with constituent levels that are high enough in quantity to be a "substantial" threat. Uniroyal Chemical also believes that current regulations together with planned regulations will accomplish the same environmental benefits as implementation of the Option 2 or 3 programs. There has been significant activity in regulating air emissions from surface impoundments in the last five years. Many of these will impact Subtitle D surface impoundments which receive decharacterized wastewaters. The USEPA describes these rules on pages 43659 to 43660 of the preamble to this rule. They include standards related to the New Source Performance Standards (NSPS) and Hazardous Organics National Emission Standards for Hazardous Air Pollutants (NESHAPS) programs. The USEPA notes that not all surface impoundments which are covered by this rule are already covered by the current or planned NSPS or NESHAPS

rules. Uniroyal Chemical has reviewed these rules for applicability to their facilities. If these impoundments are not covered under this large body of regulations, it is likely indicative that the air emissions are

not significantly harmful or large to warrant significant control standards. If the USEPA has reason to believe otherwise from their information collection activities, these air programs would be a more appropriate place to add air rules rather than attempting to regulate air emissions under the RCRA program.

This proposed rule applies to only Subtitle D surface impoundments which receive decharacterized wastewaters. As noted on page 43660 of the preamble, many states have Subtitle D programs which regulate the entire universe of Subtitle D surface impoundments.

While there is a broad spectrum of variation in the state regulatory programs which vary from those which include liner, leachate collection, and groundwater monitoring requirements to those which do not address surface impoundments, it is recommended that the USEPA review the critical details of these programs and move forward with its own activities related to Subtitle D rather than regulating Subtitle D impoundments under the Subtitle C program.

With regard to management of a sludge generated in a nonhazardous surface impoundment which received decharacterized wastewater, Uniroyal Chemical believes that managing this waste as anything other than a newly generated waste is contrary to the framework upon which the Hazardous waste management program is built and will result in over management of wastes which has little potential to cause significant harm to people or the environment. There has been significant distinction in the management of hazardous wastes which are hazardous due to being "listed" or being "characteristic" from the beginning of the hazardous waste management programing 1980. A listed waste has always been subject to the derived from rule under 40 CFR 261.33(d). The wastes which are listed under this rule are by far and large listed for toxicity. A

characteristic waste has never been subject to the same degree of management and with the exception of the toxicity characteristic wastes is required to be managed as hazardous waste more for its potential to cause fires, explosion, and other potentially damaging events rather than toxicity related to human health. Note on page 33108 of the May 19, 1980 Federal Register that in regulating ignitable wastes the USEPA's objective was "to identify wastes capable of causing fires during routine transportation, storage and disposal and wastes capable of severely exacerbating a

fire once started." With regard to corrosive wastes, on page 33109 of the May 10, 1980 Federal Register the USEPA defined corrosive wastes such that the definition "attempted to address the various hazards presented by corrosive wastes. EPA chose pH as one barometer of corrosivity because waste exhibiting low or high pH can cause harm to human tissue, promote the migration of toxic contaminants from other wastes, react dangerously with other wastes, and harm aquatic life." Land disposal restrictions applied to decharacterized wastewaters treated in surface impoundments have little relevance to the initial objectives. If it were appropriate to carry through the definition of "hazardous" to characteristic wastes, Uniroyal Chemical believes that it would be more appropriate for the USEPA to manage this activity under the definitions of hazardous waste section of the rules rather than by the land disposal restrictions. "Point of Generation" is a critical definition, not a term of art. Uniroyal Chemical recommends that the USEPA not revise the definition through the Phase IV proposed rule.

3. Uniroyal Chemical recommends that stormwater impoundments not be included in the rulemaking if option 2 or option 3 is selected. The discussions for options 2 and 3 indicated various categories of Subtitle D surface impoundments that would be excluded from this regulation. Stormwater impoundments were not in the exclusions. The regulatory exclusion under 40 CFR 264.1(8)(I) and 40 CFR 265.1(8)(I) excludes immediate response activities related to imminent hazard (spill) situations. The extension of this section to any Subtitle D surface impoundments regulated under Phase IV land disposal restrictions is appropriate as any spill which was other than de minimis in quantity would result in a reportable quantity and the National Response Center, the USEPA, or state environmental agency would be informed. These agencies could advise the facility regarding any special requirements. A stormwater impoundment should normally receive only dilute wastewaters thus provision of special emission controls or design criteria directed towards a potential catastrophic event would be an unnecessary and costly burden.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity,

reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



DCN PH4P107  
COMMENTS Uniroyal Chemical Co.  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 107  
COMMENT

2. Uniroyal Chemical supports the delay of these rules until the USEPA has fully evaluated the Phase III and Phase IV comments as mentioned on page 43655.

Full consideration of all submitted comments should be a part of every regulatory rulemaking. It is especially important in implementing or deciding not to implement the Phase III and Phase IV Land Disposal Restrictions due to the current proposed legislative revisions related to underground injection wells and surface impoundments. In addition, Uniroyal Chemical believes that the USEPA has significantly underestimated the impact of this regulation on the regulated community if it believes that only 300 surface impoundments will be impacted. This proposal if promulgated will impact future expansion decisions in any company which operates a Subtitle D Surface impoundment. The selection criteria for where to install new production facilities at existing manufacturing facilities will need to include the impact on any surface impoundments if a decharacterized waste will be generated.

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these

surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P109  
COMMENTS Ford  
RESPONDER PMC  
SUBJECT EQUV  
SUBJNUM 109  
COMMENT

The proposed rule provides three separate options for addressing the cross-media transfer of hazardous constituents to air or ground water from air emissions, sludges, and leakage from "decharacterized" wastes managed in Subtitle D surface impoundment's. Although the term "decharacterized" has never been formally defined, it is understood to describe waste streams which have been physically changed to no longer exhibit a hazardous characteristic. Options 2 and 3 would require large expenditures of precious resources to apply Subtitle C monitoring and control requirements to Subtitle D surface impoundments (Option 2), or treat each individual waste stream to meet the universal treatment standards (Option 3) without corresponding environmental benefit. Option 1, which relies on existing and proposed regulation to control these cross media transfers, is a better approach when considering the effective use of resources, statutory authority, and media-specific experience within the agency and the regulated community.

Both Options 2 and 3 would require a facility to identify the "point of generation" for all "decharacterized" waste streams. This information would be used to determine if the rules are applicable to a given Subtitle D lagoon or surface impoundment as well as which streams would require pre-treatment (in the case of Option 3).

This determination would require costly sampling and analysis on potentially hundreds of sources for a large facility. Currently, it is unknown whether a waste stream has been "decharacterized" or not because individual sewer point source discharges have not been historically sampled for RCRA characteristics. The sampling would have to be coupled with process knowledge by technical experts to assure that the "snapshot" provided by a limited sampling adequately characterized the point sources. The cumulative costs described above as well as the added overhead burden of documentation make this approach unworkable.

Option 3 requires waste streams to be treated such that the underlying hazardous constituents would meet the universal treatment standards at the "point of generation." Typical Wastewater treatment facilities at manufacturing facilities have

been designed so the industrial wastewater is segregated into at most two or three streams. That is oily wastewater and wastewater requiring metals treatment. These wastewaters are aggregated at the headworks of the wastewater treatment facility and then processed in a semi-batch manner. This particular arrangement of the equipment establishes a "central point" within the facility for wastewater treatment and thus allows for manageable labor allocation, maintenance and capital spending. To treat hazardous waste streams (wastewater streams flowing to wastewater treatment) at each point of generation is technically and administratively impossible. To identify and control these discharges at the point of generation would be extremely costly with respect to both capital improvements and labor, with minimal environmental benefit.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P113  
COMMENTS CMA  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 113  
COMMENT

C. The Phase III and Phase IV Rules Should Have A  
Common Effective Date.

Significant confusion and disruption could result if EPA imposes different effective dates for the Phase III and Phase IV rules. At the outset, it must be noted that the two rules are ostensibly part of the same effort, to determine what regulations to impose on decharacterized wastes placed in CWA surface impoundments. Having the two rules as separate proposals with separate but overlapping comment periods is already creating difficulties for industry. More importantly, however, serious problems could result if the Phase III rule is promulgated and made effective before the Phase IV rule is promulgated. On the effective date of the Phase III rule, companies will be forced to decide whether to continue to place decharacterized wastes in CWA surface impoundments, or to switch to other forms of management (such as tank-based systems). In many cases, because of the new requirement to meet UTS at the point of discharge for constituents not addressed in the NPDES permit, significant capital expenditures may be required in order to continue operating the surface impoundments. Additional treatment steps may have to be added, either in the impoundments or before them. In other cases, NPDES permits may be amended to add additional constituents, often requiring additional treatment steps as well. However, companies taking these expensive steps may discover later that the regulatory option ultimately chosen under Phase IV for cross media contamination makes such treatment or permit limits impracticable or too costly. Furthermore, the particular combination of Phase IV requirements EPA chooses (if any) could determine the most cost-effective way to modify a CWA system to meet the Phase III requirements at the

point of compliance.<sup>5</sup> EPA is considering three different options for Phase IV. Companies cannot adequately plan for compliance with Phase III without a decision by the Agency on which option (if any) will be chosen under Phase IV. In short, staggered effective dates for Phases III and IV would result in a tremendous waste of resources for companies, as well as significant confusion and difficulty in compliance.

If, on the other hand, the Phase III and Phase IV requirements are made effective simultaneously, companies will be able to make an informed decision about whether to retain CWA surface impoundments, and whether and how to modify them to comply with the new requirements.

#### D. EPA Has Authority Under RCRA To Delay The Effective Dates For Phases III And IV.

Subject to court-approved schedules for developing the LDR and HWIR rules (which can, of course, be changed with leave of court)<sup>6</sup> EPA has ample authority to delay the effective dates of Phases III and IV in order to prevent the confusion and disruptions described above.

First, the Phase III and IV rules are not new treatment standards or prohibitions subject to the immediate effective date provisions of RCRA § 3004(h). Section 3004(h) provides that <sup>5</sup> If EPA chooses Option 3, essentially all of the affected surface impoundments will have to be replaced with tank-based systems, because UTS will have to be met before wastes can be placed in the impoundments. If EPA makes that choice, any changes made within surface impoundments to allow UTS to be met at the CWA point of compliance would be wasted.

6. In most cases, court-established schedules merely set the date for a final rule to be promulgated, leaving the effective date up to the Agency's discretion.

Prohibitions from land disposal shall become effective immediately upon promulgation, and § 3004(m)(2) provides that treatment standards are to become effective "on the same date" as the

corresponding prohibition. In the case of the wastes addressed in Phase III and IV, EPA has already promulgated the prohibition, in the Third-third rule. 40 C.F.R. § 268.33. Furthermore, EPA has already promulgated currently applicable treatment standards applicable to these wastes. 40 C.F.R. §§ 268.41-43. EPA has stated clearly that treatment standards are currently in place for these wastes, and that the Phase III and IV rules will merely amend these standards. 58 Fed. Reg. 29,863 (May 24, 1993). Accordingly, it is not possible for the Phase III and IV regulations to become effective on the same date as the prohibitions to which they will correspond, because those prohibitions occurred in the past. The statute does not say that amendments to treatment standards must be effective immediately, and there is no reason that they should be.<sup>7</sup>

Furthermore, the Phase IV rules, if Option 2 is chosen, would not be subject to the LDR timing requirements in § 3004 at all, because they would not be LDR rules, as explained above. RCRA §§ 3004(h) and (m) refer to "prohibitions" and "treatment standards." The requirements that are contemplated in Option 2 of the Phase IV proposed rule are neither one. The proposed requirements, addressing air emissions, sludges, and leaks from CWA wastewater surface impoundments, are not prohibitions from land disposal under §§ 3004(d) through (g), or treatment standards pursuant to § 3004(m). If there is any authority in RCRA for such requirements it does not come from the LDR provisions.<sup>8</sup>

As noted above, EPA has sufficient authority and discretion to delay the effective dates of Phase III and IV as appropriate to avoid confusion and disruption. However, it should be added that EPA also has authority to grant National Capacity Variances under § 3004(h)(2) for the Phase III and IV LDR rules if necessary.<sup>9</sup>

<sup>7</sup> Clearly, the statute required prohibitions to be effective immediately because Congress set stringent deadlines for promulgating prohibitions. RCRA sections 3004(d)-(g). Treatment standards were to be

set on the same date so there would be no gap between prohibitions and the corresponding treatment standards. Here there will be no gap if the amended treatment standards are not effective immediately, because there are already prohibitions and treatment standards in place.

8 If EPA believes that authority exists for the Option 2 requirements in some part of RCRA other than the LDR provisions, one remaining issue would be whether RCRA § 3010(b) would require the regulations to be effective within six months of final promulgation of the rule. EPA has determined that it has the discretion to stay the effective date of RCRA rules where necessary (as with the Subpart CC rule, see 60 F.R. 50426 (Sept. 29, 1995)). If such a stay is not an option, however, EPA should delay final promulgation of the Phase IV rule until a common effective date can be set for the four rules.

9 Indeed, CMA believes that EPA has discretion to establish longer variances than provided for in section 3004(h). That section provides for variances from land disposal prohibitions, including two years for lack of capacity, and the possibility of two additional years on a case-by-case basis. RCRA Section 3004(m)(2) provides that treatment standards are to become effective on the same date as the relevant prohibitions. EPA should recognize that these limitations do not apply to the contemplated Phase IV requirements.

First of all, as noted above, Phase IV requirements would not be "treatment standards" under Section 3004(m), and thus would not be subject to the Section 3004(h) limits. Second, even if the Phase IV rules could be construed to be treatment standards, a prohibition from land disposal for the hazardous wastes covered by the rule is already in place, as are treatment standards. If Phase IV requirements are promulgated, they will at most modify those preexisting treatment standards. Nothing in the statute says that modifications to treatment standards must become effective immediately, or that they are subject to the limited variance periods set out in



Section 3004(h). indeed, it would be logically impossible for modifications to treatment standards to be promulgated at the same time as the corresponding prohibitions. Furthermore, because such modifications are not subject to any Congressionally mandated schedule, it is not reasonable to impose the same limitations on variances for such modifications. Instead, EPA should determine that it has the discretion to grant different and longer variances with respect to treatment standard modifications where appropriate.

## RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P113

COMMENTER Chemical Manufacturers Assn.

RESPONDER PMC

SUBJECT EQUV

SUBJNUM 113

COMMENT

The Chemical Manufacturers Association (CMA) appreciates the opportunity to comment to the United States Environmental Protection Agency (EPA or the Agency) on its proposed Phase IV land disposal restrictions (LDR) rule. 60 Fed. Reg. 43,654 (to be codified at 40 CFR Parts 148, 268, and 271) (proposed Aug. 22 1995). In its proposal, EPA is discussing whether to establish additional disposal practices for the management of formerly characteristic wastes in surface impoundments that are part of a wastewater treatment facility whose discharge is regulated by the Clean Water Act (CWA). The Agency's proposal comes in the aftermath of the D.C. Circuit Court of Appeals decision, *Chemical Waste Management v. EPA*, 976 F.2d 2 (D.C.Cir. 1992), cert. denied, 113 S. Ct. 1961 (1992). As we demonstrate in these comments, we do not see anything in the court's decision that requires EPA to change its position on allowing treatment of decharacterized wastewater in centralized wastewater treatment systems. We also concur with the Agency's statements that these practices present little or no risk to human health and the environment, and we demonstrate that the risks the Agency believes may exist, are overstated.

Incidental to the manufacture of chemicals, CMA member companies generate and, after decharacterization, manage formerly characteristic hazardous wastes in centralized wastewater treatment systems that comply with the Clean Water Act. The chemical industry's installation of these systems is based on long-standing Agency policy that has legitimized such practices. Radical changes in the Agency's land disposal restrictions rules could invalidate many existing wastewater treatment systems, and seriously disrupt mandated Clean Water Act upgrades, deepwell injection, and pollution prevention efforts all without commensurate environmental benefit.

In its Phase IV proposal EPA has asked for comments on three proposed options and how the chosen option might need to be modified. Generally, CMA urges EPA to promulgate rules with the greatest degree of flexibility possible, given the low risks presented by the waste management practices addressed in the rules and the significant costs that could be imposed on industry by unnecessarily rigid regulations. Specifically, CMA strongly

supports the Agency selecting Option 1. EPA's statements and findings regarding the risks posed by such management practices clearly show that this Option is protective of human health and the environment. CMA's comments demonstrate how Option 1 is legally, practically, and environmentally supportable.

CMA believes that Options 2 and 3 are neither lawful under RCRA, nor are they supportable from a policy basis given the low risks posed by decharacterized wastes in CWA surface impoundments. If, however, the Agency decides to choose Option 2, CMA's comments offer suggestions relating to clarifications and modifications which must be made prior to promulgation.

As we demonstrate in these comments, we do not see anything in the court decision's relating to the land disposal restrictions that requires EPA to change its position on allowing treatment of decharacterized wastewater in centralized wastewater treatment systems that are regulated under subtitle D of the Solid Waste Disposal Act and the Clean Water Act. In addition, we concur with the Agency's statements that these practices present little or no risk to human health and the environment, and what risk the Agency believes may exist, is overstated. Thus, we urge The Agency to adopt the first option that it has proposed in the rule.

CMA has previously commented on virtually all aspects of the LDR program. CMA's Underground Injection Control Management Task Group is filing separate comments on Phase IV issues that affect injection wells.

In its Phase IV proposal EPA has asked for comments on three proposed options and how the chosen option might need to be modified. Generally, CMA urges EPA to promulgate rules with the greatest degree of flexibility possible, given the low risks presented by the waste management practices addressed in the rules, and the significant costs that could be imposed on industry by unnecessarily rigid regulations.

Specifically, CMA strongly supports the Agency selecting Option 1, which would rely on the phase III controls to address decharacterized wastes in surface impoundments. CMA believes that Options 2 and 3 are neither lawful under RCRA, nor are they supportable from a policy basis given the low risks posed by decharacterized wastes in CWA surface impoundments.

Indeed, EPA has already recognized the low risks of decharacterized wastes. EPA's Third-third rule would have deferred entirely to CWA treatment for decharacterized wastes, on the grounds that further treatment of those wastes was not required as a policy matter. In EPA's Phase III PROPOSAL EPA pointedly noted

that the practices it was addressing presented little or no risk to human health and the environment and, but for the court's decision, need not be addressed at this time. 60 Fed. Reg. 11,704/2 (March 2, 1995). EPA has continued to state its opinion that Further Regulation of CWA surface impoundments is not necessary. On July 20, 1995, Michael Shapiro, Director of EPA's Office of Solid Waste, testified before the House Subcommittee on Commerce, Trade and Hazardous Materials, in connection with a bill proposed by Rep. Oxley that would, among other things, reinstate much of EPA's Third-third Regulation. Mr. Shapiro pointed out that the risks addressed by the resulting Phase III rule [and thus those addressed by the Phase IV rule as well] "are small relative to the risks presented by other environmental conditions or situations; nevertheless, the Agency is required to set treatment standards for these relatively low risk wastes and disposal practices." Shapiro Testimony at 13, 14. Published reports have stated that Mr. Shapiro stated that he would not oppose the section of the Oxley bill that would reverse the Chem Waste decision as to wastes managed in CWA systems or UIC injection wells. Pesticide & Toxic Chemical News, July 26, 1995, at 13.

EPA's statements and findings regarding the risks posed by such management practices, clearly show that, as a general policy matter, EPA should choose Option 1, which would rely on the phase III standards, that can be met at or prior to the point of discharge, to constitute treatment equivalent to RCRA's LDR requirements. CMA's comments below will demonstrate how that choice is legally supportable, even required, and why it is practically and environmentally supportable as well.

In the Third-Third regulation, EPA integrated RCRA with the CWA by providing that certain characteristic wastes could be aggregated, decharacterized, and then placed in CWA SURFACE impoundments, without the imposition of further RCRA requirements. EPA's integration was rejected in the Chem Waste decision. In that decision, the D.C. Circuit Court of Appeals announced a new "accommodation" that it said was "required" by RCRA §1006. As we noted in our Phase III comments, we believe that the Agency has already proposed implementation of that accommodation in the Phase III rule, and nothing more is needed. See CMA Supplemental Comments on EPA's Phase III rules, July 21, 1995; pp. 1-10. We also do not believe that the Court's accommodation authorizes the options that the Agency has proposed as Options 2 or 3.

But perhaps more importantly, we do not believe that these other

options are needed to protect human health and the environment either. As EPA noted in its Phase III proposal:

First, the risks addressed by this rule . . . are very small relative to the risks presented by other environmental conditions or situations. In a time of limited resources, common sense dictates that we deal with higher risk activities first, a principle on which EPA, and members of the regulated community, and the public can agree.

Nevertheless, the Agency is required to set treatment standards for these relatively low risk wastes and disposal practices during the next two years, although there are other actions and projects with which the Agency could provide greater protection of human health and the environment. 60 Fed Reg. 11,704/2 (March 2, 1995). As we will demonstrate in these comments, even those low risks are overstated, and EPA does not have any basis for establishing technical standards or additional disposal regulations for decharacterized wastes that are placed into land-based treatment units as part of CWA treatment systems.

#### IV. EPA Should Select Option 1 In the Phase IV Rulemaking

##### A. EPA Is Required To Select Option 1

CMA believes that RCRA and the Chem Waste decision require EPA to select Option 1. As we explain below: the court's decision requires Option 1 as the required accommodation of the LDRs with the Clean Water Act; the court's holdings on equivalency of treatment do not authorize any further regulations; and EPA lacks jurisdiction under RCRA to impose technical requirements on Subtitle D units managing non-hazardous wastes.

##### 2. The Agency's Newest Theory Regarding Permanent Disposal and Equivalency of Treatment Does Not Support Additional Disposal Requirements

In our Supplemental Phase III comments, we noted that EPA's proposal for the Phase IV RULE is based on a tenuous theory that the Chem Waste decision may require additional disposal practices, in the form of technical standards on land based units, to ensure that Decharacterized Wastes managed in CWA systems are treated in a manner that is equivalent to Decharacterized Wastes in non-CWA systems. See Attachment B: CMA's Supplemental Third-Third Comments, pp. 1-10. In the Phase IV proposal, the Agency offers a new theory for expanding its Subtitle C authority to non-hazardous waste management units. The Agency now believes that the Court decision requires it to inquire whether "such treatment in surface impoundments results in cross-media releases, via leakage, air emissions, or disposal of untreated sludges, [ ] can be

so excessive that the impoundment effectively functions as a disposal unit." 60 Fed. Reg. 43,555/2. Thus, the Agency's "preferred" reading of the opinion is to "establish the parameters which distinguish permanent land disposal impoundments from those performing the type of treatment to be accommodated under the court's opinion." 50 Fed. Reg. 48,657/2.

In this section, we will reiterate why the requirement of "equivalent treatment" is not sufficient to justify additional regulations and why the new theory of "permanent land disposal" does not extend the Agency's authority to non-hazardous waste management units.

In our previous comments we addressed EPA's theory regarding whether the court's "equivalency of treatment" requirement could allow the Agency to require additional disposal requirements on non-hazardous surface impoundments. See Attachment B: CMA Supplemental Phase III comments, pp. 1 -10. Before addressing EPA's newest theory on "thwarting cross-media transfers" due to "permanent land disposal," we want to reiterate our confusion over why the Agency is trying to stretch its Subtitle C authority over non-hazardous waste units, while also lamenting that these units present a low risk that should not be dealt with at this time. See 60 Fed. Reg. 11,704/2; 60 Fed. Reg. 43,656/2.

EPA relies on miscellaneous passages spread throughout the Chem Waste decision to support its new theory that the Court's holding regarding "equivalency of treatment" authorizes an expansion of the Agency's Subtitle C regulatory authority to non-hazardous waste management units. While the court discusses the need to treat characteristic wastes to comply with the land disposal treatment standards, nowhere does the court express the desire to thwart "cross-media transfers." See 60 Fed. Reg. 43,656/3. In addition, the Court's discussion which distinguishes between "permanent" and "temporary" land disposal arises in a discussion which supports Option 1.

In support of its new theory, the Agency first cites to page 22 of the court's opinion. We note that the only holding on that page is as follows:

Thus, we hold that, whenever wastes are put in CWA surface impoundments before they have been treated pursuant to RCRA to reduce the toxicity of all hazardous constituents, these wastes must be so treated before exiting the CWA treatment facilities. In other words, CWA facilities must remove the characteristic and decrease the toxicity of the waste's hazardous constituents to the same degree that treatment outside a CWA system would. Chem Waste

at 22.(Court's emphasis).

This is hardly a ringing statement mandating that EPA "thwart cross-media transfers." Instead this holding merely states the key, narrow holding of the case: that prohibited characteristically hazardous waste must be treated to LDR levels by the time they leave the non-hazardous waste impoundment. Perhaps the Agency's citation is referring to a passage, that is merely explanatory and not the basis of this holding, that "dilution does not prevent any of the metals from entering the environment." Id. at 22. This statement by the Court arises as the predicate to the court explaining the difference between NRDC's concerns and EPA's response. The Court, after including this statement in its issue statement, went on to explain in the next paragraph that The Agency's current "deactivation" treatment standard was not sufficient to meet the LDR treatment standard even though the waste was no longer hazardous. The court stated: "The EPA's rejoinder, that because the wastes being placed in the surface impoundment are no longer "hazardous" they need not be treated, is exactly the argument industry petitioners previously made [regarding point of generation] and EPA rejected. RCRA attaches to "hazardous wastes" that are destined for land disposal facilities and the statute requires complete treatment. Id. at 22-23.

Thus, the court's resolution of the issue is not a mandate to "thwart inter-media transfers." Rather it is a part of the holding that all prohibited wastes must receive the same degree of treatment even if they are decharacterized first.

This part of the court's decision actually demonstrates that the Chem Waste court was NOT concerned about thwarting inter-media transfers. Instead, it specifically recognizes that decharacterized wastes would be treated in surface impoundments that did not comply with equivalent RCRA requirements: double liners and leachate collection requirements. In the very next paragraph, the Court explained that decharacterized wastes could be managed differently. The court noted that Congress allowed treatment in surface impoundments of hazardous wastes that did not meet the LDR treatment standards if the surface impoundment met certain conditions, including MTR's. RCRA § 3005(j)(1 ). However, the court noted that in the case of decharacterized wastes, the treating impoundment did not need to meet these equivalent standards. The court said:

Here, however, the liquids, at the time, they are placed in the surface impoundments, are not technically hazardous wastes ....

Additionally, the liquids here are only placed in the surface impoundments temporarily; in API, the "land treatment" represented the final resting place of the Hazardous waste. *Id.* at 24.

Thus the court recognized that these subtitle D units would not provide the equivalent protections as wastes treated in hazardous waste impoundments. The court's reference to permanence is merely to distinguish CWA treatment impoundments from permanent disposal units, such as landfills (or land treatment, as in API).

If the court was concerned about cross-media transfers, it would not have allowed these decharacterized wastes to be placed into arguably less protective units. Instead, the court was merely noting that landfills and land treatment units are intended for the permanent disposal of wastes, whereas surface impoundments that are part of CWA systems are intended for the treatment of such wastes on their way to the CWA point of compliance.

Finally, the Agency cites to two additional instances in the opinion where the court specifically addressed the issue of releases into the environment. In the first instance where the court remanded the Agency's "deactivation" standard for corrosive wastes, the court merely stated that the Agency need not change this standard if it could make a statement, backed by evidence, that deactivated corrosive wastes "do not contain hazardous constituents that pose a threat to human health and the environment. *Id.* at 18 (emphasis added). A recounting of RCRA's general standard should hardly qualify as a mandate for EPA expanding its Subtitle C authority to non-hazardous waste surface impoundments.

The second reference deals with reactive wastes. In this section, the Court remanded the deactivation standard for reactive wastes, even though no one produced any evidence that these wastes contained hazardous constituents that were not addressed by the deactivation standard (except for reactive sulfides and cyanides which EPA addressed by promulgating a treatment method). The court, however, granted the petition to review on "narrow grounds" for the purpose of the Agency "mandating] preliminary steps to prevent such reactions" and not for the analogous situation of prescribing controls during treatment.

Consequently nothing in the Chem Waste case supports the Agency's newest theory for establishing additional controls on decharacterized wastes that are managed in non-hazardous surface impoundments. In fact, as we demonstrate in the next sections, the Agency is precluded from establishing such requirements.



Accordingly, EPA is limited by both its Subtitle C jurisdiction and by its obligation to accommodate CWA requirements to choose Option 1 and thus refrain from imposing technical requirements on Subtitle D units.

#### 4. EPA Is Free To Select Option 1 Under Chem Waste

Even if EPA were to reject the arguments above that the Chem Waste decision and RCRA require EPA to choose Option 1 in the Phase IV rulemaking, it is quite clear that there is nothing in the court's decision that prevents EPA from selecting Option 1. In the court's discussion of CWA systems, there is not a single mention of sludge, leaks, air emissions, or any other movement of hazardous constituents to the environment other than what exits the CWA system at its point of discharge, even though the court was fully aware that CWA impoundments are typically unlined. Chem Waste, 976 F.2d. at 20. If the court had intended that Subtitle C impose any such requirements on surface impoundments that manage nonhazardous waste, it surely would have discussed how this decision was either consistent with, or deviated from prior precedent.

As noted above, the Chem Waste court sanctioned the Option 1 approach by making it clear that EPA could meet its obligations under RCRA § 3004(m) by requiring that the §30W(m) standard must be met at the CWA system point of discharge not in the impoundment. As we explained in our Phase 11 comments, the CWA permit or pretreatment requirements, which require at the least, application of the best practicable control technology currently available (CWA § 301(b)), clearly meet that standard. See Attachment A: CMA Comments on Phase III, pp. 12 -16.

The court's litmus test for equivalency is that treatment must meet the requirements of the statute. The court held that: "the new CWA dilution permission is valid where the waste is decharacterized prior to placement in a CWA surface impoundment and subsequently treated in full conformity with § 3004(m)(1) standards." Chem Waste, 976 F.2d at 19. The end-of-pipe standards proposed in Phase III fully satisfy that standard, and EPA should go no further.

EPA, however, is considering the argument that the Chem Waste opinion would support a decision by EPA to establish performance standards for surface impoundments that manage nonhazardous wastes so that mass loadings of hazardous constituents to the environment (other than through the CWA outfall) are reduced. CMA does not agree that the court's opinion reaches so far. There is absolutely no discussion of this point in the court's decision, and it requires an anguished stretching of the court's language to find statements that even arguably would support such regulations.

EPA cites a footnote in Chem Waste, 976 F.2d at 23 n.8, to support the argument that EPA can impose regulations on the operation of surface impoundments managing nonhazardous wastes. 60 Fed. Reg. 43,656.2 The Agency has asserted that the footnote illustrates the court's fundamental concern that dilution does not reduce or destroy hazardous constituents, and therefore does not prevent them from entering the environment. The Agency then attempts to extrapolate from this a concern on the court's part about "mass loadings" and possible releases through air emissions, leaks, and sludges.

However, the footnote merely points out that a unit treating diluted waste will have to treat a larger volume to remove the same amount of a hazardous constituent than will a unit treating concentrated wastes. The footnote does not use the term "mass loadings" and certainly does not refer to any "loading" to the environment other than at the CWA discharge point.

EPA can point to only a few other statements in the opinion to support an argument that the court authorized requirements more extensive than the Phase III end-of-pipe standards. EPA REFERS to other portions of the opinion that discuss volatilization and dilution of characteristic wastes, 60 Fed. Reg. 43,656 (citing Chem Waste, 976 F.2d at 17, 18, 22, 24, 29-30), but these portions did not involve the issue of placement of decharacterized wastes in CWA surface impoundments, and thus did not involve accommodation with the CWA. EPA also points to statements by the court that placement in CWA surface impoundments is "temporary" and not permanent disposal, and thus argues that it can impose requirements to control any aspects of CWA surface impoundment management that might constitute "permanent" disposal, such as air emissions or leaks. 60 Fed. Reg. 43,656 (citing Chem Waste, 976 F.2d at 24, 95). As EPA implicitly notes in the permeable, this argument turns the court's opinion on its head. 60 Fed. Reg. 43,657/2. The court's statement that placement in a CWA surface impoundment is temporary is more reasonably interpreted as recognition by the court that some leaks and air emissions are possible from an unlined impoundment (see Chem Waste, 976 F.2d at 20), but that this is acceptable because of the need to accommodate the CWA. The court intended that the compliance of the CWA impoundments be controlled not by management standards, but by end-of-pipe compliance with treatment standards.

2 The footnote reads, in its entirety, as follows:

To illustrate RCRA's focus on treatment of the hazardous

constituents in a waste, consider a waste stream hazardous by characteristic for cadmium. Both the characteristic and treatment levels for the hazardous waste are 1.0 mg/l. Assume that a stream of 3.0 mg/l daily deposits 1000 liters into a treatment facility. A RCRA treatment facility would remove at least 2000 mg of cadmium from the waste stream. A CWA treatment facility must do the same although to do so it will have to process at least three times as much water (because dilution of 1000 liters of 3.0 mg/l to just below the characteristic level will yield just over 3000 liters). Allowing dilution alone would decharacterize the waste, but it would not reduce the total amount of cadmium entering the environment. One thousand liters of 3.0 mg/l cadmium yields the same amount of hazardous constituent as 3000 liters of 1.0 mg/l cadmium.

Accordingly, nothing in RCRA or in the Chem Waste decision precludes EPA from selecting Option 1 in the Phase IV rule, and for the reasons set out below, EPA should do so.

**C. Other Statutes And Regulations Provide Adequately Regulate the Surface Impoundments In question So That Human Health And The Environment Is Protected.**

There are numerous statutes and regulations that govern the protectiveness of the surface impoundments at issue in the Phase IV rule. EPA should not disturb the statutory scheme established by Congress to protect human health and the environment by imposing additional requirements on these surface impoundments.

**1. The Imposition of Air Emissions Requirements In The Phase IV Rule Is Unjustified.**

There is little reason for EPA to regulate, under the LDR program, air emissions from CWA surface impoundments. With respect to the potential air emissions that would be addressed under Option 2 of the Phase IV rule, there are already in place numerous requirements that limit air emissions from CWA surface impoundments, and others are in development.

In order to maintain, to the greatest extent possible, a consistent approach to air pollution control, air emissions should be regulated under the Clean Air Act (CAA), not under RCRA. Therefore, CMA urges EPA to defer to preexisting and scheduled requirements under the Clean Air Act, and refrain from creating further duplicative and overlapping air emission requirements under the aegis of RCRA. CMA thus believes that no air emissions requirements should be imposed under Phase IV, because

such requirements are unnecessary to minimize threats to human health and the environment from CWA surface impoundments. In the CAA, Congress has established a comprehensive scheme for regulating air emissions that represents a delicate balance between protecting human health and the environment using a best technology approach, risk assessment, and rule scheduling that ameliorates some of the economic impact resulting from the new requirements. Emissions of hazardous air pollutants (that equate to the toxic constituents EPA is concerned within the Phase IV rule) are subject to extensive regulation under Section 112 of the Clean Air Act. While not all of the RCRA hazardous constituents are HAPs, the list of HAPs is extensive enough and represents Congress' decision that control of these constituents are all that is necessary to protect human health and the environment. Section 112 requires EPA to promulgate emission standards for industrial source categories with respect to nearly two hundred hazardous air pollutants (HAPs), establishing Maximum Achievable Control Technology ("MACT") for such categories. Many facilities operated by CMA members are already covered by the HON ("Hazardous Organic National Emission Standards for Hazardous Air Pollutants") regulation, promulgated on April 22, 1994 (59 Fed. Reg. 19,402) or by the Benzene NESHAP, promulgated on January 17, 1993. MACT standards for other industrial source categories will be promulgated by EPA according to a statutorily-imposed schedule, which represents Congressional balancing regarding how the nation should absorb the costs of such additional regulation. These rules will cover some 70 additional chemical production or manufacturing source categories and the off-site waste and recovery operations category. 59 Fed. Reg. 51,913 (Oct. 13, 1994). These regulations, taken together, place stringent controls on the emissions of hazardous air pollutants from the manufacturing industry in an orderly process that is Congressionally mandated. Additional MACT standards will address treatment of generated wastewaters to control hazardous air F, pollutant emissions. Since regulations cover all major sources of hazardous air pollutants within a relevant source category and there is simply no justification for imposing duplicative requirements under RCRA. Congress also required EPA to review residual risk as part of the overall program to control HAP emissions under the CAA. The results of this review may strengthen already promulgated MACT standards, if necessary to further protect public health. The strengthening of a MACT standard will likely result in tighter emissions limits

for wastewater treatment units. Moreover, EPA is required to list, and regulate, categories of area sources if they present a threat of adverse effects to human health or the environment warranting regulation. EPA is also required to review residual risk for these area source categories.

Furthermore, the provisions of the Clean Air Act governing nonattainment areas (CAA §§171-193) may also overlap with the proposed RCRA air emissions requirements. Those requirements impose limitations (including the use of Reasonably Available Control Technology, or "RACT") on emissions from existing major air pollution sources in areas that have not attained established air quality standards. For example, EPA has already released Control Technique Guidelines establishing RACT for many industrial operations, including the Synthetic Organic Chemical Manufacturing Industry, EPA 450/3-84-015, December 1984, (Group III) NTIS No. PB-85-164 #275.

Finally, new or modified facilities may be subject to several requirements under the CAA: For certain industries, EPA has promulgated New Source Performance Standards under §111 of the Clean Air Act, imposing specific requirements on all new, modified or reconstructed facilities within the industrial category. For areas in compliance with air quality standards, §§160-169 of the Clean Air Act, governing Prevention of Significant Deterioration, require new or modified sources to install the Best Available Control Technology ("BACT"); For nonattainment areas, §§ 171-193 require new and modified sources to apply technology that achieves the Lowest Achievable Emissions Rate ("LAER").

Clearly, this comprehensive regulatory scheme is all that is needed to control air emissions from nonhazardous waste surface impoundments handling formerly characteristic wastes

It should also be noted that states may, and often do, impose air regulations that are both broader in applicability and more stringent than those required under the federal Clean Air Act. For example, Texas, New York, and California all have such requirements.

The capital and manpower investments that a facility would have to make to remain in compliance with simultaneous CAA and RCRA regulations addressing similar air emissions from wastewater are not justifiable. Some facilities are already, or will soon be, subject to federal, state, and local regulations governing air emissions. Thus, EPA should continue to address the control of air emissions through CAA authority as opposed to generating separate RCRA-authorized regulations.<sup>3</sup>

**2. Leaks Detection Requirements Are Not Necessary.**

There are already in place significant federal and state regulations that either reduce the likelihood that CWA surface impoundments will leak or that ensure leaks are detected and addressed.

First, there are a number of other RCRA regulations that address CWA impoundments managing non-hazardous wastes. At facilities that are RCRA-permitted or interim status TSDFs, RCRA's corrective action requirements apply to all SWMUs, including these CWA surface impoundments. We estimate that at least 25% of the surface impoundments EPA estimates will be impacted by this rule are in fact, covered by RCRA's corrective action provisions.

Many companies, including CMA members, are in fact pursuing corrective action for such SWMUs. Furthermore, RCRA § 7003 allows EPA to take action when management of any solid or hazardous waste "may present an imminent and substantial endangerment to health or the environment." Clearly, this provision could be invoked to prevent endangerment resulting from CWA impoundment leaks.

3 If EPA decides to impose air emission requirements under Phase IV, CMA agrees that EPA **SHOULD** exempt from such requirements any surface impoundments that are already addressed by relevant requirements under other statutes or regulations. See discussion below in Section VI A. Item #10 of these comments.

Second, there is a strong incentive for all owners and operators of surface impoundments to ensure that there is no leakage of hazardous constituents, because of the risks of CERCLA liability and the tremendous costs (including natural resource damages) that can result. 42 U.S.C. §§ 9606, 9607. CERCLA requires the reporting of releases of hazardous constituents above specified reportable quantities. 42 U.S.C. § 9603. In addition, leakage of hazardous constituents can lead to major common law tort liability. See, e.g., *Davey Compressor Co. v. City of Delray Beach*, 639 So.2d 595 (Fla. 1994); *Ewell v. Petro Processors of Louisiana, inc.*, 364 So.2d 604 (C.A. La. 1978). cert. denied 366 So.2d 575 (La. 1979).

Finally, as Congress intended, States are taking the lead in regulating non-hazardous Waste Management units. For example, states (such as California and Louisiana) have in place regulations addressing Subtitle D disposal units that, in many cases, impose requirements intended to limit leakage. Other states have other regulations that would control leakage from such impoundments, such as state NPDES permits that control releases to groundwater (as in Texas). As revealed by studies performed by CMA, many states have programs in place addressing leak prevention and detection, as they

determine necessary. See Attachment D: Study of State industrial Non-Hazardous Waste Regulatory Programs: 25 State Profiles. (April 1994); Study of state Subtitle D Regulatory Program Status (September, 4, 1991).

Many states also have sole source aquifer or wellhead protection programs under the Safe Drinking Water Act that protect groundwater. State support for the exemption of Decharacterized Wastes, as managed under the Clean Water Act equivalent treatment systems, and injected into UIC Class I nonhazardous injection wells under the Safe Drinking Water Act, from meeting additional LDR requirements is demonstrated in letters from the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) and the Ground Water Protection Council (GWPC) to congressional representatives.

**3. Sludge Requirements Should Not Be Imposed In Phase IV.** CMA also believes that it is unnecessary for EPA to impose additional regulations on sludges as part of the Phase IV rule.

Before sludges are removed from the impoundment, they do not pose a risk any different from leaks, and are adequately addressed by existing measures controlling leaks. As EPA commented, "EPA does not believe in-place sludges would be a release pathway separate from the leaks pathway." 60 Fed. Reg. 43,673. Thus the management of sludge should be governed by a determination, at the time of removal, of the controls appropriate to protect human health and the environment. 60 Fed. Reg. 43,673/3

Accordingly, EPA should not include sludge requirements in the Phase IV regulations.

**D. The Chem Waste Decision Precludes EPA From Selecting Option 3 In The Phase IV Rulemaking**

Under the Chem Waste decision, EPA is clearly not permitted to select Option 3 in the final Phase IV rule, which would require treatment of decharacterized wastes to UTS standards before placement in a CWA surface impoundment. Option 3 would eliminate any accommodation of the CWA in the LDR program, because the CWA surface impoundments would be treated like any other Subtitle D impoundments.

As noted above, the Chem Waste decision held that accommodation with the CWA is required "to the maximum extent practicable." Chem Waste, 976 F.2d at 20. The court also made it clear that placement of decharacterized wastes in CWA surface impoundments prior to satisfying UTS standards was acceptable, and a reasonable accommodation with CWA. For EPA to choose an option under which there was no accommodation with the CWA would violate RCRA § 1006

and the court's decision.<sup>4</sup>

#### **VI. If EPA Insists On Selecting Option 2 In The Phase IV Rulemaking, Significant Clarifications And Modifications Are Needed**

As discussed previously in these comments, CMA believes EPA is required by the Chem Waste decision to select Option 1, or at the very least is not precluded from choosing Option 1. However, if EPA decides to select Option 2 in the Phase IV rulemaking, several Clarifications And modifications must be made prior to promulgation. Further, as noted above, the upcoming HWIR rule will make significant changes in the Subtitle C program that would have important implications for the Option 2 requirements. When this is coupled with the fact that EPA has not proposed regulatory language for Option 2, CMA believes that if EPA plans to choose Option 2, that it should repropose the requirements for further comment after the HWIR rule is finalized.

Although CMA's ability to comment adequately is hampered by the absence of proposed regulatory language, the following are specific comments on the elements of Option 2.

##### **A. EPA Must Modify The Applicability of Option 2**

##### **1. EPA Should Change Option 2 Applicability Shown In the Preamble Figures.**

Attached to this document are two figures Figure A: EPA's Proposed Applicability Criteria, and Figure B: CMA's Proposed Applicability Criteria. (See Attachments E and F) The two figures are composites of the Option 2 figures in the preamble (Section I.H.) presenting general applicability (EPA Fig. 1), air emissions management applicability (EPA Fig. 2), leak management applicability (EPA Fig. 3) and sludge management applicability (EPA Fig. 4). We will use these two figures to compare and contrast our suggestions with EPA's proposal. The item numbers associated with these comments match those in Figures A and B.

##### **a) EPA should grant a general applicability exemption for Wet Weather Flow Impoundments.(Item #1)**

Many facilities utilize integrated sewer systems in which both process wastewaters and storm waters are managed in the same collection system. Wet weather flow impoundments are commonly used in integrated sewer systems to temporarily store excess water flows during storm events. Water diverted to these impoundments are either transferred to the wastewater treatment system at controlled rates or directly discharged through a permitted outfall to a receiving waterbody or to a POTW.

CMA recommends that wet weather flow impoundments be exempted from the LDR Phase IV regulations due to their low environmental risk,



their importance to the efficient operation of wastewater management systems, and the significant cost of replacing and/or closing the impoundments.

Wet weather flow impoundments pose an inherently low environmental risk since:

Underlying Hazardous Constituents (UHCs) in the wet weather flow impoundment influent rarely exceed UTS and then only for very short periods of time. Such exceedances may occur during the beginning of a storm event when the proportion of process wastewater to stormwater is at the greatest. Peak storm event flows will be primarily stormwater, with the result that the flow-rated average concentration of UHCs in the impoundment influent during a storm event will be significantly below the UTS levels.

Wet weather flow impoundments are generally empty, so the residence time of any UHCs present in the impoundments is short. This further reduces the potential for leakage to groundwater and air emissions. This clearly classifies as the kind of temporary containment that EPA believes the court determined could occur in subtitle D units

The use of wet weather flow impoundments is vital in the operation of combined process wastewater/stormwater management systems since temporary storage of the large amounts of water associated with a storm event is essential in preventing exceedance of the system's collection and/or treatment capacity. For example, a hydraulic overload in a biological treatment system will reduce organic removal efficiency and cause exceedance of total suspended solids effluent limits.

Closing and replacing wet weather flow impoundments would be prohibitively expensive. Impoundment closure would be extremely expensive since at some facilities these impoundments cover more than 25 acres. Removing the impoundments from service would require the facility to do one or more of the following extremely expensive steps:

Replace the impoundments with a vast stormwater storage tank system to manage the large volume of storm/process water.

Significantly enlarge the capacity of the wastewater transfer system downstream of the point where stormwater is currently diverted to the impoundments AND significantly enlarge the treatment system capacity to manage peak flows that will only occur during storm events.

Segregate the process wastewater from stormwater which, in many cases, would be prohibitively expensive due to the size and location (under operating units) of sewer systems in

well-established industrial complexes.

Therefore, EPA should grant a general applicability exemption for wet weather Flow Impoundments.

d) Surface impoundments subject to RCRA corrective action provisions should be exempt from all Phase IV management standards. (Item #4)

CMA agrees with EPA that permitted TSDFs should be totally exempted from Phase IV REQUIREMENTS since any of their subtitle D impoundments are subject to corrective action. During the RCRA Part B permitting process, all Subtitle D wastewater surface impoundments receiving hazardous waste constituents are evaluated to determine if they are causing unacceptable environmental impact via emissions to the air, runoff to surface waters, and seepage into the soil and ground water. Such evaluations determine if any additional monitoring and/or corrective action is needed for the impoundments on a case-by-case basis. These evaluations and subsequent later activities, as needed, assures that the impoundments are being operated in an environmentally acceptable manner.

CMA also believes that TSDFs currently and previously under interim status should be provided the same total exemption as permitted TSDFs since the same amount of SWMU evaluations with follow-up monitoring and/or corrective action, as needed, will be conducted during the Part B permitting process or can be conducted under § 3008(h). CMA does not believe it to be practical to force interim status facilities to comply with Phase IV requirements if the regulatory agency has the authority to evaluate the facility and to request site-specific corrective action measures based on those evaluations and any further monitoring.

Thus, CMA recommends that wastewater surface impoundments located in all facilities covered by RCRA TSDF corrective action provisions be automatically exempted from all Phase IV management standards.

e) EPA should clarify the MTR exemption requirements and not require ground water monitoring. (Item #5)

The preamble states that the MTR exemption is applicable if the "decharacterized Wastes Are discharged to a surface impoundment that meets the substantive minimum technology requirements of 40 CFR 268.4". 60 Fed. Reg. 43,669/1 (emphasis added).

CMA believes that the phrase "substantive minimum technology requirements" should only refer to subsection (I) of § 268.4(a)(3). Limiting the substantive MTR requirements to these would (1) eliminate the need to conduct ground water monitoring, which is

one of the purposes of the exemption; and, (2) provide flexibility in the design and operation of the impoundment[221(c), (d) or (e)] while staying within the spirit of complying with MTR requirements.

Thus, CMA recommends that EPA limit the "substantive minimum technology requirements" to the design and operation of the impoundments and not require ground water monitoring.

f) CMA agrees that surface impoundments that meet the no migration standard should be Exempted. (Item #6)

CMA concurs that the "no migration" exemption should be a general applicability exemption. To successfully demonstrate "no migration" one must show that actual or predicted concentrations of hazardous concentrations or emission rates at the edge of the land-based unit do not exceed health-based or environmental-based levels for ground water, surface water, soil and air. Thus, all emission concerns are addressed for the wastewater surface impoundments that are eligible to obtain a "no migration" determination.

g) EPA should adopt a "de minimis" exemption patterned after the laboratory exclusion and provide optional limits on either flow or concentration of UTS constituents. (Item #7)

The Agency has proposed to extend "de minimis" provisions it proposed in the Phase III rulemaking for UIC waste systems to CWA systems. As we commented in our Phase III Comments, we support a de minimis volume exclusion for CWA and CWAE systems. See Attachment A: CMA Phase III Comments at pp. 32-33. We suggest that instead of using the exclusion that they proposed for UIC wells, EPA should model the CWA or CWAE exclusion after the current de minimis exclusion for laboratory wastes. Id.

We note that the flow limitation in EPA's proposal is consistent with the laboratory waste exclusion provided under §

261.3(a)(2)(iv)(E). Likewise, limiting the concentration of constituents in an excluded waste seems reasonable and concentration limitation is also a provision of the §

261.3(a)(2)(iv)(E) exclusion although we disagree with the level EPA is proposing and suggest 1 ppm instead.

However, CMA questions why the Agency has abandoned the long-standing logic of the laboratory wastes exclusion under § 261.3(a)(2)(iv)(E) by proposing to require that an excluded waste to meet both criteria to qualify as an excluded waste stream instead of either criteria, as allowed in § 261.3. That logic, unchallenged by the Court decision, continues to hold and should be

extended here. As long as the waste flow is small (i.e., less than 1% of the total wastewater flow for all characteristic wastes), the concentration of constituents in that small flow should not matter as long as the resultant mixture does not exhibit a characteristic of hazardous waste. Conversely, as long as the concentration of constituents is small in the streams being aggregated, the percentage of total flow they comprise should not matter. The fact that a percentage or a concentration restriction precludes any sizable waste streams from qualifying for the exemption unless they pose little hazard provides the Agency with adequate assurance that the provision cannot be abused by the regulated community.

As we noted in our Phase III comments, some may question whether the laboratory waste exclusion represents an analogous situation, since laboratories usually generate small quantities of listed wastes. We think that such an objection would be irrelevant. At facilities that treat a large amount of wastewater the Agency's exclusion could allow a laboratory to send large quantities of concentrated listed waste to the treatment facility, without any restriction on the amount of waste it can send in any one event. Thus the Agency has already determined that there are some situations where the quantities or potential impact is so small that an exclusion is warranted. CMA urges EPA to adopt a similar exclusion for all characteristic wastes. Please see our Phase III COMMENTS for proposed regulatory language.

j) The CAA applicability exemption should embrace additional CAA regulations. (Item #10)

CMA recommends that the applicability of the following groups of air regulations be eligible for determining if the surface impoundments need to be covered by Phase IV air emission management standards: Applicable promulgated and proposed New Source Performance Standards (NSPS) under 40CFR Part 60. One example is the proposed NSPS for SOCMW Wastewaters (Subpart YYY). This regulation will address the control of volatile organic compounds (VOCs) which EPA believes "is an appropriate measure for determining when potential releases through air emissions would be excessive." 60 Fed. Reg. 43,665/1. Note: The preamble also states that "EPA would defer to standards regulating total volatile organics, as adequately covering air emissions of UHCs from this type of treatment" 60 Fed. Reg. 43,660/2. We concur with EPA's intent.

Applicable promulgated and proposed National Emission Standards

for Hazardous Air pollutants (NESHAPs) under 40 CFR Part 61. One example is the NESHAP for Benzene Waste Operations (Subpart FF). This regulation addresses the control of benzene emissions from surface impoundments.

Applicable promulgated, proposed and future MACT regulations 10 required under CAA §112 (40 CFR Part 63). These include all MACT regulations that have been listed pursuant to CAA § 112 and subsequently scheduled according to CAA § 112(e). These promulgated, proposed and near future regulations address the control of hazardous air pollutant (HAP) emissions from wastewater streams. Examples include the promulgated SOCMH Hazardous Organic NESHAPs (HON) which addresses the control of organic HAP emissions from wastewater streams, the proposed MACT regulations covering off-site waste and recovery operations (Subpart DD), and future MACT regulations covering publicly-owned wastewater treatment facilities and site remediation. Note: The preamble states that "facilities subject to CAA standards for hazardous air pollutants (in particular, those promulgated pursuant to CAA 112) in the near future thus would not be covered by Option 2 air emission controls"(Id. at 43660/1).

Facilities which have already addressed the need for control of secondary emissions as part of the CAA Title V program which requires States to conduct case-by-case MACT determinations for facility modifications, reconstructions and new constructions for major sources if the applicable MACT regulation(s) have not been established. (CAA § § 112(g) and (j)).

10 Pursuant to CAA Section 112(e) EPA must promulgate MACT standards for all source categories by the year 2000. The attached list details the exorbitant number of MACT standards scheduled to be promulgated by EPA between now and the year 2000 and likely to apply to the chemical industry (See Attachment G).

Facilities covered by Federally-approved State/Tribal programs which address HAP emissions. (CAA § 112(1)). Such facilities will need to comply with regulations that are essentially equivalent to federal MACT standards developed by EPA.

Facilities covered by Federally-approved State/Tribal Implementation Plans (SIPs) that require control of VOC emissions (CAA §182). Such facilities are required to use Reasonably Available Control Technology (RACT).

In sum, EPA should expand the air regulation exemption to include facilities covered by (1) applicable promulgated and proposed NSPS; (2) applicable promulgated and proposed NESHAPs (Part 61); (3)

applicable promulgated, proposed and future MACT-based regulations(Part 63); (4) Title V case-by-case MACT determinations; (5) Federally-approved State HAP programs; and, (6) Federally-approved SIP plans addressing VOCs.

k) There should be an exemption for hazardous constituents covered by EPA Regional, State or tribal programs that specifically address emissions of those constituents. (Item #11)

CMA concurs with the following statement in the preamble: EPA Regional, State, or Tribal limits which control releases of specific UHCs [regulated constituents] from impoundments also would be considered controlling and so make Phase IV controls unnecessary. 60 F.R.. 43661/1.

CMA recommends that EPA include an exemption for those regulated hazardous constituents that are covered by EPA Regional, State or Tribal programs that specifically address emissions of those constituents.

l) Post-biological surface impoundments should be exempt from air emissions management standards. (Item #12)

Those surface impoundments that are used to clarify or store biologically treated wastewaters prior to discharge through a NPDES-permitted outfall will have low levels of dissolved organics in the water. For example, Commodity Organic Chemical facility outfall wastewaters must have a maximum monthly average BOD5 concentration of no greater than 30ppmw (40 CFR §§ 414.61 & 414.64). This effluent concentration translates to a Total Organic Carbon (TOC) concentration in the order of 150 ppmw. Such a level of TOC will likely have a VOC concentration below 100 ppmw since the organics in the treated water will be refractory organics which will have relatively low vapor pressures. Thus, there is no need for any form of air emission control for such impoundments since the emission rate of VOCs would be inherently low.

CMA recommends EPA to provide an exemption from air emissions management standards for post-biological surface impoundments that store or clarify treated wastewaters prior to discharge through a NPDES-permitted outfall.

m) EPA should clarify Subpart CC before requiring surface impoundments to comply with it.(Item #13)

The Subpart CC regulations have raised numerous comments from industrial and waste treatment groups, such as CMA, that could impact the applicability of these rules to surface impoundments affected by Phase IV. The concerns are important enough to warrant litigation by affected parties unless current negotiations generate mutually agreeable modifications to the regulations.

Establishing the VOC trigger level at 100 ppmw at the point of generation.

Eliminating those organic compounds that are not VOCs from waste determinations.

Using the first potential exposure point as the point for waste VOC determination

A treatment alternative requiring 95% mass reduction and an exit concentration of less than 50 ppmw (impacts applicability of downstream impoundments).

Lack of acknowledgment of the existence of non-hazardous wastes in calculating organic removal requirements (impacts applicability of downstream impoundments).

The need to consider treatment time when conducting compliance sampling (impacts applicability of downstream impoundments).

We also note that EPA issued a Federal Register notice on August 14, 1995, 60 Fed. Reg. 41,870, which addressed what analytical methods and procedures may be used to determine the VOC of a given waste stream. Until this issue is resolved, no facility will be certain as to what analytical methods and procedures will be available to them to determine if the extended Subpart CC regulations are applicable for a given impoundment.

CMA does not believe that it is prudent to require facilities to comply with significant requirements that may well prove to be unnecessary when the regulations are truly clarified. CMA recommends that EPA place the questions governing whether wastewater surface impoundments comply with Subpart CC regulations on hold until all pending regulatory changes to the Subpart CC regulations are completed.

n) EPA should exempt surface impoundments from ground water monitoring and corrective action if a State or Tribal program has determined it is not necessary. (Item #14)

CMA believes that a facility should be relieved from ground water monitoring and/or corrective action requirements if a State or Tribal program has already determined that such is not required for a given surface impoundment. Such State or Tribal programs will have already determined that various factors (impoundment construction, local geology, local ground water usage, etc.) are such that the surface impoundment is inherently safe and does not warrant monitoring and/or corrective action. It would appear to be a waste of time, manpower and capital to require the facility operator to perform such activities in the name of Phase IV compliance.

Therefore, EPA should provide an exemption from the ground water

monitoring and/or corrective action requirements if a State or Tribal program has determined that such is not required for the given wastewater surface impoundment.

o) EPA should exempt certain constituents from ground water monitoring and corrective action if they are covered by a State or Tribal ground water protection program that is substantially similar to the EPA program. (Item 15)

CMA concurs with the following statement in the preamble:

Many states have ground water protection programs that include ground water monitoring and corrective action that may apply to the types of units that EPA is covering in today's proposal. To the extent that state programs require ground water monitoring and corrective action that include the UTS constituents of concern (or can be modified to cover those constituents) and are substantially similar to today's proposal (i.e., frequency of monitoring, requirements regarding ground water monitoring wells), EPA would defer to those State and Tribal Programs. 160 Fed.Reg. 43,669/3] EPA should, therefore, include an exemption from the leak management standards for those regulated constituents that are covered by a State or Tribal ground water protection program that is substantially similar to the EPA program.

p) EPA should exempt surface impoundments from ground water monitoring and corrective action if the facility has an existing voluntary program that is substantially similar to the EPA program. (Item#16)

CMA concurs with the following statement in the preamble:

Further, facilities affected by today's rulemaking that have existing ground water monitoring and corrective action programs that are not required by State or federal government may be able to continue those programs in lieu of the regulations proposed here. (60 Fed. Reg. 43,669/3)

EPA should allow those facilities that have existing, voluntary ground water monitoring and corrective action programs that are substantially similar to the EPA program to be exempted from the leak management standards.

q) EPA should reaffirm that sludges removed from Subtitle D surface impoundments are not subject to LDR unless they are hazardous. (Item #17)

In the preamble EPA states that the generation of sludges is a new point of generation where the applicability of LDR standards needs to be evaluated.

This is because generation of sludges is usually a new point of generation at which the newly-generated waste is reevaluated to



determine if it is subject to the LDR standards. If non-hazardous, the sludges would not be so subject (i.e., would not be prohibited wastes). See 55Fed. Reg. 22,661-62. (Id. at 43,673/3).

There is no reason why EPA should refrain from applying the above policy to sludges removed from Subtitle D wastewater surface impoundments. Thus, EPA should reaffirm that the applicability of LDR requirements to sludges removed from Subtitle D wastewater surface impoundments is solely dependent on whether or not the removed sludge is characteristically hazardous.

**b). Applicability of potential approaches to "Industrial D"**

**management units.**

CMA supports EPA's statement that the proposed Phase IV LDR requirements would not necessarily set a precedent for any future regulations regarding surface impoundments managing nonhazardous industrial waste. Putting aside the question of whether the Agency even has the authority to establish such requirements by rule, CMA agrees with the Agency's current approach, which is to address such units by means of voluntary guidelines that would be developed by EPA, States, and affected stakeholders. CMA has accepted EPA's invitation to participate in one EPA/ASTSWMO Industrial Non-Hazardous Waste Initiative, and looks forward to that initiative moving forward in the near future.

**B. EPA Should Modify The Leak Control Requirements In Option 2.**

**1. EPA should not impose leak control requirements on facilities subject to other programs addressing groundwater quality.**

CMA agrees with the Agency's proposal to defer to state programs that require groundwater monitoring and corrective action provisions that include the UTS constituents concern (or which can be modified to cover those constituents). However, CMA also believes that where a state program has made a determination that, due to site-specific conditions, (such as impoundment construction, local geology, or groundwater usage), monitoring or corrective action should not be required, the Agency should defer to such a determination, without regard to the specific UTS constituents that might be present in the impoundment. Such a site-specific determination under a state groundwater protection program, based upon specific data and local expertise, is protective of human health and the environment, and should not be trumped by the more general requirements of Phase IV.

**2. CMA agrees with the sequential approach to leak requirements under Option 2.**

CMA agrees with the Agency's sequential approach to leak control

requirements as set out at 60 Fed. Reg. 43,666. This approach establishes a logical sequence of monitoring, detection, and correction mechanisms, with more burdensome requirements only being triggered when necessary. CMA also agrees with EPA's proposal that facilities would have the option to avoid groundwater monitoring requirements by pretreating wastes or by managing sufficiently dilute wastes.

3. CMA supports proposed exemptions from the Option 2 groundwater monitoring requirements.

CMA agrees that certain units potentially impacted by the Phase IV rule, such as biological and post-biological units, are highly unlikely to pose risks of groundwater contamination, and should be exempt from groundwater monitoring requirements.

4. CMA supports the use of site specific factors in determining the best method of installing monitoring wells.

The Agency has requested comment as to whether site specific factors, such as the physical layout of an impoundment system, should be considered in designing a well monitoring system to address leakage. CMA agrees that such considerations are appropriate. A number of member companies have impoundments that are separated only by a berm system, and installation of wells up and down gradient of each individual unit would be problematic in those cases due to the difficulty of access for drilling equipment.

Additionally, since the intent of monitoring is to identify situations which may impact groundwater receptors, any configuration of wells which includes monitoring of groundwater between the impoundment system and receptor is adequate to meet the need.

5. CMA agrees with the Agency's proposal to trigger additional requirements for impoundments only when leakage poses a risk to receptors but believes the appropriate levels of contaminants in groundwater should be based on site specific factors.

The Agency has proposed that further actions beyond monitoring would not be required unless a drinking water exceedance is detected by monitoring. CMA agrees that tangible evidence of a release which is of concern should precede capital and operating cost incurrence, and that any such determination be based on site-specific factors.

7. CMA agrees with the Agency's assessment that alternatives to groundwater monitoring should be allowed and requests that the Agency finalize this guidance prior to promulgation of the Phase IV regulations.

EPA has correctly observed that there are situations where

alternatives to ground water monitoring should be allowed, such as when ground water monitoring is not practicable or would not detect early releases. The Agency has noted it is preparing a rulemaking to deal with those situations, but the inference is that that rulemaking will follow this one rather than being developed concurrently. Subjecting facilities to groundwater monitoring that is ineffectual in advance of the referenced rulemaking is an unnecessary economic burden. EPA should delineate which situations will fall into this category prior to finalizing this rule and defer the monitoring provisions under this rule for those units.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P113

COMMENTER Chemical Manufacturers Association

RESPONDER SS

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CMA appreciates the opportunity to submit comments regarding EPA's proposed Phase IV Land disposal restrictions rule. In its proposal, EPA is discussing whether to establish additional disposal practices for the management of formerly characteristic wastes in surface impoundments that are part of a wastewater treatment facility whose discharge is regulated by the Clean Water Act (CWA). The Agency's proposal comes in the aftermath of the D.C. Circuit Court of Appeals decision, *Chemical Waste Management v. EPA*, 976 F.2d 2 (D.C. Cir. 1992, cert. denied, 113 S.Ct. 1961 (1992) [hereinafter *Chem Waste*]). As we demonstrate in these comments, we do not see anything in the court's decision that requires EPA to change its position on allowing treatment of decharacterized wastewater in centralized wastewater treatment systems. We also concur with the Agency's statements that these practices present little or no risk to human health and the environment, and we demonstrate that the risks the Agency believes may exist, are overstated.

As we have pointed out in previous comments, the chemical industry's reliance on centralized wastewater treatment systems is based on long-standing Agency policy that legitimized the aggregation of decharacterized wastes for management in centralized wastewater treatment systems regulated by the Clean Water Act. See Attachment A, pp. 13-14 and Attachment B, Excerpts from CMA Comments on EPA's March 2, 1995 Proposed Rule Regarding Land disposal Restrictions For Decharacterized Wastewaters, Carbamate and OrganoBromine Wastes, and Spent Potliners, pp.6 - 8. Radical changes in the Agency's land disposal restrictions rules could invalidate many existing wastewater treatment systems, and seriously disrupt mandated Clean Water Act upgrades, deepwell injection, and pollution prevention efforts and as the Agency recognizes all without commensurate environmental benefit.

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized

wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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1. The Chem Waste Decision Requires EPA To Select Option 1. CMA believes that EPA should not enact any further regulations under Phase IV. The Chem Waste court recognized that § 1006 of RCRA requires accommodation with the CWA "to the maximum extent practicable." Chem Waste, 976 F.2d at 23 and established a carefully crafted accommodation between the LDR program and CWA requirements. The court made it clear that RCRA "requires some accommodation with the CWA," and satisfying RCRA treatment standards at the point of CWA discharge is sufficient to satisfy RCRA § 3004(m) requirements. Chem Waste, 976 F.2d at 20. Thus, any further regulation of CWA surface impoundments is prohibited by the court's decision, because any such regulation would not accommodate the LDR requirements and the CWA "to the maximum extent practicable."

The court understood that imposing technical requirements under RCRA on such units would seriously disrupt CWA activities because the surface impoundments in question were Subtitle D units managing non-hazardous wastes and should not be subject to RCRA regulation. Id. at 24. See also next section of comments. As a result, the court authorized an accommodation that did as little violence as possible to CWA operations.

CMA urges the Agency to promulgate a final rule that tracks the specific accommodation authorized by the court in order to avoid the risk that a different accommodation could again be struck down, further delaying the LDR program.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air

emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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The Agency's second citation is to page 24 of the court's opinion. Again, it is not clear exactly what passage the Agency is referring to on that page. Since the Agency ties its new theory for supporting its "preferred reading" of the court's opinion to the concept of permanent land disposal, perhaps it is the court's truncated and not very illuminating discussion of permanent disposal to which the Agency refers. Id. at 24. CMA believes that rather than being rationale for the Agency to broaden its Subtitle C authority to nonhazardous waste management units, the court's discussion justifies why the Agency can allow placement of prohibited wastes that do not meet the land disposal restrictions into a land based, nonhazardous waste management unit without further regulation. It is ironic that the Agency would take a passage from the opinion that supports treatment in non-hazardous waste management units, and try to turn it into the basis for regulating these units even though the risk from such management is low.

After describing the accommodation that EPA is required to make between RCRA and the CWA, the court justified it, by saying: This result satisfies RCRA's requirement that any accommodation "be done in manner consistent with the goals and policies" of both RCRA and CWA. RCRA § 1006(b)(1). First, under this approach, treatment is accomplished in conformance with § 3004(m)(1). \*\*\* Second, nothing in RCRA demands, as NRDC petitioners would suggest, that treatment occur prior to aggregation or dilution or that dilution not be a step in the treatment process. Third, the diluted streams deposited in the surface impoundment are not "hazardous" when placed there, and they are not held there permanently. Id. at 23-24. (Court's emphasis.)

The Court then proceeded to discuss the concept of permanence by juxtaposing this case with a previous LDR case that dealt with the land treatment of listed not characteristically hazardous waste. API v. EPA, 906 F. 2d 729 (D.C. Cir. 1990). Since the API decision stood for the proposition that "hazardous wastes must be treated before being land disposed" id., the Chem Waste court needed to explain why it wasn't requiring LDR treatment before land placement even though the API court did.



The Agency's third citation is to pages 29 and 30 of the court's decision. There does not appear to be anything on these pages that address cross-media transfers, or the issue of permanent land disposal. In fact, these pages contain discussions about different legal issues such as: was the rule impermissibly vague and whether the Agency's exception to the dilution prohibition impermissibly excluded listed wastes. In regard to the latter issue, the Court held that EPA did not need to extend its exception to listed wastes noting that "the distinction is based on the primary difference between listed wastes and characteristic wastes." *Id.* at 29. In addition, the court proceeded to note that dilution could be considered a proper form of treatment in some cases and meet the requirements of RCRA §3004(m).

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

There is one caveat. For characteristic hazardous wastes that are managed in CWA or CWA-equivalent systems, and for which EPA has promulgated a method of treatment as the treatment standard (e.g., high TOC ignitable wastes for which the treatment standard is recovery of organics) remain prohibited unless treated pursuant to the promulgated method.

**NOTE TO EPA:** This response may still need to address the larger comment of intentional

**vs. unintentional dilution. Direction is need to develop this response.**

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As noted above, EPA itself has stated that even the Phase III and Phase IV rules are unnecessary and is an unwise use of Agency resources. See 60 Fed. Reg. 11,704/2 and 60 Fed. Reg. 43,656/2. Clearly, the imposition of any requirements beyond those in Phase III would be even more unwarranted.

The cursory risk assessment performed in connection with the Phase IV rulemaking does nothing to change the conclusion that further regulation of CWA impoundments is not needed. This risk assessment is so seriously flawed and misleading that it cannot support any finding that further regulation is needed to protect human health and the environment. The flaws in the assessment were only exacerbated by the fact that the assessment and its underlying information were not made adequately available to the public for review and comment.

1. As Shown in the Attached Report, The Data Used In EPA's Risk Assessment is Seriously Flawed.

CMA and The Acrylonitrile Group asked the Gradient Corporation to examine EPA's risk assessment developed for the Phase IV proposal. That report is attached and incorporated with these CMA comments.

The Gradient report concludes that the Phase IV risk assessment contradicts the Agency's risk assessment principals and guidance by, among other things, using a worst case approach as opposed to conservative but realistic estimates of upper bound risk. The resulting overstatement of risk may be as high as 660 fold for the air exposure pathway and, as CMA has pointed out in previous comments, at least 240 times greater for the groundwater pathway (See Attachment CMA's 24 July, 1992 comments to CBEC/ECHO, p 12 and Appendix A of those comments).

Reasonable and appropriate corrections to the risk assessment result in the conclusion that either population or individual risks are well below the "acceptable" range, and any potential benefit afforded by regulating these surface impoundments via Option 2 or Option 3 are not necessary.

The report highlights specific concerns including:

The data sets used by the Agency in the screening risk assessment were obsolete and incomplete. This means that the risk assessment

is not based on accurate information.

Although the Agency would not identify the exact source of the data, some of the data used from the Effluent Guidelines program is more than 10 years old. Industry has made numerous changes to their wastewater treatment facilities over this time. For example, process changes have been made which changed composition and flows of waste streams, and facilities and equipment handling waste streams have been modified or replaced. Especially relevant to Phase IV, many impoundments have been closed during this period. The Agency recognizes the problems with its data base and has requested updated information. In particular, the Agency does not know how much of their data used in the risk assessment derives from tank-based systems as opposed to impoundment systems. In truth, industry cannot tell either, since the Agency has refused to release the data base because it claims that the material was submitted as confidential business information. CMA has repeatedly requested that the Agency find a way of sharing its information with us, without violating the claims of confidentiality. To date, the Agency has not done so. Clearly, no amount of anecdotal information supplied by individual industry companies or associations could satisfy the Agency's need for complete information on all impoundments currently in use which manage decharacterized wastewaters. However, if the Agency believes that the risks truly are significant, they should use the statutory authority granted to them in RCRA § 3007 to obtain current and complete facility data for an accurate assessment of risks.

The risk assessment overstated risks via the groundwater exposure pathway and the dilution and attenuation factors (DAF) were inappropriately chosen.

The DAF values chosen were inconsistent with earlier data sets used in previous rulemaking risk assessments. The generic DAF of 6 associated with the highest Agency calculated risks did not take into account any site or chemical specific conditions, or the biological degradation which occurs with organic constituents. The risks calculated for air emissions from nonhazardous surface impoundments were overstated by a factor of 660.

EPA's assessment of "baseline" risks for Phase IV are 2.5 cancer cases annually (Exhibit 2-28 of the 8/18/95 RIA for Phase IV).

Gradient estimates that these risks are overstated by 660 fold, so that cancer incidence would be 0 annually (using one significant figure), with no additional Phase IV regulation.

The 100 ppm VOC trigger level used to estimate risks was derived without adequate explanation in the background documents. The

Subpart CC rulemaking, which is where this trigger comes from, is currently being litigated on several grounds, including this inappropriate threshold for control requirements.

In sum, the risk assessment is simply inadequate to suggest that risks exist which justify additional regulations. This is particularly true if the cost of Options 2 or 3 are taken into account.

2. CMA has serious concerns that the public was not provided with adequate information about the Phase IV risk assessment in a timely enough fashion to enable comments.

It is axiomatic that the basis for the Agency's policy determinations must be made available for review as part of notice and comment rulemaking. Unfortunately, many of the Agency's background documents were either not available to the public, or not available in the docket. None of the facilities' of the original data set were identified by the Agency, which claimed that it was confidential business information. Therefore, industry is unable to make specific comments on this data, or provide the Agency with current information about these facilities. Much of the information which pertained to the risk assessment (such as Subpart CC risk assessment documents, and calculation spreadsheets used in the screening risk assessment) were not available in the Phase IV docket, and significant resources and time were required to track down the information from Agency personnel. This barrier to public participation in the notice and comment process is a significant impediment to the public's right to comment on the Agency's proposal.

In addition, we believe that the Agency's current risk assessment is so flawed that the Agency should not go forward with the final rule (unless they select Option 1) until they revise the risk assessment and, once again, subject it to notice and comment.

Without an adequate risk assessment, the Agency cannot demonstrate the basis for this rule and any revision to the risk assessment based on comments/data received should be subject to notice and comment.

#### **RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the

wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

Since the Agency is not finalizing any of the options addressing equivalency of treatment in wastewater treatment systems regulated under the Clean Water Act, the commenter's dispute with the validity of the Agency's risk analysis related to facilities managing decharacterized wastes containing hazardous constituents above UTS in CWA treatment systems is moot.

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COMMENTS Chemical Manufacturers Association  
RESPONDER SS  
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COMMENT

**V. EPA Should Adopt A Sensible Time Sequence For Its Phase III and Phase IV Rulemakings**

EPA has proposed, or will soon propose, a number of separate RCRA hazardous waste regulations that are closely interrelated: the Phase III and Phase IV LDR rules, the HWIR process waste rulemaking and a supplemental rule relating to the point of generation for hazardous wastes. CMA believes that because of the significant risks of confusion, conflict, and wasted expenses, EPA should not finalize the Phase III or IV regulations until after it has clarified the point of generation and finalized HWIR. CMA further urges EPA to issue the Phase III and IV rules with a common effective date.

In Phase III, EPA proposed that the facilities managing formerly characteristic hazardous wastes, must meet LDR treatment standards at the end-of-pipe. As part of that rulemaking, EPA asked for comments relating to the where prohibited wastes are generated. Because of industry's long-standing practice of aggregating wastewaters for centralized treatment, this a critical issue for determining the applicability of EPA's Phase III requirements and will have a major effect on compliance strategies. Because of the importance of this issue, EPA announced that it would seek additional comments on it. In Phase IV, EPA is considering whether to impose additional requirements on the same surface impoundments addressed in Phase III, with respect to potential leaks, air emissions, and sludges. Again, the point of generation is a critical issue for determining which impoundments will be subject to the rule. In the HWIR rule, EPA will establish risk-based concentration levels for many hazardous constituents, below which wastes will no longer be considered to be hazardous wastes, and thus will not be subject to further Subtitle C regulation, including the LDRs. The HWIR rule could thus delimit the number of impoundments that are subject to the land disposal restrictions under Phase III and IV.

CMA believes that if these rules are not finalized in the appropriate order, the resulting disruption of the regulated community will be severe, as well as unnecessary. As explained in detail below, the HWIR rule could make significant changes in

the LDR program, rendering worthless the substantial capital expenditures that will be necessary to comply with Phase III and IV regulations. Similar wastes of resources will result if EPA makes the Phase III rule effective earlier than the Phase IV rule, because the choices EPA makes in the final Phase IV rule will often determine the most cost-effective way to comply with the LDR requirements. Finally, EPA should not ask facilities to address compliance with either the Phase III or IV rule without finalizing the point where the land disposal restrictions attach.

It is also difficult, if not impossible, for CMA to comment on the specifics of Option 3 without proposed regulatory language.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation..

Although the Agency cannot predict exactly how the constituent-specific exit levels for certain low-risk solid wastes in the HWIR final rule will compare with the UTS levels, the Agency did consider available risk information when making decisions regarding final treatment standards in the technology-based LDR program. During the development of final treatment standards, the Agency examined whether the UTS for some metals may be far more stringent than any reasonable minimize threat level. The initial reasoning was that if the Agency found evidence that the final HWIR minimize threat level was likely to be much higher than the proposed UTS for any toxic characteristic wastestream, EPA would consider whether to raise the proposed treatment standard prior to finalizing the Phase IV rule. EPA examined the proposed HWIR exit



levels for the toxic metal wastes including in the Phase IV rulemaking. When EPA compared the proposed HWIR exit levels to the UTS for each metal constituent, the Agency found that the BDAT level was, in most cases, within an order of magnitude of the proposed HWIR exit level. There were significant differences between the proposed HWIR exit level and UTS for two metals, \_\_\_\_\_ and \_\_\_\_\_. As discussed in section \_\_\_\_\_ of the preamble to the Phase IV final rule,.....[need to complete once preamble language is written]

In light of the differences in timing between the HWIR and the Phase IV final rule, there is too much uncertainty about what the final HWIR levels will be to incorporate those levels into the UTS for any constituents. Section 3004(m) of RCRA requires that the Agency promulgate treatment standards that specify levels or methods of treatment that "substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized." The proposed HWIR levels have not yet been established as "minimize threat" levels.

The Agency discussed possible changes that could be made to the "point of generation," or the point at which LDR requirements attach to a hazardous waste in the proposed LDR Phase III rulemaking (see 60 FR 11717, March 2, 1995). The Agency is still considering the options discussed in that proposal and potentially other options not discussed. The Agency will reopen the point of generation issue for further comment, and is intending to finalize an option in a future rulemaking.

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b) The Phase IV regulations should only apply to Subtitle D wastewater surface impoundments receiving decharacterized wastewater. (Item #2)

Both Subtitle C and D wastewater surface impoundments may receive decharacterized wastewaters. However, only Subtitle D surface impoundments should be impacted by the Phase IV regulations. This is consistent with the Chem Waste court ruling which was directed towards Subtitle D surface impoundments and not to Subtitle C surface impoundments. This applicability difference between Subtitle C and D wastewater surface impoundments is acknowledged in Section I.c. of the preamble:

"Today's options to address surface impoundment releases specifically apply to Subtitle D(nonhazardous) surface impoundments that receive decharacterized wastes." 60 Fed. 43,657/2.

Therefore, EPA should specifically state in the regulations that only Subtitle D wastewater surface impoundments are covered by Phase IV regulations.

c) The phrase "and other nonhazardous waste surface impoundments" should be either subject to notice and comment rulemaking or removed. (Item #3).

CMA is confused as to the meaning of "and other nonhazardous waste surface impoundments." The Chem Waste court ruling only addressed CWA treatment systems. The phrase "and other nonhazardous waste surface impoundments," or any similar phrase, is not used in the Chem Waste decision or the associated regulation. Thus, EPA should either define The phrase "and other nonhazardous waste surface impoundments" in a Federal Register notice prior to promulgation of any Phase IV regulations so that comments can be submitted from the impacted community, or delete it.

#### RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity,

reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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COMMENTER Chemical Manufacturers Association

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I) CMA could improve their pollution prevention option. (Item #9)  
CMA believes that pollution prevention could be an alternative to the usual LDR treatment requirements, but only if the Agency allows its use, and does not mandate it. Since pollution prevention can be a prohibition on generation of a type of waste, it can never qualify as a treatment standard for wastes that are generated. Pollution prevention, however, could be used as an alternative that allows a facility to designate a source reduction project for a particular constituent and then use that reduction as an offset against treatment of another wastestream that is less effective than BDAT.

Wastewater collection and treatment systems are complex in their nature, as the Agency is aware. The source wastewaters vary from potentially more concentrated wastes from columns and other unit operations to very dilute wastewaters from utilities such as cooling tower blowdown. The Agency has proposed to allow as excluded systems those for which source wastewaters can be identified and pretreated to an equivalent mass removal as would be achieved by treating the combined waste to UTS levels. While CMA agrees that there may be wastewater systems which can avail themselves of this option as crafted, it is too narrowly crafted to be of use to many member company facilities, respectively. However, removal efficiency achievable by steam stripping, the required MACT-based technology under the HON, is 95 and 96, respectively. Thus, the recovery efficiencies are not achievable by traditional wastewater technologies (such as steam stripping) and would require use of destruction technologies (chemical or thermal) which preclude recovery of these organics (which is the focus of the Agency's push for pollution prevention).

In order to encourage pollution prevention in all instances where a small and concentrated enough stream can be identified, CMA requests that the Agency consider a broader allowance. Where the configuration of a given wastewater system is such that an operator can show that insufficient streams are identifiable to meet the target and can demonstrate that to the regulatory authority (State or Regional), CMA believes that the

facility should also be excluded from the requirements of the Phase IV regulations related to leaks, sludges and air emissions. For facilities

to be eligible for this exclusion, CMA believes it is appropriate that EPA require that the facility actually pretreat all streams feeding the wastewater system which have recoverable materials in them.

Therefore, the Agency should adopt a requirement under the pollution prevention option that organics be removed from streams by traditional wastewater technologies (or alternative technologies which the generator can demonstrate are appropriate for the stream) where it is reasonable to do so, but should not impose a concentration limit on such streams.

#### RESPONSE:

Allowing a facility to designate a source reduction project for a particular constituent and then use any reduction in the quantity of that waste generated to offset required treatment of another wastestream to a level that is less effective than BDAT may not necessarily reduce the overall risk to human health and the environment, and could, in fact result in a greater risk than if both waste streams were generated and treated to BDAT standards. The Agency is not proposing or finalizing such a pollution prevention tradeoff at this time.

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



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D. CMA concurs that no disproportionate risk will be imposed on any community as a result of the Phase IV rule.

CMA supports the goals of the Agency in ensuring that no segment of the population bears disproportionate risk, and to enhance environmental quality for all residents of the U.S. CMA does not believe that the Agency has demonstrated that any significant risks to human health and the environment are currently posed by non-hazardous impoundments handling decharacterized wastewaters.

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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### 3. RCRA Does Not Give EPA Jurisdiction To Impose Subtitle C Technical Requirements On Subtitle D Units.

It would run contrary to Congress' clear intentions in structuring Subtitles C and D for EPA to impose technical requirements on Subtitle D units under Subtitle C authority. While Congress intended for EPA to regulate hazardous waste management under Subtitle C, it made it clear that Subtitle D regulations were to be primarily a responsibility of the states. Although the Chem Waste decision indicated that EPA has authority to set numerical LDR treatment standards for characteristic wastes below the characteristic level, it did not state that EPA has jurisdiction to impose technical requirements on Subtitle D units that are not managing hazardous wastes. In fact, as we demonstrate above, the Court specifically authorized such subtitle D units to accept these formerly characteristic wastes stating that such accommodation was consistent with both RCRA and the CWA.

The contemplated Option 2 requirements, addressing air emissions, sludges, and leaks from CWA wastewater treatment units, would be neither prohibitions from land disposal under §§ 3004(d) through (g), nor treatment standards pursuant to § 3004(m). The technical surface impoundment requirements in Option 2 are clearly not "prohibitions," because the hazardous wastes involved are already prohibited from land disposal. 40 C.F.R. §§ 268.35, 268.37. Furthermore, the proposed Option 2 requirements cannot be treatment standards, because they are neither "levels" nor "methods" of treatment as set out in § 3004(m) of RCRA. EPA lists treatment standards that are numerical levels in 40 C.F.R. §§ 268.41 and 268.43, and lists methods in 40 C.F.R. § 268.42.

Because the Option 2 requirements would not be prohibitions or treatment standards, they are not LDR provisions, and EPA's authority to impose them must come from elsewhere in RCRA. However, there is no authority for the requirements elsewhere in RCRA, because they would regulate Subtitle D units that do not receive any hazardous wastes. The Court's decision in Chem Waste allowed EPA to impose certain continuing requirements on wastes that were no longer hazardous wastes (i.e., imposing BDAT levels below the characteristic level) but only because of the special nature of the LDR program. Apart from the LDR program, the court noted that EPA is limited to the regulation of hazardous wastes under Subtitle C. *Id.*, at 20 and 24. In *American Mining Congress v. EPA*, 824 F.2d 1177 (D.C. Cir. 1987), the court rebuffed EPA's attempt to expand its Subtitle C jurisdiction by broadening its regulatory definition of "solid waste." The court stated:



RCRA includes two major parts: one deals with non-hazardous solid waste management and the other with hazardous waste management. Under the latter, EPA is directed to promulgate regulations establishing a comprehensive management system. [ 142 U.S.C. § 6921] EPA's authority, however, extends only to the regulation of "hazardous waste." 824 F.2d at 1179.

The court went on to say that "[the] very care evidenced by Congress in defining RCRA's scope certainly suggests that Congress was concerned about delineating and thus cabining EPA's jurisdictional reach." 824 F.2d at 1189. See also *American Mining Congress v. United States Environmental Protection Agency*, 907 F.2d 1179, 1185 (D.C. Cir. 1990).

The surface impoundments being considered in the Phase IV rule are Subtitle D units that are part of CWA or CWA-equivalent systems. They do not accept hazardous wastes. EPA thus has no authority to regulate them under Subtitle C of RCRA.

Finally, even if there were jurisdiction in some part of RCRA other than the LDR provisions for the Option 2 requirements, the standard for imposing such requirements is that they must be "necessary to protect human health and the environment." RCRA §§ 3002(a), 3004(a). EPA has made it quite clear that it does not consider the Phase IV rules to be necessary indeed, it does not even consider the Phase III rules to be necessary. The Agency has reinforced this policy determination many times in statements to proposed rules or before Congress. See Sections I and II of these comments. Although the D.C. Circuit rejected EPA's legal construction in the Third-third rule, the court did not disturb EPA's finding, in the "third-third" rule, that further regulation of decharacterized wastes placed in CWA systems was unnecessary as a matter of policy and environmental protection. See e.g., 55 Fed. Reg. 22,651-22,652 and 22,656-22,659 (June 1, 1990).

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to

determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

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COMMENTS Occidental Chemical Co.  
RESPONDER PMC  
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Occidental Chemical Company (OxyChem) is a diversified manufacturer of industrial and specialty chemicals. Twelve (12) of our manufacturing locations utilize thirty-five (35) non-hazardous impoundments, primarily to manage wastewater. Seventeen of these impoundments may be affected by the proposed Phase IV (and Phase III) RCRA Land Disposal rules. Therefore, our facilities will be directly impacted by this rule and comments are being offered for the record.

OxyChem supports comments submitted for the record by the Chemical Manufacturers Association, as well as the American Industrial Health Council (AIHC).

#### I. Summary

OxyChem urges EPA to adopt Option 1 because of the relatively low risk to the environment from non-hazardous wastewater impoundments. Any potential risk from non-hazardous wastewater impoundments can be addressed by existing state and EPA programs. OxyChem agrees with EPA that Option 3 would be disruptive to existing wastewater treatment systems, with minimal environmental benefits.

If Option 2 is selected, it should be modified to be less prescriptive and allow state air and groundwater programs to minimize any environmental risks rather than create an overly restrictive federal rule. This modified Option 2 requires time allowances of up to four years for major replacement projects where needed to comply with Phase III and IV rules.

Our comments are categorized by the seven basic objectives which EPA set for the rulemaking.

#### II. Focus on Significant Risks from Permanent Disposal

A. Potential risks from non-hazardous impoundments can be more effectively addressed through the CAA, CWA and state groundwater protection programs.

OxyChem agrees with EPA statements that higher risk activities should supersede this rulemaking. Therefore, Option 1 should be selected. If gaps exist in current state programs, they should be identified and addressed through the current regulatory structure after prioritization by risk.

B. Risk estimates for non-hazardous impoundments are overstated.

OxyChem supports CMA's evaluation which states that risks to groundwater and to ambient air may be significantly overstated. Therefore, Option 1 should be sufficient.

E. A mechanism must be provided to continue to use impoundments after constituents are detected in groundwater, if warranted by site-specific factors.

If the Agency selects Option 2, OxyChem supports a self-implementing groundwater protection program. However, a mechanism similar to 258.55(I) is necessary to allow use of risk assessments where the self-implementing process is inadequate. For example, a constituent detected in the groundwater may not have originated from the impoundment being monitored.

E. EPA should clarify that these rules do not apply to ditch and trench conveyance systems which do not function as disposal or treatment units.

If there are concerns with these conveyance systems, the Agency should address them in a separate rulemaking.

### III. Avoid Duplication with other EPA Requirements

A. Existing CAA and CWA programs will yield more environmental protection in a more cost effective and less confusing manner.

Cross-media transfers are possible to air, surface water or groundwater. However, the proposed Option 2 creates a fragmented and confusing system. Existing CAA, CWA and state groundwater programs incorporating EPA subtitle D guidance are the more effective authorities to address these issues. It is impossible to prevent releases of every molecule of hazardous constituents. Duplication and confusion with overlapping provisions of existing and forthcoming CAA rules and state groundwater protection rules will be created if EPA promulgates Option 2.

B. Exemptions should be granted on the basis of CAA standard applicability and not on equivalence to Subpart CC rules, if Option 2 is selected.

The wastewater generated at our facilities, which could be point-of-generation hazardous wastewater with greater than 100 ppm VOC's, is or will be subject to one or more EPA air regulations, including NESHAP/MACT (Part 61/Part 63) or NSPS (Part 60) air emission standards and their associated control requirements. If EPA air regulation development concludes emissions from wastewater are insignificant, no further action should be required under RCRA.

C. Subpart CC rules proposed under Option 2 provide a confusing overlap with other above-mentioned air rules.

Analytical Method 25 picks up a variety of compounds which may not be volatile underlying hazardous constituents (UHC s) addressed by this rule. If Option 2 is selected, air concerns should be limited to volatile UHC s as measured by any approved analytical method, rather than just Method 25.

D. OxyChem applauds the deferral under Option 2 to states where groundwater programs are "substantially similar."

However, if this option is selected, EPA should include a list of states that are similar, those that are substantially similar but need a few modifications, and those

that are not currently similar. The criteria for judging similarity should not be the MSWLF (Part 258) rules. The criteria should include program elements which can be used to protect groundwater and be flexible enough to allow for different state approaches, as long as groundwater is adequately protected.

E. A deferral should be provided for non-hazardous surface impoundments located at a permitted TSDF and/or subject to RCRA Corrective Action.

One-third of our affected facilities will avoid duplicative requirements if this exemption is offered under Option 2.

C. Groundwater protection procedures should be in the form of guidance to the states.

Groundwater sampling, analytical requirements and statistical requirements should not mirror Subtitle C or Part 258 rules.

Maximum flexibility would be provided by incorporating options into a guidance document for use by state regulators and the regulated public.

#### V. Recognize Valuable Treatment in Impoundments

A. OxyChem disagrees with statements that primary impoundments provide only incidental treatment.

Carefully designed primary treatment units often provide greater than 50% TSS, BOD and hazardous substance removal, as well as valuable equalization of intermittent waste streams, flow, temperature and pH.

B. Biological impoundments should be exempt from several of the Option 2 groundwater requirements.

Biological impoundments pose a minimal threat to groundwater and should be exempt from monitoring requirements. In addition, post-biological impoundments should also be exempt from air emission controls.

C. Impoundments that are used for containing wet

weather flows should be exempted under Option 2.

This is particularly true in southern states where tank-based wastewater treatment systems often have impoundments to contain diluted process and stormwater generated periodically during high rainfall events. These impoundments often are used to protect tank-based systems from hydraulic surges and prevent weather related effluent excursions.

D. A waiver of remediation should be allowed if warranted by site-specific factors.

If Option 2 is selected, a provision allowing for a waiver of remediation, similar to that provided in the MSWLF rules, Part 258.57, should be incorporated. Provisions should be made to allow continued use of an impoundment if no threat exists to the environment and if the discharge to the impoundment is modified. This would allow consideration of site-specific factors.

#### VI. Protect Human Health and Environment

A. It may be unfeasible or unnecessary to remediate all leaks. OxyChem does not agree with EPA logic under Option 2 that, if an underlying hazardous constituent is leaked, it is illegally disposed of waste that must be retrieved and properly managed. In some situations, there may be no significant threat to the environment, especially for compounds where no drinking water MCL exists or where an active remediation program already exists.

C. Using drinking water standards to trigger monitoring is reasonable.

Setting the trigger level for monitoring well installation under Option 2 based multipliers of drinking water MCLs or state groundwater protection standards seems reasonable. Again, however, if technology based UHCs are used, it should not be assumed they are groundwater protection standards.

#### VI. Minimize Implementation Burden

A. If Option 2 is selected, the Phase III and IV rules should be merged into one rule, with one schedule of compliance.

EPA stated that public comments on the Phase III rulemaking were not reviewed by the time this rule was proposed. Final decisions on upgrading or replacement must consider impact of both Phase III and IV rules.

D. OxyChem favors the self-implementing nature of Option 2 regarding groundwater protection, but flexibility must be added. This closely parallels elements of the CMA Responsible Care Program. However, wholesale adoption of MSWLF Part 258 rules is not

warranted. They are too proscriptive, overly detailed, and do not address inadequacies in the Subtitle C groundwater program. Because of the detailed nature of Part 258, the majority of self-implemented programs will require agency involvement. Guidance for groundwater protection programs should be developed for states. If a state program does not meet all elements of the guidance, a site should be able to demonstrate how it can accomplish the overall objective if one or more elements from EPA's program are missing from the state program. Sites with existing state- or EPA- approved groundwater monitoring programs should not have to repeat an adequacy demonstration.

E. Other mechanisms for detecting releases to groundwater should be allowed under Option 2, especially for existing impoundments. For example, vadose zone monitoring or leachate collection system monitoring should be allowed in place of groundwater monitoring if no leaks are detected.

G. The applicability scope of the rule should be clarified. This includes stating that both Phase III and Phase IV rules do not apply to non-hazardous sludges generated from tank-based wastewater treatment systems to prevent future confusion.

#### VIII. Create Incentives for Alternative Controls

A. Controlling emissions at impoundments is impractical. If Option 2 is selected with Subpart CC air controls, point-of-generation recycle or pretreatment options must be done because covering impoundments and adding air controls to the covers will rarely be feasible.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe

#### Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.



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COMMENTS Occidental Chemical Co.

RESPONDER SS

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B. A mechanism should be provided to allow use of site-specific factors in determining site groundwater protection levels.

Use of technology-based universal treatment standards (UTS) as default groundwater protection standards may not always be appropriate. Additionally, we agree it may not be reasonable to clean up to below background levels. In some cases, it may not be feasible to clean up to background levels. Clean up to background or UTS levels should not always be required if hazardous wastestream constituents are reduced in the discharge to the impoundment and no significant threat to groundwater exists.

RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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D. The main focus of groundwater remediation should be to prevent offsite releases.

OxyChem agrees with EPA in that, under Option 2, in some industrial settings, the point of compliance may be the property line.

RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

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B. OxyChem supports broadening of the pollution prevention compliance alternative.

However, it should be constructed as broadly as possible. The option of pursuing equivalent air, water or groundwater reductions of constituents from sources other than the point of generation can be highly effective and environmentally protective.

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

Since the Agency is not finalizing any of the options addressing equivalency of treatment in wastewater treatment systems regulated under the Clean Water Act, the commenter's suggestions regarding the broadening of the pollution prevention compliance alternative are no longer relevant.

DCN PH4P116  
COMMENTS Occidental Chemical Co.  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 116  
COMMENT

D. The proposed wastewater standards for volatiles should be reevaluated to account for efficiencies of treatment technology applicable to wastewater.

As indicated in our comments on Phase III, differences in available treatment technologies must be considered for organic and inorganic chemical production facilities. For example, biological treatment was used as the basis for the chloroform standard of 0.046 mg/l. As indicated in the OCPSF Effluent Guidelines (40 CFR 414), direct dischargers (e.g., chlor/alkali facilities) that do not (and could not because of low organic content) use end-of-pipe biological treatment are subject to different standards, based on different treatment technology. Inorganic chemical facilities would consider the use of stripping technology for their wastewater, particularly for waste streams with a series of organics. The proposed chloroform standard of 0.046 mg/l may not be consistently achievable. In fact, 40 CFR 414.101 specifies a chloroform limit of 0.325 mg/l to account for these performance variations.

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to

determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P116  
COMMENTS Occidental Chemical Co.  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 116  
COMMENT

B. Final regulatory language needs to be issued for public comment.

This is not a proposed rule but a discussion of possible approaches. Therefore, review of the final rules should be allowed, unless the final rule is issued as guidance only.

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

Since the Agency is not finalizing any of the options addressing equivalency of treatment in wastewater treatment systems regulated under the Clean Water Act, the commenter's concerns regarding publication of regulatory language for notice and comment is moot.

DCN PH4P116  
COMMENTS Occidental Chemical Co.  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM 116  
COMMENT

B. OxyChem supports broadening of the pollution prevention compliance alternative.

However, it should be constructed as broadly as possible. The option of pursuing equivalent air, water or groundwater reductions of constituents from sources other than the point of generation can be highly effective and environmentally protective.

**RESPONSE:**

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

Since the Agency is not finalizing any of the options addressing equivalency of treatment in wastewater treatment systems regulated under the Clean Water Act, the commenter's suggestions regarding the broadening of the pollution prevention compliance alternative are no longer relevant.

DCN PH4PL02  
COMMENTS Distilled Spirits Council  
RESPONDER SS  
SUBJECT EQUV  
SUBJNUM L02  
COMMENT

Occasionally, distilled spirits products may need to be disposed of due to organoleptic concerns, mislabeling, discontinuation of a product line, or excessive age. In each instance, the discarded product still is potable. Further, ethanol is totally miscible in water and disperses rapidly; therefore, dilution prior to introduction into a surface impoundment fully satisfies the deactivation standard set forth in Table 1 of 40 C.F.R. § 268.42. Ethanol, diluted, rapidly biodegrades to carbon dioxide and water once placed in an impoundment. Thus, in light of the fact that distilled spirits contain no underlying hazardous constituents, deactivation of the hazardous characteristic through dilution is satisfactory as a exclusive method of treatment within the meaning and purpose of RCRA § 3004(m).

DISCUS agrees with EPA that the court in Chemical Waste Management v. EPA, 976 F.2d 2, cert. denied 113 S.Ct.1961 (1992), did not intend to require that LDR standards be met by treatment prior to impoundment for such waste. 60 Fed. Reg. at 43656. DISCUS therefore supports the first proposed option, which would rely upon the Phase III rule and other Agency programs to address potential cross-media releases from surface impoundments.

Pursuant to this option, ignitable wastes that have been deactivated through dilution to eliminate the hazardous characteristic may be placed in surface impoundments without further treatment unless they contain underlying hazardous constituents in sufficient concentrations to pose a threat to human health or the environment. While DISCUS favors this option, we also request a clearer statement in



both the Phase III and Phase IV rules to the effect that if a hazardous waste has been deactivated so that no hazardous characteristic remains and the waste contains no underlying hazardous constituents (or contains constituents in concentrations below the threshold in the Universal Treatment Standard), then dilution is acceptable as an exclusive method of treatment.

#### RESPONSE

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

There is one caveat. Characteristic hazardous wastes that are managed in CWA or CWA-equivalent systems, and for which EPA has promulgated a method of treatment as the treatment standard (e.g., high TOC ignitable wastes for which the treatment standard is recovery of organics) remain prohibited unless treated pursuant by the promulgated method.



DCN PH4P013  
COMMENTS New York DEC  
RESPONDER SS  
SUBJECT F039  
SUBJNUM 013  
COMMENT

DEC also agrees with EPA's proposed simplification of the treatment standard for waste F039. There is no need to separate the treatment standards for F039 in the table under 40CFR 268.40.

**RESPONSE:**

The Agency appreciates the commenter's stated support for the proposed change to the F039 treatment standard. However, the Agency has decided to maintain the existing F039 treatment standard (as promulgated under the LDR Phase III rulemaking), rather than change it as proposed. The Agency's intent in proposing the change to the F039 treatment standard was to simplify the LDR regulations. EPA did not intend to broaden the scope of the treatment standards for F039. However, the change to the F039 treatment standard, as proposed, would have resulted in both a simplification of the regulatory language (e.g., eliminating the need for a separate list of constituents for F039) and a broadening of the scope of the standards (e.g., increasing the number of constituents applicable to F039). Although the Agency could continue to reference the list of constituents and the applicable UTS provided in §268.48 for F039 and expand the proposed list of exempt constituents for F039, the result would be to complicate, rather than simplify the regulatory language. Therefore, EPA is maintaining the existing treatment standards for F039, as listed at 40 CFR 268.40.

DCN PH4P031

COMMENTS Department of Energy

RESPONDER SS

SUBJECT F039

SUBJNUM 031

COMMENT

III.B. Simplification of Treatment Standard for Waste Code F039

1. p. 43679, col. 1-- EPA proposes that the LDR treatment standard for F039 be changed from specific concentrations for a list of hazardous constituents to the Universal Treatment Standards in §268.48, with the exception of fluoride, vanadium and zinc.

a. DOE requests that EPA clarify the exclusion of concentrations for fluoride, vanadium and zinc from the LDR treatment standards for F039 wastes. The reasoning for this is unclear. The existing LDR treatment standards for F039 include concentration limits for fluoride and vanadium, but not zinc (see existing 40 CFR §268.40, Table -Treatment Standards for Hazardous Waste). The existing UTS (§268.48 Table UTS - Universal Treatment Standards) include concentration limits for all three constituents. If EPA is excluding these three constituents from the LDR treatment standards applicable to F039 because they are excluded from the definition of "underlying hazardous constituents," DOE is confused as to the connection and requests that EPA address this issue in the preamble to the final rule.

b. EPA appears to be broadening the scope of the F039 treatment standard by referencing the UTS Table because there are eight organic constituents on the UTS table that are not now covered by the F039 treatment standard. These constituents are Acrylamide, Benzal chloride, p-Chloro-m-cresol, p-Dimethylaminoazo-benzene, o-Nitroaniline, o-Nitrophenol, Pentachloroethane, and Phthalic acid. These eight organic constituents should also be designated as exceptions from the UTS that constitute the F039 treatment standard. This should be done either in the columns of the table in §268.40, "Treatment Standards for Hazardous Wastes," labeled "Wastewaters" and "Nonwastewaters," or in a footnote the table.

c. DOE provides the following comments on the proposed regulatory language implementing this section of the preamble.  
(1) p. 43697, 40 CFR 268.40, Table - Treatment Standards for Hazardous Wastes --EPA proposes that the LDR treatment standards

given on this table for F039 wastes be changed, for both wastewater and nonwastewater forms, from a list of individual chemical constituent concentrations to the Universal Treatment Standards in §268.48, with the exceptions of vanadium and zinc.

(a) DOE notes that the proposed regulatory language for the Table (i.e., proposed 40CFR 268.40, Table - Treatment Standards for Hazardous Wastes) differs from the preamble (60 FR 43654, 43679, col. 1) in that the preamble states that fluoride will be an exception to the UTS for this waste stream in addition to vanadium and zinc. DOE requests that EPA resolve the inconsistency between the preamble and the proposed regulatory language.

(b) In the proposed regulatory language for the Table (i.e., proposed 40 CFR 268.40, Table - Treatment Standards for Hazardous Wastes), the column labeled "Common Name" contains the following words for the F039 waste code: "Universal Treatment Standards in §268.48 apply, with the exceptions of fluoride, vanadium, and zinc." Such wording is inconsistent with the language proposed for the F039 columns labeled "Wastewaters" and "Nonwastewaters." Also, it appears that the words "multi-source leachate" might be more appropriate as the "Common Name" for the F039 waste code.

#### RESPONSE:

The Agency has decided to maintain the existing FO39 treatment standard (as promulgated under the LDR Phase III rulemaking), rather than change it as proposed. The Agency's intent in proposing the change to the FO39 treatment standard was to simplify the LDR regulations. EPA did not intend to broaden the scope of the treatment standards for FO39. However, the change to the FO39 treatment standard, as proposed, would have resulted in both a simplification of the regulatory language (e.g., eliminating the need for a separate list of constituents for FO39) and a broadening of the scope of the standards (e.g., increasing the number of constituents applicable to FO39). Although the Agency could continue to reference the list of constituents and the applicable UTS provided in §268.48 for FO39 and expand the proposed list of exempt constituents for FO39, the result would be to complicate, rather than simplify the regulatory language. Therefore, EPA is maintaining the existing treatment standards for FO39, as listed at 40 CFR 268.40.

The commenter is correct in pointing out the inconsistency in the proposed rule related to the exceptions to the applicable UTS for FO39. The Agency's intent was to exclude vanadium and zinc from the list of applicable UTS, due to their exclusion from the definition of underlying hazardous constituents. However, since the Agency is maintaining the existing treatment standard for FO39, the point is moot.

DCN PH4P048  
COMMENTS Chemical Waste Management  
RESPONDER SS  
SUBJECT F039  
SUBJNUM 048  
COMMENT

B. Simplification of Treatment Standard for Waste Code F039 (60 Fed. Reg. at 43,679)

Ostensibly, the Agency is proposing to simplify the treatment standard for multisource leachate (F039). The Agency states that with the promulgation of the UTS in the Phase II LDR rule (59 Fed. Reg. at 47982) there is no longer a need for the separate list of constituents for F039 which currently appears in 268.40. The Agency is proposing that F039 meet the UTS for the constituents at 268.48, with the exception of fluoride, vanadium, and zinc.

While on its face this proposed change has the appearance of simplicity, CWM believes that the Agency has seriously understated the impact of converting F039 to UTS. The Agency's statement that there is no longer a need for a separate list of constituents implies that the two lists are the same, except for fluoride, vanadium, and zinc. This is not the case. CWM conducted a detailed review of 268.48 (UTS) and 268.40 (F039) which highlighted the following facts. First, EPA's proposal actually adds six new constituents (Acrylamide, Benzal Chloride, 2-Chloroethyl vinyl ether, o-Nitroaniline, Pentachloroethane, and Phthalic acid) that were not previously regulated in F039 waste and nonwastewater. Second, this proposed change adds twelve new constituents (Acetonitrile, Carbon disulfide, 2-Chloro-1,3-butadiene, Cyclohexanone, Diphenylnitrosamine, Methanol, N-Nitrosodimethylamine, Phthalic anhydride, tris(2,3-dibromopropyl) phosphate, Beryllium, Cyanides (Amenable), and Thallium) to the F039 nonwastewater treatment standards that are currently only regulated for F039 wastewater. Merely referencing that the Universal Treatment Standards in 268.48 apply to F039 in the 268 table does not simplify the issue. A list of these F039 standard changes is provided below:

**268.48 Constituents Currently Not Regulated Under F039**

CONSTITUENT	WASTEWATER BDAT	NONWASTEWATER BDAT
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Acrylamide	19	23
Benzal Chloride	0.055	6.0

2-Chloroethyl vinyl ether	0.062	NA
o-Nitroaniline	0.27	14
Pentachloroethane	0.055	6.0
Phthalic acid	0.055	28

# F039 Constituents Currently Only Regulated As Wastewaters

## CONSTITUENT CURRENT F039NWW BDAT New UTS NWW LEVEL

Acetonitrile	NA	1.8	
Carbon Disulfide	NA	43.8 TCLP	
2-chloro-1,3-butadiene	NA	.28	
Cyclohexanone	NA	.75 TCLP	
Diphenylnitrosamine	NA	13	Methanol
NA	.75 TCLP		
N-Nitrosodimethylamine	NA	2.3	Phthalic
anhydride	NA	28	
tris(2,3-dibromopropyl) phosphate	NA	0.10	
Beryllium	NA	0.014 TCLP	
Cyanides (Amenable)	NA	30	Thallium
NA	0.078 TCLP		

CWM does not support this proposed change. CWM believes that the Agency must provide specific discussion and analysis as to why it is necessary to add these compounds to the treatment standards for F039. The F039 BDAT standards are based on the actual analysis of leachate samples from TSDFs. CWM sees no advantage in adding random compounds just because they are found in 268.48. Tremendous resources were expended by the leachate task force companies in the development of F039 standards for the Third Third final rule (55 Fed. Reg. at 22520). These proposed changes would force costly recharacterization of multisource leachate at every on and off-site landfill in the country.

Further, if the Agency maintains this change to the F039 treatment standards CWM strongly objects to the addition of tris(2,3-dibromopropyl)phosphate to the list of NWW constituents as the proposed treatment standard is not analytically achievable. CWM has previously commented on the 0.01 ppm standard for this compound, and EPA has not taken to resolve this technical issue pursuant to these comments. A review of SW-846, Third Ed., proposed Update III, shows that the EPA has two methods that are suitable for the analysis of the compound. One uses gas chromatography (GC) and the other high performance liquid chromatography (HPLC); both with mass spectroscopic (MS)

detection systems.

Method 8270, using GC/MS, has an estimated quantitation limit (EQL) of 0.2 ppm for ground water (page 8270C-35 of proposed Update III). While no EQL is provided for tris(2,3-dibromopropyl) phosphate in solids, the EQL for a nonwastewater sample, like a treatment residual prior to land disposal, will be at least one to two orders of magnitude higher than the EQL for ground water. This suggests that the EQL for a solid sample will be approximately 10 ppm. The second approach, using UPLC/MS, is method 8321. This gives a detection limit of 33 ppm and an EQL range of 113 ppm to 172 ppm (page 8321A-35 of proposed Update III).

The above data, presented in EPA methods, clearly imply the regulated community will be expected to document achievement of treatment standards that are substantially lower than quantitation limits that can be attained in a laboratory. CWM strongly urges that the EPA refrain from including tris (2,3-dibromopropyl) phosphate in the NWW standards for F039.

If the Agency maintains this change to the F039 treatment standards as proposed, which CWM opposes, the Agency must amend the proposed language in 268.40 for F039 wastewaters and nonwastewaters. The proposed language needs to be amended to reflect that fluoride is an exception for both of these waste streams.

#### RESPONSE:

The Agency has decided to maintain the existing FO39 treatment standard (as promulgated under the LDR Phase III rulemaking), rather than change it as proposed. The Agency's intent in proposing the change to the FO39 treatment standard was to simplify the LDR regulations. EPA did not intend to broaden the scope of the treatment standards for FO39. However, as the commenter points out, the change to the FO39 treatment standard, as proposed, would have resulted in both a simplification of the regulatory language (e.g., eliminating the need for a separate list of constituents for FO39) and a broadening of the scope of the standards (e.g., increasing the number of constituents applicable to FO39). Although the Agency could continue to reference the list of constituents and the applicable UTS provided in §268.48 for FO39 and expand the proposed list of exempt constituents for FO39, the result would be to complicate, rather than simplify the regulatory language. Therefore, EPA is maintaining the existing treatment standards for FO39, as listed at 40 CFR 268.40.



DCN PH4P064  
COMMENTS DOW Chemical  
RESPONDER SS  
SUBJECT F039  
SUBJNUM 064  
COMMENT

EPA is proposing that F039 wastes meet all the UTS for the constituents at 268.48, with the exceptions of fluoride, vanadium, and zinc. This presents a problem as more constituents are added to the UTS list. For instance, the carbamate waste standards added many constituents that are unique to those wastes. By applying UTS to F039 wastes, we could be pressured by regional and state inspectors or permit writers to analyze for these materials. Currently, a generator can use knowledge of the waste to determine those constituents expected to be present in the F039 waste and only analyze for those compounds. This ability to analyze for appropriate compounds must be available should EPA choose to apply UTS to F039 wastes. Dow recommends that UTS not be applicable to F039 wastes, however, should EPA do so, the use of process knowledge should be expressly allowed to reduce the list of constituents required to be analyzed for F039 wastes.

RESPONSE:

The Agency has decided to maintain the existing FO39 treatment standard (as promulgated under the LDR Phase III rulemaking), rather than change it as proposed. The Agency's intent in proposing the change to the FO39 treatment standard was to simplify the LDR regulations. EPA did not intend to broaden the scope of the treatment standards for FO39. However, the change to the FO39 treatment standard, as proposed, would have resulted in both a simplification of the regulatory language (e.g., eliminating the need for a separate list of constituents for FO39) and a broadening of the scope of the standards (e.g., increasing the number of constituents applicable to FO39). Although the Agency could continue to reference the list of constituents and the applicable UTS provided in §268.48 for FO39 and expand the proposed list of exempt constituents for FO39, the result would be to complicate, rather than simplify the regulatory language. Therefore, EPA is maintaining the existing treatment standards for FO39, as listed at 40 CFR 268.40.

DCN PH4P089  
COMMENTS ASTSWMO  
RESPONDER SS  
SUBJECT F039  
SUBJNUM 089  
COMMENT

9. The proposed simplification of the treatment standards for waste F039 is appropriate as there is no need to separate the treatment standards for F039 in the table under 40 CFR 268.40.

**RESPONSE:**

The Agency appreciates the commenter's stated support for the proposed change to the FO39 treatment standard. However, the Agency has decided to maintain the existing FO39 treatment standard (as promulgated under the LDR Phase III rulemaking), rather than change it as proposed. The Agency's intent in proposing the change to the FO39 treatment standard was to simplify the LDR regulations. EPA did not intend to broaden the scope of the treatment standards for FO39. However, the change to the FO39 treatment standard, as proposed, would have resulted in both a simplification of the regulatory language (e.g., eliminating the need for a separate list of constituents for FO39) and a broadening of the scope of the standards (e.g., increasing the number of constituents applicable to FO39). Although the Agency could continue to reference the list of constituents and the applicable UTS provided in §268.48 for FO39 and expand the proposed list of exempt constituents for FO39, the result would be to complicate, rather than simplify the regulatory language. Therefore, EPA is maintaining the existing treatment standards for FO39, as listed at 40 CFR 268.40.

DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER SS  
SUBJECT F039  
SUBJNUM 097  
COMMENT

**Simplification of Treatment Standard for Waste Code F039 (60 CFR 43679)**

The Agency proposes to simplify the presentation of the treatment standard for multisource leachate (F039). The Agency states that with the promulgation of the UTS in the Phase II LDR rule (59 FR 47982) there is no longer a need for the separate list of constituents for F039 which currently appear in §268.40. Also, the Agency proposes that F039 meet all the UTS for the constituents in §268.48, with the exceptions of fluoride, vanadium, and zinc. The Agency has understated the impact of such a change in its preamble discussion. HWMA believes that the proposed change does not simplify the F039 treatment standard. EPA's proposal actually adds six new constituents (Acrylamide, Benzal Chloride, 2-Chloroethyl vinyl ether, o-Nitroaniline, Pentachloroethane, and Phthalic acid) that have never been regulated in F039 wastewater and nonwastewater. In addition, the proposal adds thirteen new constituents (Acetonitrile, Carbon Disulfide, 2-Chloro-1,3-butadiene, Cyclohexanone, Diphenylnitrosamine, Methanol, N-Nitrosodimethylamine, Phthalic anhydride, tris(2,3-dibromopropyl) phosphate, Beryllium, Cyanides (Amenable), Thallium, and Vanadium) to the F039 nonwastewater treatment standards that are currently only regulated for F039 wastewater. The Agency's statement that there is no longer a need for a separate list of constituents implies that the two lists are the same, except for fluoride, vanadium, and zinc. This is not the case and the Agency needs to reevaluate the impact of this proposed change. A detailed comparison of §268.48 and F039 standards listed in §268.40 reveals the true impact of this change whether intended or not. Simply referencing that Universal Treatment Standards in §268.48 apply to F039 in the §268.40 table does not simplify the issue. A list of these F039 standard changes is contained in the tables below.

HWMA does not support this proposed change and believes the Agency must provide specific discussion and analysis as to why it is now appropriate to add these compounds to the treatment standards for

F039 when it was originally determined that these constituents were not applicable to F039 when the standards were promulgated in the Third Third rulemaking (55 FR 22520). If the Agency maintains this change to the F039 treatment standards as proposed, it must amend the proposed language in §268.40 for F039 wastewaters and nonwastewaters. The proposed language needs to be amended to reflect that fluoride is an exception for both of these waste streams

268.48 Constituents Currently Not Regulated Under F039

CONSTITUENT    WASTEWATER BDAT    NONWASTEWATER BDAT

Acrylamide	19	23
Benzal Chloride	0.055	6.0
2-Chloroethyl vinyl ether	0.062	NA
o-Nitroaniline	0.27	14
Pentachloroethane	0.055	6.0
Phthalic acid	0.055	28

F039 Constituents Currently Only Regulated As Wastewaters

CONSTITUENT    CURRENT F039NWW BDAT    New UTS NWW LEVEL

Acetonitrile	NA	1.8	
Carbon Disulfide	NA	43.8 TCLP	
2-chloro-1,3-butadiene	NA	.28	
Cyclohexanone	NA	.75 TCLP	
Diphenylnitrosamine	NA	13	Methanol
	NA	.75 TCLP	
N-Nitrosodimethylamine	NA	2.3	Phthalic.
anhydride	NA	28	
tris(2,3-dibromopropyl) phosphate	NA	0.10	
Beryllium	NA	0.014 TCLP	
Cyanides (Amenable)	NA	30	Thallium
	NA	0.078 TCLP	

RESPONSE:

The Agency has decided to maintain the existing FO39 treatment standard (as promulgated under the LDR Phase III rulemaking), rather than change it as proposed. The Agency's intent in proposing the change to the FO39 treatment standard was to simplify the LDR regulations. EPA did not intend to broaden the scope of the treatment standards for FO39. However, as the commenter points out, the change to the FO39 treatment standard, as proposed, would have resulted in both a simplification of the regulatory language (e.g., eliminating the need for a separate list of constituents for FO39) and a broadening of the scope of the standards (e.g., increasing the number of constituents applicable to FO39). Although the Agency could continue

to reference the list of constituents and the applicable UTS provided in §268.48 for FO39 and expand the proposed list of exempt constituents for FO39, the result would be to complicate, rather than simplify the regulatory language. Therefore, EPA is maintaining the existing treatment standards for FO39, as listed at 40 CFR 268.40.



DCN PH4P008  
COMMENTS Florida DEP  
RESPONDER PMC  
SUBJECT MISC  
SUBJNUM 008  
COMMENT

Adopting ever more complicated rules is not going to make the CWA, CAA and RCRA interaction problem go away. Neither Option 1 nor Option 2 resolves the conflicts between the statutes. One problem with current CWA and RCRA regulations is that NPDES outfalls are not all on large rivers or streams. In several Florida locations, only a seasonal creek or dry ditch would remain if the discharge was eliminated. When does a discharge swale become a stream? Effluent toxics leach from surface waste waters to the ground water regardless of whether the disposal "unit" is a ditch, a creek, a constructed impoundment, or a small lake. It would be more sensible to adopt a realistic toxicity characteristic for wastewaters that included all hazardous constituents. The characteristic should be applicable to all waste waters, including POTW discharges. Failing that, EPA should combine this issue with the contaminated media issue and make the "wastewater" exit levels applicable to process wastewater mixed with listed or characteristic wastes. It would eliminate the need for section 261.3(a)(2)(iv). The risk analysis for waste water exit criteria would have to be based on a realistic exposure analysis. Children still play in contaminated ditches and streams.

It is not always easy to tell the difference between a land based and non land based storage or disposal unit. Are drip pads sloped to a sump for air craft stripping or electroplating operations ancillary equipment and part of a tank system? Or is the drip pad a land based storage unit? If the pad has numerous unsealed cracks and joints does it then become a land unit? If the a drip pad had a liner, leak detection and a containment wall that complies with 40 CFR 265 Subpart J, it would be more clearly ancillary equipment to a tank system? If a definition of land based waste water treatment unit is adopted, EPA should also clarify the definition of "tank system" pertaining to WWTUs as defined in 260.10. There are no tightness standards for NPDES pretreatment systems. Releases of hazardous constituents from leaking WWTUs have resulted in soil and ground water contamination from both solvents and heavy metals. One example is Honeywell in Clearwater, Florida. The facility has an

extensive trichloroethylene plume beneath one of the buildings from a hole between a sump collecting electroplating waste water discharges and the pipe conveying the waste water to the sewer.

(A vapor degreaser was located within the area drained by the plating room drip pad.) This solvent plume was not detected in the initial RCRA Facility Assessment or Investigation. It was only found when Honeywell dismantled the plating line. Plating facilities usually have duck boards on the floor of the room between the tanks, making it impossible to do regular inspections of the floor. The Honeywell release might never have been found or reported if the facility did not have a RCRA permit.

EPA does not know the scope of the contamination problem from WWTUs because in most cases the releases are not reportable under CERCLA. WWTUs develop slow leaks that do not release reportable quantities within 24 hours.

#### RESPONSE:

The issues raised by the commenters are beyond the scope of this rule. They arose in response to the part of the original Phase IV proposal concerned with equivalent treatment of decharacterized wastes. That part is moot, due to the Land Disposal Flexibility Act.



DCN PH4P008  
COMENTER Florida DEP  
RESPONDER PMC  
SUBJECT MISC  
SUBJNUM 008  
COMMENT

D001 RORGS Standard: This standard leaves a large loophole. Still bottoms that no longer exhibit a hazardous characteristic may still have substantial concentrations of underlying hazardous constituents. However further treatment is not required, as EPA considered the still bottom to be a newly generated waste and non-hazardous. The RORGS standards should also be amended to require process residuals from organ to recovery to meet the universal treatment standard prior to disposal, unless treated by CMBST.

#### RESPONSE

Reconsideration of the RORGS (recovery of organics) standard for D001 wastes is beyond the scope of the Phase IV rule. At this time, EPA believes the RORGS method of treatment is sufficient to ensure minimization of threats to human health and the environment.

DCN PH4P017  
COMENTER Kodak  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 017  
COMMENT

Kodak supports the Chemical Manufacturing Associations comments on this rule and incorporates them by reference.

**RESPONSE**

The Agency notes the commenter's support for the comments submitted by Chemical Manufacturers Association.

DCN PH4P034  
COMMENTS CMA UIC Task Force  
RESPONDER PMC  
SUBJECT MISC  
SUBJNUM 034  
COMMENT

Clarify that absent a change in the waste injected, facilities with approved no migration exemptions may add waste codes for newly-identified characteristic wastes as a nonsubstantive revision.

#### RESPONSE

The issue of revisions to no-migration petitions for UIC wells is beyond the scope of the Phase IV rule. The commenter may wish to contact the U.S.EPA Office of Water with his suggestion.

DCN PH4P024  
COMMENTS Union Camp  
RESPONDER PMC  
SUBJECT MISC  
SUBJNUM 024  
COMMENT

EPA says sampling and analysis of sludge "are not overly burdensome." Collecting representative samples is not only time consuming and expensive, but also places an employee in a dangerous location. Boats may be required for facilities not having platforms or other devices to get to selected sampling points. This would require at least two employees, one as backup to assist in the event of accident.

#### RESPONSE

The commenter's concern arises from the Phase IV proposal discussion of management of sludges from surface impoundments holding decharacterized wastewaters. In that proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic. On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P113  
COMMENTS Chemical Manufacturers Association  
RESPONDER PMC  
SUBJECT MISC  
SUBJNUM 113  
COMMENT

2. Additional comments regarding general applicability.

a) CMA requests that the Agency modify its process for adding constituents to the UTS listing to recognize the impact on previous waste determinations.

CMA is concerned that the Agency has proposed to expand the constituents list in the UTS to include the Carbamate constituents not already included on that list. CMA understands the Agency's rationale for doing this but is concerned that the financial burdens such moves impose have not been well defined by the Agency. In discussions with the Agency about the phase III proposal, Agency representatives have indicated that they recognize a burden is placed on generators when the UTS list is modified and have further indicated they are reluctant to make frequent additions to the list. CMA concurs that frequent additions to the list will be problematic for generators and treaters of wastes. Each time that a new constituent is added, a reassessment of all waste streams subject to UTS is required. See Attachment A: CMA Phase III Comments, p.55. CMA requests that EPA provide an assessment of economic impact on waste generators for all future changes that are made to the UTS list.

RESPONSE:

The Agency recognizes there are costs involved when it changes the set of Universal Treatment Standards (UTS). For this reason, and to keep from making the Land Disposal Restrictions program overly complicated, EPA makes only those changes it deems necessary.

DCN PH4P099  
COMMENTS Ohio EPA  
RESPONDER PMC  
SUBJECT MISC  
SUBJNUM 099  
COMMENT

We are unclear as to whether Publicly Owned Treatment Works (POTWs) are considered CWA or CWA equivalent treatment systems receiving decharacterized waste. Many POTWs in larger cities pretreat wastewater before entering the impoundment. However, some small towns which do not pretreat may be significantly affected. POTWs that potentially fall under this rule, if finalized, could carry a heavy financial burden. DHWM has reviewed the study of cost results done by U.S. EPA. No sufficient evidence was available in Ohio that showed the risks justify the proposed control measures. DHWM is concerned that the cost of the control measures will financially harm surface impoundment facilities with no environmental gain.

RESPONSE:

In the August 22, 1995 Phase IV proposal, EPA discussed three options for ensuring that underlying hazardous constituents in decharacterized wastes were not released to the environment via leaks, sludges, and air emissions from surface impoundments in systems regulated by the Clean Water Act or Safe Drinking Water Act (60 FR 43655). Decharacterized wastes are wastes which initially exhibited a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity when generated but are no longer characteristic). On March 16, 1996, the President signed the Land Disposal Program Flexibility Act of 1996, which provides that the wastes in question are no longer prohibited from land disposal once rendered nonhazardous. As a result, on April 8, 1996, EPA withdrew its treatment standards for these wastes (61 FR 15660). Today's Phase IV final rule will not promulgate provisions for managing leaks, sludges, and air emissions from surface impoundments (EPA proposed options on August 22, 1995 (60 FR 43655-43677)). Furthermore, the treatment standards for TC metal wastes in today's rule do not apply to TC metal wastes if the characteristic is removed and the wastes are subsequently treated in a unit that is regulated by the Clean Water Act or, for underground injection wells, the Safe Drinking Water Act.

However, the Land Disposal Flexibility Act does mandate EPA to undertake a 5-year study to determine any potential risks posed by cross-media transfer of hazardous constituents from these surface impoundments. The findings of this study, begun by the Agency in April, 1996, may result in proposed regulations for these units, if risks are in fact found that would warrant such regulation.

DCN PH4P015  
COMMENTS BP Oil  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 015  
COMMENT

BP Oil supports the comments being submitted by the American Petroleum Institute (API) and incorporates those comments by reference into these comments.

**RESPONSE:**

The Agency notes the commenter's support for the comments submitted by the American Petroleum Institute (API).

DCN PH4P018  
COMMENTS Mobil Oil  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 018  
COMMENT

Mobil wishes to formally support and hereby incorporate the  
comments of the American Petroleum Institute.

RESPONSE:

The Agency notes the commenter's support for the comments submitted by the American  
Petroleum Institute (API).



DCN PH4P028  
COMMENTS Texas Utilities Services  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 028  
COMMENT

Texas Utilities is also a member of the Utility Solid Waste  
Activities Group (USWAG), and support comments submitted by them  
under separate cover.

**RESPONSE:**

The Agency notes the commenter's support for the comments submitted by the Utility Solid  
Waste Activities Group (USWAG).

DCN PH4P033

COMMENTS CMA Carbon Disulfide Panel

RESPONDER SS

SUBJECT MISC

SUBJNUM 033

COMMENT

The Panel endorses and supports the comments on generic policy and technical issues separately submitted by CMA.

RESPONSE:

The Agency notes the commenter's support for the comments submitted by the CMA.

DCN PH4P037

COMMENTS Natural Gas Pipeline Comp

RESPONDER SS

SUBJECT MISC

SUBJNUM 037

COMMENT

The effective date of the land disposal restrictions for metals is November 20, 1995. This is unreasonable and must be extended to allow for future planing and treatment of wastes which are currently in the disposal process. At least a year should be provided to phase in these land disposal restrictions and treatability requirements.

**RESPONSE:**

The date cited by the commenter, November 20, 1995, was the final date of the public comment period published in the Phase IV proposed rule on August 22, 1995. The Agency has not yet finalized new land disposal restrictions for metal wastes. The Phase IV Second Supplemental proposal, published concurrently with this final rule, proposes revised treatment standards for metal wastes.

DCN PH4P042  
COMENTER Monsanto  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 042  
COMMENT

Monsanto Company has provided substantial support to the effort by the Chemical Manufacturers Association (CMA) to review and comment on this rule. These comments are being submitted separately by CMA. However, they are referenced here in their entirety and submitted by reference as the comments also of Monsanto Company. For that reason, our comments here will be brief.

**RESPONSE:**

The Agency notes the commenter's support for the comments submitted by the CMA.

DCN PH4P061  
COMMENTS BP Chemical  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 061  
COMMENT

BP Chemicals has also participated in the development of the comments submitted by Chemical Manufacturers Association (CMA) and hereby incorporates by reference those comments in their entirety.

RESPONSE:

The Agency notes the commenter's support for the comments submitted by the CMA.

DCN PH4P078  
COMMENTS Battery Council International  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 078  
COMMENT

**C. EPA Lawfully May Consider Economic and Policy Factors a Setting  
LDR Treatment standards**

The legislative history of RCRA Section 3004(m) indicates that Congress intended the Agency to take into consideration all of the foregoing factors, including economic impact, when developing treatment standards. For example, during consideration of S. 757 (later incorporated into H.R. 2867, the Hazardous and Solid Waste Amendments of 1984), Sen. Chafee offered a floor amendment to Section 3004(b)(7), which subsequently became Section 3004(m). The amendment (Amendment No. 3409) was intended to clarify the authority of the Administrator in establishing treatment standards applicable to land disposal practices. In explaining his amendment, Sen. Chafee stated that "{t}he requisite levels of methods of treatment established by the Agency should be the best that has been demonstrated to be achievable. This does not require a BAT-type process as under the Clean Air or Clean Water Acts which contemplates technology-forcing standards. The intent here is to require utilization of available technology in lieu of continued and disposal without prior treatment. it is not intended that every waste receive repetitive or ultimate levels of methods or treatment, nor must all inorganic constituents be reclaimed." 40

The significance of these directives is apparent when they are contrasted to the policies embodied in, for example, the Clean Air and Clean Water Acts. Those statutes expressly require development of standards based on best available technology (BAT) without consideration of economic factors. 41/ Here, Congress said such restrictions should not apply. It thus authorized the Agency to develop demonstrated technologies that were both technologically and economically achievable, and consistent with other policies. This conclusion is fully consistent with the Hazardous Waste Treatment Council decision. There, the D.C. Circuit specifically recognized that EPA's development of treatment standards under Section 3004(m) "lies within the informed discretion of the Agency as long as the result is that short-term and long-term threats to human health and the environment are minimized. 42 That discretion necessarily extends to evaluation of economic impacts and

balancing of other policy concerns.<sup>43</sup> EPA itself recognizes that "[t]he plain language of the statute [Section 3004(m)] does not compel the Agency to set treatment standards based exclusively on the capabilities of existing technology."<sup>44</sup>

**RESPONSE:** The Agency takes into consideration economic factors as much as possible in setting land disposal restrictions. However, it is the Agency's view that courts have required that treatment standards be based on what technology can achieve, to ensure that short-term and long-term threats posed by the waste are minimized. See Phase II LDR rule, 59 FR 47982, September 19, 1994. In any case, the Agency believes the commenter's concerns arise from the proposed imposition of treatment standards for decharacterized wastes, an issue which is made moot for the time being by the Land Disposal Flexibility Act.

DCN PH4P086  
COMMENTS American Gas Association  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 086  
COMMENT

The effective date of the land disposal restrictions for metals is November 20, 1995. This is unreasonable and must be extended to allow for future planning and treatment of wastes that are currently in the disposal process. At least a year should be provided to phase in these land disposal restrictions and treatability requirements.

RESPONSE:

The date cited by the commenter, November 20, 1995, was the final date of the public comment period published in the Phase IV proposed rule on August 22, 1995. The Agency has not yet finalized new land disposal restrictions for metal wastes. The Phase IV Second Supplemental proposal, published concurrently with this final rule, proposes revised treatment standards for metal wastes.



DCN PH4P092  
COMMENTS Union Carbide Corp.  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 092  
COMMENT

III. AUCC supports the proposed simplification for lab packs.

RESPONSE:

The Agency appreciates the commenter's stated support for the proposed simplification of the LDR requirements for lab packs.

DCN PH4P101  
COMMENTS Oregon DEQ  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 101  
COMMENT

The Oregon Department of Environmental Quality agrees with the November 20, 1995 comments submitted to the Environmental Protection Agency by the Hazardous Waste Policy & Evaluation Task Force of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO).

**RESPONSE:**

The Agency notes the commenter's support for comments submitted by the Hazardous Waste Policy & Evaluation Task Force of ASTSWMO.

DCN PH4P106  
COMENTER Pharmaceutical Research Manuf Assn  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 106  
COMMENT

PhRMA generally supports the comments submitted by the Chemical  
Manufacturers Association ("CMA") on the proposed Phase IV Land  
Disposal Restrictions.

RESPONSE:

The Agency notes the commenter's support for comments submitted by CMA.

DCN PH4P110  
COMMENTS AFS  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 110  
COMMENT

During the week of November 13, 1995, in preparation for filing comments on the U.S. Environmental Protection Agency's ("EPA's" or the Agency's") proposed Land Disposal restrictions Phase IV Rule ("LDR Phase IV"), we attempted on numerous occasions to obtain access to the rulemaking docket. Because of the government shutdown and/or the Agency's decision to relocate the docket, we were unsuccessful in our attempts to obtain an appointment to inspect the docket for information germane to our comments. See attached declaration of Peter G. McHugh.

Accordingly, we request an extension of seven days to the comment period in which to prepare and submit comments on behalf of the American Foundrymen's Society ("AFS"). Based upon a November 20, 1995 telephone conversation with Ms. Susan G. Slotnick, Workgroup Chair for LDR Phase IV, we understand the comment period has been extended to 4:00 p.m. on November 27, 1995. We intend to submit comments on behalf of AFS by that date. We expect these comments to be treated as if they were received on or before November 20, 1995.

Also, after careful review of the rule and as thorough a review of the record as possible (given the limited and inadequate access to the record), AFS believes the LDR Phase IV rulemaking record is incomplete. The defects in the record make it impossible for AFS to adequately comment on the proposed rule in the time granted by the Agency for public comment. Therefore, AFS reserves the right to supplement its comments in order to complete and correct the record.

#### RESPONSE:

The Agency apologizes for the unavoidable inconveniences presented by the government shutdown during the final days of the public comment period for the proposed rule. The Agency did extend the comment period until November 27, 1995. The commenter's comments were received within this timeframe. The Agency reviewed all comments submitted in response to the proposed rule during the Agency's deliberations for the development of the final rule.

DCN PH4P111  
COMMENTS SSINA  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 111  
COMMENT

During the week of November 13, 1995, in preparation for filing comments on the U.S. Environmental Protection Agency's ("EPA's" or "the Agency's") proposed Land Disposal restrictions Phase IV Rule ("LDR Phase IV"), we attempted on numerous occasions to obtain access to the rulemaking docket. Because of the government shutdown and/or the Agency's decision to relocate the docket, we were unsuccessful in our attempts to obtain an appointment to inspect the docket for information germane to our comments. See attached declaration of Peter G. McHugh.

Accordingly, we request an extension of seven days to the comment period in which to prepare and submit comments on behalf of the Specialty Steel Industry of North America ("SSINA"). Based on a November 20, 1995 telephone conversation with Ms. Susan G. Slotnick, Workgroup Chair for LDR Phase IV, we understand the comment period has been extended to 4:00 p.m. on November 27, 1995. We intend to submit comments on behalf of SSINA by that date. We expect these comments to be treated as if they were received on or before November 20, 1995.

Also, after careful review of the rule and as thorough a review of the record as possible (given the limited and inadequate access to the record), SSINA believes the LDR Phase IV rulemaking record is incomplete. The defects in the record make it impossible for SSINA to adequately comment on the proposed rule in the time granted by the Agency for public comment. Therefore, SSINA reserves the right to supplement its comments in order to complete and correct the record.

**RESPONSE:**

The Agency apologizes for the unavoidable inconveniences presented by the government shutdown during the final days of the public comment period for the proposed rule. The Agency did extend the comment period until November 27, 1995. The commenter's comments were received within this timeframe. The Agency reviewed all comments submitted in response to the proposed rule during the Agency's deliberations for the development of the final rule.

DCN PH4P112  
COMMENTS SMA  
RESPONDER SS  
SUBJECT MISC  
SUBJNUM 112

COMMENT During the week of November 13, 1995, in preparation for filing comments on the U.S. Environmental Protection Agency's ("EPA's" or "the Agency's") proposed Land Disposal Restrictions Phase IV Rule ("LDR Phase IV"), we attempted on numerous occasions to obtain access to the rulemaking docket. Because of the government shutdown and/or the Agency's decision to relocate the docket, we were unsuccessful in our attempts to obtain an appointment to inspect the docket for information germane to our comments. See attached declaration of Peter G. McHugh. Accordingly, we request an extension of seven days to the comment period in which to prepare and submit comments on behalf of the Steel Manufacturers Association ("SMA"). Based on a November 20, 1995 telephone conversation with Ms. Susan G. Slotnick, Workgroup Chair for LDR Phase IV, we understand the comment period has been extended to 4:00 p.m. on November 27, 1995. We intend to submit comments on behalf of SMA by that date. We expect these comments to be treated as if they were received on or before November 20, 1995. Also, after careful review of the rule and as thorough a review of the record as possible (given the limited and inadequate access to the record), SMA believes the LDR Phase IV rulemaking record is incomplete. The defects in the record make it impossible for SMA to adequately comment on the proposed rule in the time granted by the Agency for public comment. Therefore, SMA reserves the right to supplement its comments in order to complete and correct the record.

RESPONSE:

The Agency apologizes for the unavoidable inconveniences presented by the government shutdown during the final days of the public comment period for the proposed rule. The Agency did extend the comment period until November 27, 1995. The commenter's comments were received within this timeframe. The Agency reviewed all comments submitted in response to the proposed rule during the Agency's deliberations for the development of the final rule.

DCN PH4P113

COMMENTS Chemical Manufacturers Association

RESPONDER SS

SUBJECT MISC

SUBJNUM 113

COMMENT

**IV. IMPROVEMENTS TO THE EXISTING LDR PROGRAM**

**A. EPA SHOULD GRANT AN EXEMPTION FROM LDR REQUIREMENTS DURING UNINTENTIONAL RELEASES OF HAZARDOUS MATERIALS.**

CMA addresses here the issue of whether LDR requirements should apply to unintentional releases of listed and characteristic hazardous wastes. Despite best operating practices and engineering design, there will be times when unintentional non-de minimis spills and emergency releases will occur. Such discharges will trigger emergency responses that may require, for safety reasons, the discharge of hazardous (listed or characteristic) or decharacterized wastes into subtitle C or D surface impoundments. Currently 40 CFR 264.1(g)(8) and 265.1(c)(11) exempt the facility from Part 264/265 emergency response exemptions to eliminate the risk of a regulatory violation during the immediate response to a threatening situation, and thus, provide the facility with the maximum flexibility to address the situation.

CMA recommends that EPA amend 40 CFR 268.1 by adding the following section to subsection(e):

The following materials are not subject to any provisions of Part 268:

(6) Hazardous wastes that are unintentionally discharged, or materials which become hazardous waste after being unintentionally discharged, provided that upon detection, they are promptly treated or contained. After the immediate response is over, further containment, treatment, or disposal subsequent to that performed for emergency treatment or containment of such waste is subject to all applicable

**RESPONSE:**

The Agency is aware that unintentional non-de minimis spills and emergency releases occur, however it does not have the statutory flexibility to exempt non-deminimis releases from the LDR requirements. However, this situation would seem to be less of a concern since the Land Disposal Program Flexibility Act of 1996. The legislation exempted characteristic wastes that have been deactivated from LDR requirements if they are managed in wastewater treatment systems regulated under the Clean Water Act (268.1(a)(4)).

DCN PH4A044

COMMENTS Battery Council International

RESPONDER SS

SUBJECT MISC

SUBJNUM 044

COMMENT II. BC SUPPORTS THE AGENCY'S EFFORTS TO ADDRESS RCRA DEFINITION OF SOLID WASTE ISSUES, AND URGES THE AGENCY TO ACT ON BC'S TRANSPORTATION MANIFEST PETITION BC supports the Agency's effort to address issues related to the RCRA definition of solid waste in this rulemaking independently of the forthcoming proposed RCRA redefinition of solid waste rule. We believe BC's petition regarding revisions to the RCRA regulations for recyclable materials should be responded to in a similar manner (that is, before the comprehensive rulemaking). In August 1994, BC petitioned the Agency to modify the RCRA hazardous waste transportation regulations (40 C.F.R. Parts 262 and 263) to allow recyclable hazardous wastes identified in 40 C.F.R. Part 266 Appendix XI to be transported in commerce under a new recyclable materials tracking document. See attached petition. Under our proposed approach, the materials could be shipped without a hazardous waste manifest, would not be subject to EPA's transportation requirements and would not have to be shipped by a hazardous waste transporter. The new tracking document we proposed, however, would require disclosure of the same information as required by a hazardous waste manifest and thus, no data collection or tracking capabilities would be lost. Moreover, all substantive transportation requirements in EPA's rules would still apply. The source of the requirements, however, would be the Department of Transportation's (DOT's) Hazardous Material Regulations, not EPA's regulations. The petitions proposal would implement recommendations adopted by EPA's Definition of Solid Waste Task Force. Moreover, in November 1994, we received a response from the Agency, stating that BC's petition will receive "full consideration as the Agency evaluates the range of possible changes in how recyclable materials are regulated." 3 Then, in March 1995, in response to President Clinton's reinventing government initiative, EPA issued a report stating its intent to revise the RCRA manifest system along the lines of the BC petition. However, no action yet has been taken. Given the fact that EPA has begun a comprehensive effort to determine the appropriate RCRA regulatory framework for certain recyclable materials, as



reflected in this rulemaking and other past rulemakings. 4/ BCI believes that the Agency should address our petition in the immediate future. It involves a far less contentious issue than other definition of solid waste issues. Furthermore, the proposed modification would remove burdens on recycling without jeopardizing the integrity of the solid waste program, which is the prime purpose of EPA's redefinition of solid waste effort.

Dear Ms. Browner: This is a petition for a modification of the Environmental Protection Agency's ("EPA") hazardous waste transportation regulations. 1 The petition requests limited changes that would allow certain recyclable materials to be shipped in commerce using a new recyclable materials tracking document and not the Uniform Hazardous Waste Manifest. This change would advance recycling, eliminate unnecessary costs and fully protect public health, safety and the environment. The proposed modification also is fully consistent with recommendations adopted by EPA's Definition of Solid Waste Task Force after numerous meetings and months of study on ways to remove burdens on recycling without jeopardizing the integrity of the solid waste program. Specifically, the Battery Council International ("BCI") seeks a modification of EPA's transportation rules (40 C.F.R. Parts 262 and 263) to allow recyclable hazardous wastes identified in 40 C.F.R. Part 266 Appendix XI ("Appendix XI wastes") to be transported in commerce under a new recyclable materials tracking document. In addition, because the materials could be shipped without a hazardous waste manifest, they would not be subject to EPA's transportation requirements and would not have to be shipped by a hazardous waste transporter. See 40 C.F.R. S 263.10. Nevertheless, the new tracking document BCI is proposing would require disclosure of the same information as required by a hazardous waste manifest and thus, no data collection or tracking capabilities would be lost. Moreover, all substantive transportation requirements in EPA's rules would still apply. The source of the requirements, however, would be the Department of Transportation's Hazardous Material Regulations ("DOT's HMR"), 49 C.F.R. Parts 170 to 179, not EPA's regulations. From an environmental standpoint, recycling undoubtedly is the best way to manage the Appendix XI wastes. Yet, because the existing hazardous waste transportation requirements have become unjustifiably expensive, the present system, requiring the use of hazardous waste manifests and hazardous waste transporters,

is an impediment to recycling. Indeed, the costs of transporting Appendix XI recyclable wastes to the recycling facility under the existing system often exceeds the net value created from recycling the materials. Where this is the case, the current system creates economic disincentives for handling the Appendix XI materials and is unjustifiable in light of the fact that an alternative, less burdensome but equally protective transportation scheme is available. Accordingly, BCI requests that the EPA amend sections of the hazardous waste management regulations, 40 C.F.R. Parts 260 to 299, so that (a) recyclable hazardous wastes identified in 40 C.F.R. Part 266, Appendix XI, may be transported in interstate and intrastate commerce for recycling accompanied by a tracking document other than the Uniform Hazardous Waste Manifest (40 C.F.R. Part 262, Subpart B) and (b) these same wastes can be carried by an authorized hazardous materials transporter other than a transporter meeting all of the requirements of 40 C.F.R. Part 263 and any related requirements imposed by various states.<sup>2/</sup>

**BACKGROUND** BCI is a not-for-profit trade association representing commercial entities involved in the manufacture, distribution, sale and recycling of lead-acid batteries ("lead batteries"). BCI's members include manufacturers and distributors of lead batteries and the secondary smelters that reclaim or recycle lead batteries once they are spent. BCI's membership represents more than 99 percent of the nation's domestic lead battery manufacturing capacity and more than 84 percent of the nation's lead battery recycling or secondary smelting capacity. BCI strongly supports lead battery recycling. BCI actively promotes the enactment of mandatory recycling laws, sponsors campaigns to encourage recycling and, through its members, is directly involved in the recycling of lead batteries. In part as a result of BCI's efforts, thirty-seven states have adopted comprehensive lead battery recycling laws and five additional states have adopted disposal bans that have the practical effect of forcing recycling. Due to these measures, the U.S. battery lead recycling rate has been at or above 94 percent for the last three years. In addition to batteries, BCI's members also collect and recycle other lead bearing materials. For example, virtually all of the by-products generated in the course of producing a battery (e.g., baghouse dust, waste water treatment sludge, plant scrap, dross, floor sweepings and others) have recoverable lead values and are collected and sent to secondary lead smelters for recycling. All of the recyclable

materials coming to, or produced at, a secondary lead smelter are recycled, including first-run slags, baghouse dust, treatment sludge and plastic casings. Recyclable materials handled by BCI's members are identified in 40 C.F.R. Part 266 Appendix XI. This appendix lists those recyclable wastes that are so similar in character to primary materials that they are considered feedstock, not wastes, when reclaimed. See 40 C.F.R. Part 266, Subpart H. Appendix XI materials are generated by manufacturers, assemblers and other entities in the lead processing and affiliated industry. Once generated, the materials either are collected by or sent to secondary smelters for reprocessing. Certain Appendix XI materials also are generated by secondary smelters who send them to other smelters for further reprocessing and recovery of lead.

**DISCUSSION A.**

**The Issue** Some Appendix XI materials are regulated as hazardous wastes when reclaimed. When these materials are transported from one location to another, they must be accompanied by a Uniform Hazardous Waste Manifest and the generator and transporter must comply with the relevant portions of 40 C.F.R. Parts 262 and 263. These regulations require that shipments meet the applicable packaging, labeling, marking and placarding standards in DOT's HMR. Transporters also must comply with all applicable requirements in the HMR, must have a valid EPA identification number, and must respond to any discharge or release occurring during transportation. See 40 C.F.R.  $\infty$  262.30 to 262.33.

Notably, with the exception of the transporter's obligation to have an EPA identification number, the packaging, labeling, marking, placarding and other transportation related requirements imposed under EPA's rules (Parts 262 and 263) are identical to those required for common carriers of hazardous materials under the HMR. That is, the requirements that presently apply to shipments of Appendix XI materials would still apply by virtue of the HMR even if EPA's Parts 262 and 263 rules did not exist. See 49 C.F.R.  $\circ$  172.101 While there is no difference in the substantive requirements involved in handling Appendix XI materials under EPA's Parts 262 and 263 rules or the DOT's HMR, the costs associated with shipping under the two schemes are significantly different. RCRA hazardous waste must be transported by a licensed hazardous waste hauler. The cost of shipping a RCRA manifested hazardous waste in a hazardous waste hauler is much higher than the cost of shipping essentially the same material in a common carrier licensed to carry hazardous materials. In an informal survey

conducted by one BCI member, the costs of shipping RCRA manifested hazardous wastes were more than double the cost of shipping DOT hazardous materials even though in all instances the materials being transported were fundamentally the same. The cost differential between shipping under RCRA's rules and the HMR is attributable primarily to additional requirements imposed by various states on transporters of materials requiring a RCRA hazardous waste manifest. These extra state requirements include such things as special training or equipment, higher limits for liability insurance, local taxes or fees and additional reporting requirements. See, e.g., Pennsylvania Code, Title 25, § 263.23 (imposing a hazardous waste transportation fee on transportation of manifested wastes paid into the State Hazardous Sites Cleanup Fund); Alabama Hazardous Waste Management Regulation, § 335-14-4-04 (requiring applicants for transporter permits to submit a performance bond guaranteeing compliance with, among other things, the regulations, permits, orders and corrective action measures); Arkansas Hazardous Waste Management Code, § 16, 11(r) (charging \$2.00 per manifest issued); Maryland Hazardous Waste Rules § 26.13.04 (requiring hauler certificates, performance bonds, special training for drivers and instructors of drivers, annual registration fees on cabs, containers and trucks, vehicle inspections); New York Waste Transport Permits Regulations § 364.5 (requiring \$5,000,000 in liability insurance for vehicles carrying 10,000 pounds or more of wastes requiring manifest; federal requirements are \$1,000,000 in liability insurance). States impose additional requirements either because they perceive a need for tighter restrictions on hazardous waste transporters than on common carriers or, as is evident from some of the state schemes, because they see this area as a potential source of additional revenues. The motive in some cases may be both. Regardless of the reason, BCI is confident that no state has focused on the adverse impact these added transportation rules have on legitimate recycling. Moreover, neither the DOT nor EPA have concluded that the vast array of additional requirements imposed by states are necessary to protect the public health, safety or the environment. To the contrary, EPA's Definition of Solid Waste Task Force found that the high costs arising from the added state requirements adversely affect the waste management system. The added cost eliminates competition between carriers as fewer carriers are willing to compete in the hazardous waste transportation market with the

added requirements and associated increased burdens and cost of doing business. Further, the fact that requirements vary from state-to-state adds to the complexity and cost. And, as noted above, the higher costs of transportation create a disincentive to recycling where the recyclable materials have a low recovery value relative to the high cost of transporting the material to the recycling facility. Because it is impracticable to seek changes on a state-by-state basis, BCI requests a federal response. B. The Solution Transporting Appendix XI hazardous wastes destined for recycling under EPA's rules costs twice as much as shipping the same materials under the HMR. The substantive requirements of EPA's rules and the HMR are virtually identical, and no added protection to health, safety or the environment is gained by the additional costs. Yet, the added cost of EPA's rules affects the efficiency of the hazardous waste management system by reducing competition and impeding a preferred method of managing certain recyclable wastes. EPA could eliminate these disincentives to recycling by adopting a rule applicable to Appendix XI materials that would allow those materials to be shipped in commerce with a "Recyclable Materials Tracking Document" and not a hazardous waste manifest. The Recyclable Materials Tracking Document would require the same information as a hazardous waste manifest with the exception of certain information that is relevant only to shipments under Parts 262 and 263, e.g., a transporter's U.S. EPA ID Number, waste minimization certification and land disposal restriction notification. 3/ Like the manifest, the tracking document would follow the shipment to its destination and the receiving entity would be required to acknowledge receipt, noting any discrepancies. Because Appendix XI materials would not be required to be transported with a manifest, transporters of these materials would not have to comply with 40 C.F.R. Part 263. See 40 CFR S 263.10. Nevertheless, as noted above, all of the requirements that would have applied (e.g., labeling, placarding) will still apply pursuant to the HMR. Finally, under BCI's proposal, a state or EPA's ability to track shipments and the substantive shipping requirements will not change. What will change, however, is that the state requirements applicable to shipments requiring a Uniform Hazardous Waste Manifest will not apply to Appendix XI materials unless the states, after notice and open debate, determine such requirements are needed for this limited class of recyclable materials. BCI appreciates your attention to this matter and

stands ready to provide whatever additional information you may need in conducting your evaluation of this request. 1/ This petition is submitted in accordance with Section 4 (e) of the Administrative Procedure Act, 5 U.S.C, S553(e) , 2/ Not all of the wastes listed in Appendix XI are hazardous wastes when being reclaimed. The transportation of nonhazardous wastes, while not subject to the requirements of the Solid Waste Disposal Act ("RCRAII) set forth in 40 C.F.R, Parts 262 and 263, may be subject to similar state transportation requirements, i.e., california ts transportation rules.

Accordingly, this petition is intended to cover all Appendix XI wastes whether or not they are RCRA hazardous wastes subject to the manifesting and transportation related requirements in 40 C.F.R. Parts 262 and 263 , 3/ The waste minimization certification would not be applicable to materials shipped under a Recyclable Materials Tracking Document because it would be understood that these materials were to be recycled and the generator thus was engaged in waste minimization. For the same reasons, a land disposal restriction notification would be unnecessary.

#### RESPONSE

The commenter's request for approval of a previously submitted petition is beyond the scope of the today's final rulemaking.

DCN PH4P065

COMMENTS Safety-Kleen Corp.

RESPONDER HM

SUBJECT POG

COMMENT 3. EPA should finalize the "point of generation" rulemaking prior to promulgation of the final Phase III and Phase IV LDR regulations. In the preamble to the proposed Phase III LDR regulations (60 FR 11702), the Agency requested comments on potentially altering the "point of generation" definition as it applies to wastewater streams. Safety-Kleen understands that the Agency will respond to the received comments in an upcoming rulemaking specifically addressing point of generation. Obviously, the Agency's proposed rulemaking may have a significant impact on the applicability of the Phase IV LDRs, because the basic applicability questions are premised on waste character at the point of generation. If the definition of a waste's point of generation is revised (i.e., to process limits or battery limits), some wastes will not be defined as hazardous and will exit the RCRA system (e.g., due to aggregation and resulting incidental treatment close to the originating process). Thus, a facility might be required to spend significant money developing a program to comply with the Phase III and Phase IV LDR programs, which would subsequently become completely unnecessary under the revised definition of point of generation. Safety-Kleen strongly recommends that the Agency complete its point of generation rulemaking prior to the promulgation of the final Phase III and Phase IV regulations, to allow the regulated community to implement complying programs without the concern that the applicability may change at a later date.

#### RESPONSE

The Agency thanks the commenter for supporting EPA's re-examination of the point of generation issue. EPA did propose several point of generation options in the Phase III rulemaking, however, many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P015  
COMENTER BP Oil  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 015  
COMMENT

In addition, the court's decision in no way affected the current "treatability group doctrine" or indicated that it should be invalidated or discarded.

#### RESPONSE

The Agency agrees with the commenter that the court decision did not invalidate or discard the treatability group doctrine.



DCN PH4P015  
COMMENTS BP Oil  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 015  
COMMENT

Point of generation issues are generally difficult in the overall land disposal restriction (LDR) program but are especially onerous regarding the Phase IV proposals and for the Subpart CC air emission rules. We Support EPA's planned re-examination of these issues.

Current requirements concerning the "point of generation" include sampling and analysis of each individual waste stream at its source to determine whether or not it is hazardous and to determine whether or not it exceeds applicable volatile organic concentration levels. This requires extensive, extremely costly and sometimes technically impossible sampling and analysis programs. Method 25D for determining the volatile organic concentration is very costly to perform, and laboratories capable of performing the analysis are difficult to locate. In many cases it is impossible to separate wastewater streams for individual sampling. Taking into account variability or attempting to determine annual average concentrations only increases the number of samples that must be collected and analyzed. In the Phase IV rulemaking, the point of generation that makes sense for aggregated, non-hazardous wastewater is sampling and analysis at the point where the wastewater enters the surface impoundment.

#### RESPONSE

The Agency thanks the commenter for supporting EPA's re-examination of point of generation issues. Many of these issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P015  
COMMENTS BP Oil  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 015  
COMMENT

The issues being addressed in this rulemaking have the potential to require significant costs with little apparent benefit. The Agency should determine in the Phase III and Phase IV RULEMAKING that meeting the UTS at the NPDES discharge point of a CWA system which includes non-hazardous surface impoundments satisfies the findings of the court and that further requirements are not needed.

#### RESPONSE

The Agency did propose several point of generation options in the Phase III rulemaking, however, many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P017  
COMMENTS: Kodak  
RESPONDER: HM  
SUBJECT: POG  
SUBJNUM: 017  
COMMENT:

Additionally, sludge from a non-hazardous surface impoundment would be regulated as a hazardous waste if it has hazardous characteristics, because the sludge is considered a new point of generation for listing determinations.

#### RESPONSE

The Agency did propose several point of generation options in the Phase III rulemaking, however, many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P022  
COMMENTS Phelps Dodge  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 022  
COMMENT

PDC supports EPA's proposal to clarify the point of generation as applied to separate waste streams that are routinely aggregated as part of a series of manufacturing processes associated with making a single product. PDC believes that this concept should be expressly recognized in the mining context especially for waste streams that have been routinely aggregated as an efficient and environmentally sound wastewater management practice.

#### RESPONSE

The Agency thanks the commenter for supporting EPA's re-examination of point of generation issues. Many of these issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P022  
COMMENTS Phelps Dodge  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 022  
COMMENT

III. PDC Supports EPA's Proposal to Redefine the Point of Generation for Commonly aggregated Waste Streams and Believes that the Proposal Should Extend to Routine Aggregation of Processing Streams That Occurs in the Mining Context.

PDC supports EPA's Phase III proposal to clarify the point during an industrial process at which a waste is generated and the LDRs become applicable. 60 Fed. Reg. at 11,715-17. The proposal would allow for routine aggregation of waste streams from related manufacturing processes before RCRA regulation and the LDR dilution prohibitions would attach. The proposal also would recognize that the routine aggregation of waste streams from a related manufacturing process is "a normal part of the process that results in the waste" and therefore "can be taken into account [or allowed] in establishing concentration levels." 60 Fed. Reg. at 11,707 (citing S. Rep. No. 284, 98th Cong., 2d Sess. 17).

PDC supports EPA's point of generation proposal as applied to each of the three options contemplated including the "battery limit" option. The "battery limit" option is necessary to recognize routine wastewater treatment practices occurring at mining facilities. For instance, a common practice at many integrated copper mining facilities is the aggregation of mineral processing wastes (e.g., acid plant blowdown) with tailing as part of the facilities' wastewater management practices. PDC believes that such longstanding practices should be allowed under EPA's "battery limits" option since the manufacturing steps producing the mineral processing wastes and the tailing constitute an entire battery of processes that are associated with making a single product (i.e., anode copper). Additionally, the aggregation of tailing with mineral processing streams often is environmentally beneficial due to the stabilizing and neutralizing affect of the tailing. PDC further believes that the appropriate point for determining LDR compliance and point of generation issues is at the point that an aggregated waste stream exits the wastewater treatment unit, which in the mining context is a necessary component of the manufacturing process.

Accordingly, PDC requests that EPA account for existing waste

management practices that occur at mining facilities in applying LDR requirements. Specifically, PDC believes that EPA should adopt the Phase III point of generation proposals, including the "battery limits" option, and clarify the option's application to waste streams commonly aggregated and managed at integrated mining facilities.

#### RESPONSE

The Agency thanks the commenter for supporting EPA's re-examination of point of generation issues. The Agency did propose several point of generation options in the Phase III rulemaking, however, many of these issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P022  
COMMENTS Phelps Dodge  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 022  
COMMENT

In its discussion of Option 2, EPA presents several situations which would be excluded from the Option 2 controls. 60 Fed. Reg. at 43,660. For example, wastewaters that meet the UTS at the point of generation would be excluded. Additionally, wastewaters that do not exceed 100 parts per million by weight ("ppmw") of total volatile organics on an annual average determined at the point of generation would not be subject to the air emission controls. PDC believes that these exemptions should not be determined at the point of generation. Rather, as noted above, PDC believes that the application of these exclusions should be determined after treatment has occurred to remove the characteristic. It simply does not make sense to apply controls to surface impoundments that manage wastes which do not pose risks to the environment or human health after decharacterization. Additionally, it is difficult to determine the effectiveness of treatment and/or controls when the wastes already satisfy the UTS or are already within a certain concentration of total volatile organics.

#### RESPONSE

The Agency did propose several point of generation options in the Phase III rulemaking, however, many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P024  
COMMENTS Union Camp  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 024  
COMMENT

H. Redefine the "point of generation" to unit process  
EPA needs to redefine the "point of generation" definition in order for the Pollution Prevention exemption to be useful. UCC sees a significant problem in attempting to use the Pollution Prevention Compliance Alternative as a way to obtain an exemption from the Phase IV regulations by the sheer number of points of generation that would likely have to be analyzed.

#### RESPONSE

The Agency did propose several point of generation options in the Phase III rulemaking, however, many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.



DCN PH4P024  
COMMENTS Union Camp  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 024  
COMMENT

A manufacturing facility may have significant number of characteristic waste streams which would need to be sampled and analyzed to determine the total amount of a specific UHCs that is generated at the facility. This enormous amount of points will create a huge amount of costs associated with sampling and analysis, and deciding which streams to address in minimizing pollution. Further it will be difficult to demonstrate compliance with the exemption. Such a situation will likely keep facilities from even considering using this exemption criteria with the subsequent disadvantage that the facilities are addressing treatment of wastes as opposed to minimizing the generation of wastes.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P024  
COMMENTS Union Camp  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 024  
COMMENT

There is a need to redefine "the point of generation" in order to make this exemption at all appealing. Such a redefinition was discussed in Section IV.D of the LDR Phase III proposal (60 FR 11702). Locating the point of generation to the "unit process" or the "battery limit" of the facility units would significantly reduce the number of waste streams that would need to be addressed when using the Pollution Prevention exemption option. This will make this option much more workable to facilities with the ultimate advantage of promoting Pollution Prevention.

#### RESPONSE

The Agency did propose several point of generation options in the Phase III rulemaking (including unit process and battery limits), however, many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P024  
COMMENTS Union Camp  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 024  
COMMENT

It is WCC's recommendation that EPA redefine the definition of "point of generation" to be the "unit process" as recommended by UCC and AF&PA during the Phase III comment period. UCC also believes other option discussed during the Phase III comments such as "battery limits" are also plausible.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P024  
COMMENTS Union Camp  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 024  
COMMENT

I: EPA should complete the change to the "point of generation" definition prior to promulgation of any Phase IV regulations. In the preamble to the proposed Phase III LDR regulations (60 FR I 1702, Sec. IV.D) EPA requested comments on changing the definition of point of generation as it applies to wastewater streams. The regulatory community is waiting to see how EPA will react to the received comments. EPA's reaction could have a significant impact on the applicability of the Phase IV LDRs since two of the basic applicability questions are "Is the waste a hazardous waste at the point of generation?", and "Does the decharacterized waste contain underlying hazardous constituents at concentrations greater than their respective Universal Treatment Standard levels at the point of generation of the decharacterized waste?" EPA should complete its review of potentially altering the "point of generation" definition prior to the promulgation of the Phase IV regulations so that the regulated community can determine the impact of the regulations without the concern that the applicability may change at a later date. Therefore, EPA should not promulgate Phase IV regulations until it has announced any changes to the definition of the point of generation.

#### RESPONSE

The Agency did propose several point of generation options in the Phase III rulemaking, however, many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P024  
COMMENTS Union Camp  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 024  
COMMENT

UHC brought in from other waste streams (not hazardous in past) may be carried into CWASIs and transferred to sludge to increase UHC above UTS. Treatment of the regulated constituents brought in from non hazardous wastes should not be subject to Phase IV control.

Sludges are not always disposed in landfill. Some may be beneficially used as is done at several of our paper mills for its nutrient and soil conditioning value. Also it is very common for municipal sludge to be utilized in this manner instead of being disposed into a landfill. These sludges serve useful purposes and should not be subject to pretreatment for UHC's prior to land application. For example, WCC's Prattville, Al mill uses sludge from its one selected CWASI on crop land for its nutrient value and water retention value. Many states and local governments have rules on land application which are protective of human health and environment.

#### RESPONSE

Today's rule does not address the issue that the commenter raises because it is outside the scope of the rule. However, EPA shall consider this issue in the future.

DCN PH4P024  
COMENTER Union Camp  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 024  
COMMENT

Other sludges high in fiber may be used for fuel value and should not be subject to pretreatment for UHC's. Any UHC's would be controlled by pollution control devices on the combustion unit or destroyed by the combustion process.

#### RESPONSE

This issue is outside the scope of today's rule. The Agency will, however, consider this issue in the future.

DCN PH4P024  
COMMENTS Union Camp  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 024  
COMMENT

We agree with the EPA that sampling for only UHC identified in the characteristic wastewater at the point of generation. Sampling for sludges prior to removal may be required under EPA's proposal. If sludge is removed and stockpiled while awaiting sampling & analysis, improper management could be construed. How will this be addressed by EPA?

#### RESPONSE

Today's rule does not address the issue that the commenter raises because it is outside the scope of the rule. However, EPA shall consider this issue in the future.

DCN PH4P024  
COMMENTS Union Camp  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 024  
COMMENT

Sludge (p. 43673 2 col) EPA says sludge in place to a release pathway separate from the leaks pathway. We agree with this and also feel sludges in place would tend to retard any leakage due to the build up of sludge and other fine particles.

RESPONSE

The Agency thanks the commenter for supporting EPA's position on sludge.



DCN PH4P031

COMMENTS Department of Energy

RESPONDER HM

SUBJECT POG

SUBJNUM 031

COMMENT

2. p. 43663, col. 2 -- EPA indicates that management standards are described for controlling leaks, sludges, and air emissions from surface impoundments accepting decharacterized wastes. EPA seeks comment on these standards, "including the possibility of adopting standards for certain of the potential problems and not others, e.g., finalizing standards for leaks and air emission control, but not for sludge control."

If EPA decides to promulgate an Option 2 regulatory program, DOE would support not adopting standards for sludge control. As in previous Departmental comments on LDR-related notices, DOE urges EPA to allow evaluation of wastewater treatment system surface impoundment sludges on their own merit, using either sampling and analysis or process knowledge to determine what management is warranted in order to protect human health and the environment. This approach would allow control of such residuals when appropriate, but would not require continued control when the residuals no longer pose risks to human health or the environment. Comment I.H.5.b, item 1 below offers additional remarks on why it should not be necessary to impose controls on sludges.

## RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P031  
COMMENTS Department of Energy  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 031  
COMMENT

I.H.4.b. Applicability

1. p. 43669, col. 1 -- EPA defines the term "regulated constituents" as UHCs that are present in characteristic wastes at the point of generation and prior to decharacterization at concentrations that are greater than UTS levels. The Agency further indicates that:

"Only these regulated constituents must be considered in complying with the management standards for leaks. UHCs present in a characteristic waste at levels less than or equal to UTS are not subject to the proposed management standards for leaks."

DOE believes that defining the term "regulated constituents" in the manner suggested here is unnecessary and will likely cause confusion. EPA has promulgated a definition for

"underlying hazardous constituent" (UHCs) which reads as follows: Underlying hazardous constituent means any constituent listed in §268.48, Table UTS -- Universal Treatment Standards, except vanadium and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific UTS treatment standards[40 CFR 268.2(I); 60 FR 244, January 3, 1995].

However, EPA seems to ignore the existing definition of UHC in its formulation of the new definition for "regulated constituents."

DOE suggests that by using "UHC" in a manner inconsistent with its regulatory definition, EPA creates confusion. Further, in the past, EPA has used the term "regulated constituents," without specifically defining it, to mean the constituents in a listed hazardous waste for which LDR treatment standards have been set (e.g., see 60 FR11702, 11727 (referring to a table showing "regulated constituents, by waste code," where adding either a wastewater or nonwastewater UTS was proposed)). Therefore, it seems inconsistent and confusing to create a new, definition for "regulated constituents" for use in the limited context of the LDR Phase IV proposed management standards for leaks from surface impoundments. DOE suggests that proper use of the term "UHC" [i.e., as defined under 40 CFR268.2(I)] would make such a definition unnecessary.

## RESPONSE

Today's rule does not address the issue that the commenter raises because it is outside the scope of the rule. However, EPA shall consider this issue in the future.

DCN PH4P031  
COMENTER Department of Energy  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 031  
COMMENT

**I.H.5. Proposed Management Standards for Sludges**

**I.H.5.b. Rationale**

1. p. 43673, cols. 2&3 -- EPA states that the evaluation of sludges under Option 2 (i.e., to determine if the sludges pose a significant risk) will not be required until the sludges are removed from the surface impoundment. This is because in-place sludges are not believed to be a release pathway separate from the leaks pathway. When removed from the impoundment, if sludges contain hazardous constituents in excess of the UTS, treatment will be required prior to disposal. EPA notes that it could be argued that even no treatment of sludges would satisfy the requirement of RCRA-equivalent treatment since generation of sludges constitutes a new point of generation.

DOE agrees that in-place sludges should not be considered a separate release pathway for hazardous constituents, and that controls directed at leaks should provide adequate protection for human health and the environment (i.e., without placing additional controls on in-place sludges). The Department also concurs that nonhazardous sludges need not be treated at all in order to achieve equivalency with the treatment required by RCRA Subtitle C LDR standards. Treatment of sludges is unwarranted unless, upon removal, the sludge is independently found to be characteristically hazardous, and therefore, pose a threat to human health or the environment. DOE holds the view that for characteristic wastes, treatment residues (such as impoundment sludges) having a different physical form, and possibly different treatability group, than the original waste should not be managed based on the characteristics of the original waste. Instead, such treatment residues should be judged based on their own characteristics. This position is consistent with the rules regarding treatability groups articulated by EPA in the LDR Third Third Final Rule [55 FR 22520, 22661-22662 (June 1, 1990)]. Hence, DOE believes that sludges removed from surface impoundments receiving decharacterized wastes should not be required to undergo treatment, unless such sludges exhibit a hazardous characteristic themselves. However, as EPA has pointed out, a compliant Subtitle D surface impoundment would (by definition) never produce sludge

that exhibits a hazardous characteristic.

Consistent with this position DOE's comments on prior LDR proposed rulemakings encouraged EPA to apply the change of treatability group principle (instead of "waste code carry-through") to certain treatment residues, including sludges generated in wastewater treatment surface impoundments accepting decharacterized wastes. DOE continues to encourage EPA to allow evaluation of such treatment residuals on their own merit.

#### RESPONSE

The Agency thanks the commenter for supporting EPA's policy on the evaluation of sludges for hazardous constituents.

DCN PH4P033

COMMENTER CMA Carbon Disulfide Panel

RESPONDER HM

SUBJECT POG

SUBJNUM 033

COMMENT

The Panel also believes that EPA's current interpretation of the "point of generation" is overly stringent. The Panel urges EPA to implement revisions to the definition of the "point of generation" as recommended by CMA.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P034  
COMMENTS CMA UIC Task Force  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 034  
COMMENT

Limit the circumstances under which segregation for Treatment of underlying hazardous constituents in characteristic wastes is required.

RESPONSE

This issue is outside the scope of today's rule. The Agency will, however, consider this issue in the future.

DCN PH4P034  
COMMENTS CMA UIC Task Force  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 034  
COMMENT

Clarify that residues from pretreatment of injected wastes are newly-generated wastes, irrespective of the individual stream's treatability group prior to aggregation, and therefore the residues are only subject to treatment requirements for characteristic wastes if they, themselves, exhibit

RESPONSE

This issue is outside the scope of today's rule. The Agency will, however, consider this issue in the future.



DCN PH4P036

COMMENTS American Iron & Steel Inst

RESPONDER HM

SUBJECT POG

SUBJNUM 036

COMMENT

It has long been EPA's position that when a sludge is generated from the treatment of a "wastewater" (as defined for purposes of the LDR program at 40 C.F.R. § 268.2(f)), there is a change in "treatability groups," and therefore a new "point of generation" for regulatory purposes.

See, e.g., 55 Fed. Reg. 22,520, 22,661-62 (June 1, 1990). Under this approach, if the sludge is non-hazardous at this point of generation, it is not subject to any RCRA regulations, including the LDR program. *Id.* This EPA position was not challenged in the Chem Waste II case, and was not undermined in any way by the Court's decision. See 60 Fed. Reg. at 43,656. On the contrary, the Court appeared to envision that non-hazardous sludges generated in CWA surface impoundments would not be subject to any LDR requirements. See 976 F.2d at 24 n.10 (stating only that "any hazardous precipitate or other hazardous material generated during CWA treatment must be managed in accord with subtitle C" (emphasis added)). Accordingly, under current law, EPA need not develop new regulations for non-hazardous sludges generated in CWA-regulated surface impoundments.

Indeed, it would be arbitrary for EPA to impose LDR requirements on non-hazardous sludges removed from non-hazardous waste surface impoundments that manage formerly characteristic wastes. If a non-hazardous sludge were removed from a hazardous waste surface impoundment (as might happen if the impoundment received only characteristic wastes and qualified for the "treatment in surface impoundment" exemption of RCRA § 3005(j)(11) and 40 C.F.R. § 268.4), it would not have to meet any LDR requirements, due to EPA's policy on changes in treatability groups qualifying as new points of generation (which the Agency is not revisiting in the context of hazardous waste impoundments). There is no apparent reason why non-hazardous sludges that are removed from non-hazardous waste surface impoundments should be subject to more stringent regulation. Consequently, these wastes should remain exempt from any LDR requirements. Just like sludges from hazardous waste surface impoundments, from non-hazardous waste surface impoundments that do not receive formerly characteristic wastes, and indeed from all other sources (including tanks).

sludges from non-hazardous waste impoundments that receive formerly characteristic wastes should be evaluated when they are initially generated, and subjected to LDR requirements only if they constitute RCRA hazardous wastes at that point.

Perhaps most importantly, non-hazardous sludges generated in impoundments managing formerly characteristic wastes do not merit additional control under RCRA, because any risks posed by releases of constituents from those sludges are adequately addressed by existing regulatory programs. Many state solid waste programs already regulate the handling and disposal of industrial solid wastes, including sludges from non-hazardous waste impoundments. EPA's Part 258 criteria for municipal landfills, which require the installation of liners and leak detection systems, also provide substantial protection of the environment from risks posed by the disposal of non-hazardous wastes, including sludges. Under the RCRA corrective action program, EPA can require that sludges generated in non-hazardous waste impoundments that are located at permitted or interim status TSDFs be removed from the impoundments and managed in a protective manner, either on-site or off-site. Finally, in order for non-hazardous waste surface impoundments to remain outside the scope of Subtitle C regulation, the sludges generated in them cannot be hazardous wastes by virtue of either the RCRA hazardous waste "listings" or the RCRA "characteristics." In this way, RCRA Subtitle C imposes certain limits on the risks associated with sludges that are generated in and removed from non-hazardous waste surface impoundments. In light of all of these regulatory controls, there is no reason to impose further controls, under the RCRA land disposal restrictions program, on non-hazardous sludges removed from impoundments that receive formerly characteristic wastes.

## RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule. Also, as the commenter notes, the change of treatability group principle continues to apply.

DCN PH4P036

COMMENTS American Iron & Steel Ins

RESPONDER HM

SUBJECT POG

SUBJNUM 036

COMMENT

Non-hazardous waste surface impoundments that do not receive formerly characteristic wastes clearly should be excluded from any Phase IV regulations because the wastes that they receive are not prohibited from land disposal and, indeed, are beyond EPA's jurisdiction under Subtitle C. Similarly, if an impoundment receives formerly characteristic wastes, but those wastes meet the universal treatment standards at the point of generation, the impoundment should be excluded from any Phase IV controls. In this case, the wastes already meet the "minimize threat" standard of the LDR program and thus, once again, are not prohibited from land disposal. EPA itself has recognized the necessity and appropriateness of these limitations on the Phase IV land disposal restrictions. See 60 Fed. Reg. at 43,657, 43,660. Accordingly, there is little need to address the limitations further in these comments.

AISI is concerned, however, that EPA is interpreting the "point of generation" for purposes of the LDR program in a manner that is inappropriate and unnecessarily stringent. In the Phase III LDR proposal, EPA appeared to recognize some of the problems associated with its current interpretation of the "point of generation," and requested comments on various possible approaches for modifying that interpretation. See 60 Fed. Reg. at 11,715-17. AISI believes that the best approach, and perhaps the only lawful approach, would be the "battery limits" approach suggested by the Chemical Manufacturers Association ("CMA"). Under this approach, all of the residues associated with the manufacture of a single product, or group of related products, could be combined before a determination is made as to whether the wastes are prohibited from land disposal under the LDR program. For example, if an iron and steel facility separately aggregated all of the residues from steel making (including the furnace, casting, milling, and finishing processes), all of the residues from ironmaking, and all of the residues from the manufacture of coke and coke by-products, a determination could be made on each of the three waste streams (or, if appropriate, any combination of these residues), without evaluating residues within the individual process units. AISI believes that this approach is essential to ensure that the

LDR regulations do not conflict with the admonition of Congress that RCRA "do[es] not authorize the EPA ... to intrude into the production process or production decisions of individual generators." S. Rep. No. 284, 98th Cong., 1st Sess. 6 (1983). See also S. Rep. No. 988, 94th Cong., 2d Sess. 26 (1976) (RCRA "does not establish any federal authority with respect to decisions in the manufacturing process."). In addition, this interpretation would allow for dilution that is "part of the normal process that results in the waste," which Congress specified should not be considered a form of impermissible dilution. S. Rep. No. 284, 98th Cong., 1st Sess. 17 (1983). The "battery limits" approach also would have a number of important practical benefits, such as facilitating point of generation determinations (which otherwise might have to be made on hundreds or even thousands of streams within hard-piped collection systems), encouraging efficient and legitimate wastewater treatment, easing monitoring burdens, and eliminating the need for evaluating streams that are generated on a one-time or occasional basis (e.g., spills or residues from batch processes). These benefits likely could be obtained without significantly affecting the overall mass loadings of hazardous constituents entering the environment, or otherwise undermining the goals of the LDR program. See 60 Fed. Reg. at 11,715-16.

For these reasons, AISI encourages EPA to adopt the "battery limits" approach for identifying the "point of generation" of wastes for purposes of the LDR program. The adverse consequences of the Agency's current approach already are quite severe, and are likely to be magnified substantially as a result of the Phase III and Phase IV LDR rules. Accordingly, it is important that EPA change its interpretation of the "point of generation" as soon as possible, and certainly no later than the date of promulgation of the Phase III rule.

## RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P036

COMMENTER American Iron & Steel Ins

RESPONDER HM

SUBJECT POG

SUBJNUM 036

COMMENT

If EPA nevertheless concludes that additional sludge controls are warranted under RCRA, the Agency should finalize its proposal to exclude sludges from biological and post-biological impoundments. In addition, EPA should exempt sludges generated in surface impoundments at TSDFs that have RCRA permits or are operating pursuant to interim status, sludges that are disposed at facilities that meet the criteria for new municipal solid waste landfills under RCRA Subtitle D or other applicable state regulatory requirements, and sludges that are destined for reclamation. Each exemption is discussed separately below.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P056  
COMMENTS Westinghouse  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 056  
COMMENT

4. Westinghouse supports the continued application of the principle stated by EPA in the Third Third rule that generation of a new treatability group is considered to be a new point of generation and thus a new point for determining whether a waste is prohibited (See 55FR 22661-662). This interpretation was discussed, but not challenged, in the U. S. Court of Appeals in Chemical Waste Management vs. EPA, 976 F.2d 2 (D. C. Cir. 1992) which suggests that it is not in question. Therefore, wastewater treatment sludges not exhibiting a characteristic are not prohibited, even though they may have been derived from a prohibited wastewater. It would be beneficial for EPA to reassert this in this rule as well.

5. The EPA should clarify when generators must determine what underlying hazardous constituents (UHC) are present in the waste. Specifically, are applicable UHC for treated streams and residues always based upon the designation at the initial point of generation for the waste? Westinghouse supports efforts to establish reasonable parameters for determining what constitutes a point of generation requiring an UHC evaluation. Does a residue ever constitute an initial point of generation requiring an UHC determination? Furthermore, if wastes are aggregated in tank systems to facilitate centralized treatment, how do changes in treatability group affect the UHC monitoring requirements for the waste being treated or for residues that are generated?

## RESPONSE

The Agency thanks the commenter for supporting EPA's re-examination of point of generation issues. Many of these issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P059  
COMMENTS Exxon Chemicals Americas  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 059  
COMMENT

3. On the Point of Generation definition, ECA supports a "process area" approach for making LDR determinations

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P059

COMMENTS Exxon Chemicals Americas

RESPONDER HM

SUBJECT POG

SUBJNUM 059

COMMENT

5. ECA requests EPA to clarify that wastewater treatment sludge is a new treatability group

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.



DCN PH4P059

COMMENTER Exxon Chemicals Americas

RESPONDER HM

SUBJECT POG

SUBJNUM 059

COMMENT

**3. Point of Generation: ECA Supports a "Process Area" Approach for Making LDR Determinations**

In the preamble of the proposed LDR Phase III rule, EPA solicited comments on a number of approaches to define the point of generation for wastewaters for the purpose of making LDR determinations. A key factor to consider in assessing alternate approaches is the potential significant regulatory burden that may be placed on large industrial complexes.

As background, large industrial facilities manage wastewaters from hundreds or thousands of sources within a manufacturing complex.

One Exxon Chemical plant has over 1600 wastewater sources.

Oftentimes these wastewaters are hard-piped directly into sewer systems and are not readily accessible for sampling and analysis.

Wastewater stream flows can be continuous, intermittent, or very infrequent (e.g. annual shutdown cleanouts), and the composition of any one stream may vary as a function of the type of product being produced at a particular point in time, as well as the efficiency and operating conditions of the manufacturing process.

If each individual wastewater source was defined, for LDR Phase III and IV rulemaking purposes, as the point of generation, a generator would be required to analyze/assess each stream to determine whether it is hazardous, what the underlying hazardous constituents are in hazardous wastewaters (either through analysis or process knowledge), and, if necessary, what treatment method is required. For large facilities with many wastewater streams this would impose a significant burden for classification, record keeping, and in many cases analyzing large numbers of individual streams, many of which are not easily accessible.

The environmental benefits associated with this approach are minimal versus allowing for reasonable aggregation of streams in Process Areas (certainly the benefits do not justify the extensive costs involved).

ECA supports a Process Area approach for making LDR determinations in chemical operations. A Process Area can be defined by the equipment and associated facilities included within a geographic boundary which are used to either process materials to a primary product (which often times is used to describe the unit) or

provide a utility for common use among other processes within a facility (e.g. steam generation). Generally these process areas are within the operational control of a discrete operating organization and the assets/costs are collected separately. The wastewater exit point(s) from the Process Area would define the LDR applicability. These points are where specific wastewater lines leave the geographic boundary circumscribing operations of the Process Area. Use of Process Area for making LDR determinations would lessen the burden of analyzing or assessing individual wastewater streams, while recognizing in a common sense fashion the practical realities of operating a manufacturing process.

Contrary to EPA's comments in the preamble, Process Areas can easily be defined in chemical manufacturing operations.

Manufacturing facilities are typically subdivided by a product designation or cost center. EPA recognizes that not all industrial sectors can be divided into Process Areas as well as the chemical industry. This difficulty, however, should not be the basis for establishing an overly burdensome approach for the chemical industry. If Process Areas cannot be defined, a manufacturer should still have the option to use the "Streams from a Single Process" or "Similar Streams Generated by Similar Processes" options which EPA outlined. However, because of the physical layout of most chemical facilities, these two options would have limited benefit to the chemical industry.

## RESPONSE

The Agency thanks the commenter for supporting EPA's re-examination of point of generation issues. Many of these issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P059  
COMMENTS Exxon Chemicals Americas  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 059  
COMMENT

5. ECA Requests EPA To Clarify that Wastewater Treatment Sludge is a New Treatability Group

ECA agrees with EPA's interpretation that the generation of a new treatability group is the new point of generation for purposes of determining where LDR prohibitions attach. Sludges from wastewater management in CWA/CWA-equivalent systems should be considered restricted wastes only if they are themselves hazardous at their point of generation. This approach provides a clear line of demarcation and avoids the difficulties associated with determining new treatability groups every time a waste is altered in some respect. EPA SHOULD make this approach explicit in the Phase IV rule.

CWA wastewater treatment sludges are typically of high volume and low toxicity, do not exhibit any hazardous characteristics, and do not pose a threat to human health and the environment. Such large volumes of low toxicity material that is not causing substantial threats should not be covered by LDR requirements unless the sludge itself is determined to be a hazardous waste. As currently written, the LDR Phase IV rule would trigger the need to identify UHCs that exceed UTS even for sludges that are non-hazardous. This is inconsistent with the new treatability group concept and the comment EPA makes in the preamble that "it can be argued that even no treatment of sludges is equivalent to subtitle C LDR controls. This is because generation of sludges is usually a new point of generation at which the newly-generated waste is reevaluated to determine if it is subject to the LDR standards. If non-hazardous, the sludges would not be so subject" (60 FR 43673).

## RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require

LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule. EPA agrees that the change of treatability group principle remains in force as well.

DCN PH4P060  
COMMENTS American Dental Association  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 060  
COMMENT

With regard to the proposed Option 2 regulations regarding sludge, ADA believes that no additional treatment requirement for prebiological sludge is necessary as a legal or practical matter. As discussed in the Notice, 60 Fed. Reg. 43673, generation of the sludge (e.g., upon removal from the surface impoundment) constitutes a new point of generation for RCRA purposes. Where the sludge is non-hazardous, there is no need, or legal basis, to subject the material to RCRA treatment requirements. Also, as stated above, EPA's Part 503 program already regulates the use and disposal of sludge. Subjecting sludge to requirements under a new, separate regulatory program would unnecessarily burden surface impoundment facilities and the many entities whose wastes are treated there.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P061

COMMENTS BP Chemicals

RESPONDER HM

SUBJECT POG

SUBJNUM 061

COMMENT 4) The Agency should promulgate the LDR Point of Generation rulemaking prior to finalizing the Phase IV management standards.

#### RESPONSE

The Agency has decided to address certain specific point of generation issues in the Phase IV rulemaking, along with finalizing management standards. Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P061  
COMMENTS BP CHEMICALS  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 061

COMMENT 4) The Agency should promulgate the LDR Point of Generation rulemaking prior to finalizing the Phase IV management standards. In the proposed Phase III LDR Rule (60 Fed. Reg. 11702, March 2, 1995), the Agency solicited comments from the public on the issue of establishing an alternative point of generation definition for the decharacterized wastewater streams potentially subject the Phase III and IV rules. The point of generation definition is critical in determining which waste streams and waste management units will be subject to the Phase IV rules. Depending on where the point of generation is established, the applicability of the Phase IV rules and potential compliance options and associated costs cannot be determined. In April 1995, BP Chemicals submitted comments on the point of generation issue strongly encouraging the Agency to adopt the so called "Battery Limits" option. We believe this option offers significant logistical advantages and cost savings to the regulated community without any adverse impact to the effectiveness of the LDR program. The decharacterized ICRT wastes themselves are relatively low risk streams. The potentially huge reduction in monitoring, control and recordkeeping offered by the Battery limits option is more than justified given the actual risks posed by the streams. We urge the Agency to finalize an alternative LDR Point of Generation rule prior to finalizing the both the Phase III and Phase IV rules.

#### RESPONSE

The Agency has decided to address certain specific point of generation issues in the Phase IV rulemaking, along with finalizing management standards. Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P064  
COMMENTS Dow Chemical  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 064  
COMMENT-

Sludges do not need to be further regulated under Phase IV LDR to achieve equivalent treatment as EPA has already stated (55 FR 22661-62 and 60 FR 43673). Sludges removed from an impoundment must be evaluated to determine if they are hazardous since they are considered anew point of generation (60 FR 43673). If the residues are hazardous, the land disposal restrictions attach and the sludges would have to be treated to meet UTS prior to land disposal. If the sludges are not hazardous, they would not be regulated by Subtitle C but would be required to comply with any applicable state waste management program. Sludges not removed from impoundments would be addressed by measures implemented for leaks (60 FR 43673).

Finally, there are an abundance of air regulations promulgated by EPA that appropriately and extensively address air emissions. These air rules include existing and future MACT standards promulgated under 40 CFR Part 63, the new NSPS regulation for VOC wastewaters, State RACT rules addressing VOCs in wastewater as part of non-attainment requirements, NESHAP rules for Benzene waste, and state air permitting rules required under EPA New Source Review Programs. These programs are sufficient to address the potential for air emissions from non-hazardous surface impoundments. Adding a separate program for these impoundments is redundant and unwarranted.

## RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.



DCN PH4P066  
COMENTER API  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 066  
COMMENT

**B. The "Treatability Group Doctrine" Was Not Addressed In The "Third-Third" Decision.**

As part of the Third-Third LDR rule, EPA determined that when a prohibited characteristic waste changes treatability groups, this creates a new point of generation for purposes of determining if the land disposal restrictions apply. As EPA observes, the treatability group doctrine was not challenged as part of the "Third-Third" litigation, nor was it addressed by the court in the "Third-Third" decision." 60 Fed. Reg. 43656. Under EPA's previous pronouncements, the application of the treatability group rules to characteristic wastes was straightforward. See, examples of treatability group doctrines applied to characteristic wastes, 55 Fed. Reg. at 22662. As EPA itself pointed out in the "Third-Third" preamble, this approach to treatability groups:

provides a clear line of demarcation, avoids the enormous difficulties of determining new points of generation every time a hazardous waste is altered in some respect, and avoids having an initial waste's status as prohibited determined in all cases by some later management of a residue derived from the initial wastes.

55 Fed. Reg. at 22661. EPA has not suggested any reason, other than an overaggressive reading of the "Third-Third" decision, to reverse this longstanding agency policy. Consequently, EPA should not change the "treatability group doctrine."

Unfortunately, while EPA seems to support the "treatability group doctrine" in the early pages of the Phase IV preamble, the sludge management standards presented in Option 2 undermine the "doctrine." Instead of the trigger for sludge treatment being the TC levels (as would be the case if the "treatability group doctrine" was followed), EPA designated UTS levels as the trigger for requiring LDR treatment of sludges. EPA should therefore reexamine its position and maintain the "treatability group doctrine."

**RESPONSE**

Many of the point of generation issues were resolved when, on March 26, 1996, President

Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P066  
COMMENTS API  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 066  
COMMENT

Land based ABT units are designed to be well mixed systems. In our Phase III comments, API demonstrated that the contaminant concentration throughout the ABT unit are statistically equivalent to those in ABT effluent. This demonstrates that the water throughout the unit is well treated. Consequently, any leaks that may occur from ABT impoundments will be of treated water, and therefore do not require any further controls. Further, the TCLP extracts from the biosludges at the four refineries in the ERM-Southwest study are several orders of magnitude below the UTS for wastewater (typically more than 1000 times lower than UTS), confirming EPA's finding that the sludges from biological treatment units do not pose a threat to groundwater.

2. Sludges Should Not Be Further Regulated Under This Rule. Wasted sludges from surface impoundments do not pose significant risks. The above referenced ERM-Southwest study (Appendix A) also collected sludges from four petroleum refineries. Total PAH analyses from sludges at all four refineries showed that the levels were all below UTS. Furthermore, TCLP analyses performed on these sludges for both metals and PAHs indicate that all parameters were much less than UTS limits. In fact, metals TCLP analyses were all at least three orders of magnitude below TCLP limits, and PAH analyses were all less than one part per billion. It is clear therefore, that the sludge serves to stabilize the fraction of constituents not biodegraded, effectively complexing them into the biomass. As a result, refinery ABT sludges do not pose a significant environmental threat after their removal from wastewater impoundments, and should not be subject to any additional regulation.

## RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require

LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P075  
COMMENTS Elf Atochem  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 075  
COMMENT

The more serious problem is that further LDR notification and certification requirements apply when residuals from the regeneration of spent activated carbon are shipped off-site by the regeneration facility for subsequent management. Again, at least in the case of nonhazardous residues, it appears that the paperwork required must include "a description of the waste as initially generated." 40 C.F.R. §268.9(d). It thus appears that the regeneration facility would be required to list the waste codes and treatability groups that applied at the point of generation to any characteristic or formerly-characteristic wastes that were treated with any of the spent carbon from which the regeneration residues were in turn derived. In addition, the regeneration facility would need to identify the underlying hazardous constituents present in these "distant ancestor" wastes, again unless residues will be monitored for all UTS constituents prior to land disposal. Id.

#### RESPONSE

Today's rule does not address the issue that the commenter raises because it is outside the scope of the rule. However, EPA shall consider this issue in the future.

DCN PH4P080  
COMMENTS Eastman  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 080

COMMENT C. Sludges Are Prohibited Only If They Are Themselves Hazardous Under option 2 in the proposed rule, sludges removed from prebiological CWA surface impoundments that accept decharacterized hazardous wastes would have to meet UTS levels. Eastman believes that no additional controls for sludges are warranted for the following reasons. First, as the Agency has stated, controls for sludges residing in the impoundments, separate from controls that address impoundment leakage, are not needed. "...EPA does not believe in-place sludges would be a release pathway separate from the leaks pathway. Put another way, by controlling leaks (as explained in the previous section), any risks posed by sludges while in the impoundment should be accounted for." (60 FR 43673) Secondly, sludges represent a new point of generation when they are removed from the impoundment and are, therefore, subject to land disposal restrictions only if they are hazardous (exhibit a hazardous characteristic) at the time they are removed. (see Wow) "EPA also reiterates that, as a legal matter, it can be argued that even no treatment of sludges is equivalent to subtitle C LDR controls. This is because generation of sludges is usually a new point of generation at which the newly-generated waste is reevaluated to determine if it is subject to the LDR standards. If non-hazardous, the sludges would not be so subject (i.e., would not be prohibited wastes). See 55 FR 22661-62. Thus, literal application of an equivalence test would result in no treatment of these sludges, since the sludges will be non-hazardous wastes by definition (they cannot be hazardous wastes because they are being generated in subtitle D impoundment), and so would not require further treatment under the standard subtitle C approach." (60 FR 43673) As the Agency has properly recognized, sludges removed from a nonhazardous impoundment are not hazardous (because they were generated in a nonhazardous impoundment) unless they are determined to be hazardous (exhibit a hazardous constituent) at the point that they are removed. No land disposal restrictions attach to the removed sludges unless they exhibit a characteristic. In its Phase III discussion of sludges generated from the treatment of characteristic wastes in CWA impoundments (60 FR 11709), the

Agency says that "Under EPA's existing interpretations of the rules, such sludges are usually considered to be prohibited wastes only if they are themselves hazardous. This is because generation of a new treatability group is considered to be a new point of generation for purposes of determining where LDR prohibitions attach." In the initial proposed rule setting forth land disposal restrictions (LDR) the Agency recognized that the most effective and efficient way to develop treatment methods would be to divide wastes into treatability groups based on similar physical and chemical properties. See 51 FR 1677. The Agency recognized in this proposed rule that setting treatment standards on the basis of waste codes is not appropriate. "Because of the large number and variable nature of the waste within most EPA waste codes, it is usually not appropriate to evaluate treatment methods and their effectiveness on a waste code basis.... Waste may also be grouped according to the constituent properties since these properties influence waste treatability. For example, all waste containing volatile organic constituents may form one treatability group, while waste containing soluble organics may form another group. Other groups may consist of waste containing metals or cyanides." It follows from this position that in order to determine what treatment standards apply one must know what treatability group is involved. And the determination of a treatment standard can occur only after the treatability group is generated. EPA confirmed its use of treatability groups in making a determination of applicable restrictions in the final rule issued November 7, 1986, 51 FR 40572. In describing the sequence to be followed in determining LDR the Agency stated at page 40620: "Sequence 1 in the generator's decision-making process commences with a determination of the appropriate treatability group and corresponding Part 268 Subpart D treatment standard ... The Agency is requiring that applicable Part 268 Subpart D treatment standards for a restricted waste be determined at the point of generation." A statement that a change in treatability group creates a new point of generation is found in the final rule for land disposal restrictions for California list waste, 52 FR 25760 at page 25767, which in turn reiterated a statement found in 52 FR 22356 at 22357. In both instances the Agency explained an exception to the principal that treatment residues from prohibited waste must continue to be treated until they meet the treatment standard. As the Agency explains: "This is where treatment results in a residue that belongs to a different

treatability group than the initial waste and the Agency has already determined that there is inadequate nationwide capacity to treat the waste belonging to that group." As an example, the Agency described the incineration of an F001-F005 spent solvent that generates a scrubber water. Further treatment of the scrubber water is not required because ... this scrubber water belongs to a different treatability group ... It is obvious from this discussion that as the treatability group changes the determination of applicable land disposal restrictions changes also. It follows that since land disposal restrictions are determined at the point of generation (as described previously) then a change in treatability group is a new point of generation. See also 55 FR 22520 at 22544: "Additionally, this is in keeping with the general principal established in these rules that determination of whether a characteristic waste achieves BDAT must be reevaluated whenever a treatment residual is generated. Put another way, each new treatability group has a new point of generation for a characteristic waste." See also 53 FR 31138 at 31209: "Of course, if in the course of managing the waste a new treatability group is created, for example, scrubber water from the incineration of a nonwastewater, the treatment standard applicable to this new treatability group will apply." From the above it is apparent that from early on in the development of the land disposal restriction rules the Agency has emphasized both the concept of determining applicability of land disposal restrictions at the point of generation and the concept that treatment standards are based on treatability groups and that a change in a treatability group is a new point of generation. As EPA pointed out in the third-third rule, this approach to treatability group changes "provides a clear line of demarcation, avoids the enormous difficulties associated with determining new treatability groups every time a hazardous waste (in this case non-hazardous waste) is altered in some respect and avoids having an initial waste's status as prohibited determined in all cases by some later management of a residue derived from the initial waste". See 55 FR 2266. It is also apparent that the court in the third-third decision nowhere addressed the issue of a change of treatability groups or, for that matter the issue of treatability groups at all. Thus, EPA cannot rely on the court decision as a mandate to change its position on point of generation or treatability groups. If these changes are to be made they must be made on their own merits and not as a requirement of the court.



## RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule. **EPA also is not altering the change of treatability group principles discussed in previous FR notices.**

DCN PH4P080  
COMMENTS EASTMAN  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 080

COMMENT 3. Sludges At 60 FR 43673, EPA acknowledges that any concerns about sludges residing in nonhazardous CWA impoundments are addressed by the same measures that control impoundment leakage. Therefore, no additional control is warranted to address sludges in the impoundment. EPA cannot arbitrarily attach land disposal restrictions to sludges when they are removed from the impoundment. Sludges aren't subject to a determination as to the applicability of hazardous waste regulations until they are removed from the impoundment. When the sludges are removed from the impoundment, they represent a new point of generation, and land disposal (or any other RCRA requirements) requirements attach to them only if they exhibit a characteristic of a hazardous waste. The sludges cannot be presumed inherently hazardous (and thus subject to LDR requirements) when they are removed, because they were generated in a nonhazardous impoundment. They are hazardous, and subject to RCRA subtitle C requirements, only if they exhibit a hazardous characteristic when removed from the impoundment.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P089  
COMMENTS ASTSWMO  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 089  
COMMENT

(2) Treatment standards for underlying hazardous constituents should be applied at the point of disposal rather than the point of generation.

Many of the issues surrounding the application of treatment standards to underlying hazardous constituents can be addressed by applying these treatment standards at the point of disposal.

For the purposes of land disposal restrictions, at the point that a waste is generated, the waste should

be evaluated to determine if it is restricted. If the waste is restricted, it may be treated, as necessary. At the point of disposal, the waste should be re-evaluated to determine if the waste is prohibited. If the waste meets its treatment standards, it is no longer prohibited and may be land disposed. Under these circumstances, a generator or the receiving facility of waste that was restricted as generated and no longer prohibited as disposed would be required to document or demonstrate how the waste was treated and that the treatment method(s) used to meet the treatment standard did not involve dilution. Such documentation could be retained in the facility's file, or submitted upon request, and would directly address the issue of dilution by requiring the generator or facility to demonstrate dilution was not used to avoid LDR requirements.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P091  
COMENTER FMC  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 091

COMMENT II. FMC Opposes the New Term "Point of Origination". EPA has proposed to add the new term "Point of Origination" in classifying materials as wastes. FMC is opposed to this addition and instead recommends that EPA clarify the "Point of Generation" and use this term in lieu of "Point of Rejection", "Headworks" and "Point of Origination". The use of multiple terms with respect to the same proposition only produces confusion. This confusion, since 1980, has caused numerous misinterpretations that have resulted in problems between the regulated community and the EPA. 13/ RCRA §3004(h)(3) EPA needs to clearly define the "Point of Generation". FMC has previously expressed support for a "battery limits" approach to "Point of Generation". /14 This would include revising 40 CFR §260.10 by adding the definition of "Point of Generation" as: "The point at which wastes become subject to Subtitle C regulation and at which land disposal restrictions apply is the point of exit of material from a process, except for aqueous wastes managed in Clean Water Act (CWA) or CWA equivalent systems, where the point of generation is defined as the wastewater discharge point(s) for the process area (also commonly termed "battery limits")." It is FMC's understanding that EPA is planning to issue a Federal Register notice clarifying (and perhaps amending) its interpretation of the point of generation of hazardous wastes. This issue is crucial, because a determination of the point of generation can determine whether a material is a hazardous waste at all, and what LDR standards are applicable. Even more fundamental, clarification of the point of generation will determine whether a material is a waste at all. This clarification could eliminate certain waste streams from Subtitle C regulation (or clarify that they never should have been included in the first place). Thus, the clarification could have a significant effect on the upcoming LDR rules and on Hazardous Waste Identification Rule (HWIR), and should be issued before any of those rules are finalized. /14 R.J. Fields to USEPA, 511/94, Docket No. F-95-PH3P-FFFFF, pg 14

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President

Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P092  
COMMENTER Union Carbide Corp.  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 092  
COMMENT

I.H.3 The discussion of phase 2 emissions standards refer to the "point of generation" and the "point of origination." EPA should clarify what is intended for off-site treatment facilities.

#### RESPONSE

The Agency believes that this point is not at issue because many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P094  
COMMENTS General Motors Corp.  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 094  
COMMENT

Wastewater Treatment Aggregation for Treatment - Typical  
Wastewater Treatment facilities at manufacturing facilities have been designed in such a fashion so as the contaminated water requiring treatment is segregated into at most two or three streams (that is, oily wastewater and wastewater requiring metals treatment). These wastewaters are aggregated at the headworks of the separate wastewater treatment trains and then processed in a semi-batch manner. This particular arrangement of the equipment establishes a "central point" within the facility for wastewater treatment and thus allows for manageable labor allocation, maintenance, capital spending and hazardous chemical handling. To do, as this proposal suggests, that is, treat hazardous waste streams (wastewater streams flowing to wastewater treatment) at each point of generation is technically and administratively impossible. As mentioned in the Case Study No. 2, below, large industrial complexes could have upwards of 10,000 points of entry in the wastewater treatment system. To identify let alone control these discharges at the point of generation would be extremely costly both in capital and labor.

The treatment of waste streams at each point of generation to eliminate hazardous waste characteristics by separation of specific constituents would cause increased risk and worker exposure. The danger to the workers comes from an increased risk due to the handling of hazardous wastewater treatment chemicals (sulfuric, sodium hydroxide, etc.) in a production environment as opposed to a dedicated wastewater treatment facility. Additionally, the treatment of specific hazardous constituents by individual process units would dictate the use of a large work force with a correspondingly escalated probability of exposure. Labor bargaining agreements would require minimum staffing levels even though many of these treatment units would be small with relatively insignificant waste volumes treated. This would cause the establishment of a very inefficient system of labor and capital.

The establishment of many hazardous waste treatment processes would penalize generators that chose to operate without a Part B permit by minimizing waste storage times. Most of the treatment

processes that would be required could not fit within the current regulatory exemptions (such as elementary neutralization). This would greatly increase the regulatory burden placed on a facility's compliance staff and require the consumption of significant agency resources in permitting and enforcement. Agency initiatives under way to reduce the administrative burden on generators treating waste would help to mitigate the impact of this rule but an increased burden would still be placed on the generator and the delegated RCRA authority.

Case Study No. 1 - Foundries which utilize impoundments for the aggregation of water and sand used in the casting process for purposes of recycling of both may have upwards of 100 points of entry (points of generation) wastewater system. Some of these points of generation could discharge acidic wastewaters that meet the definition of hazardous waste because of the unlikely problem with pH controllers or because of ion exchange regenerative<sup>3</sup>.

Foundries recirculate (reuse) water at a flow rate of approximately 18 million gallons per day and discharge to stream approximately 0.23 million gallons per day or in percentage terms; 98.7% of the water used within a foundry is used and reused. Sand is recirculated at a rate of approximately 5 million tons per year and purchased and disposed at a rate of approximately 300,000 tons per year or in percentage terms; 94% of the sand used within a foundry is used and reused.

High recirculation rates are involved in the foundry process (that is, water and sand are reused many times). To attach LDRs to either sand or water that is currently being reused and recycled could result in a lowering of the recirculation rates within the process which would result in the more frequent direct sewage or disposal of these materials. The recirculation rates for the water and sand in use if Options 2 or 3 of Phase IV are passed will be based upon UTS contaminant levels and not technical feasibility and as such would become counter indicative of the goals of pollution prevention.

## RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require



LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P094  
COMENTER General Motors Corp.  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 094  
COMMENT

Case Study No. 2 - The proposed regulations seem to imply that the UTS (Universal Treatment Standards) levels at the point of environmental impact attach to those UHC (Underlying Hazardous Constituents) present from sources that were a hazardous waste at the point of generation. This implication would allow generators to "back-out" the mass of UHC coming from sources that are not hazardous waste at their point of generation. However, in order to do this a generator would have to measure flow and concentration of each UHC at each of the points of generation (both hazardous and nonhazardous) within his process. It is not uncommon for large manufacturing complexes to have upwards of 10,000 points of generation (processwastewater contributors - both hazardous and nonhazardous) being aggregated in wastewater treatment system. To properly characterize all these streams, in order to conduct a mass balance, the analytical cost alone (sampling and flow measuring excluded) would exceed \$15,000,000 per manufacturing facility (UHC scans cost approximately \$1,500 each).

#### RESPONSE

Today's rule does not address the issue that the commenter raises because it is outside the scope of the rule. However, EPA shall consider this issue in the future.

DCN PH4P094  
COMMENTS General Motors Corp.  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 094  
COMMENT

Point of Generation

Discussion of Legislative History in the Phase III proposal (60 FR 11707) describes the legislative intent with regard to dilution of hazardous constituents either intentionally (diluting for purposes only to meet LDR) and unintentionally (dilution that occurs as part of the manufacturing process). Footnote 5 (60 FR 11707) states:

"The Committee intends that dilution to a concentration less than the specified thresholds by the addition of other hazardous waste or any other material during waste handling, transportation, treatment, or storage, other than dilution which occurs as a normal part of a manufacturing process, will not be allowed." iv (emphasis added)

The language of the first sentence of this passage refers to dilution of waste during waste handling, treatment, or storage and as such would still be prohibited from land disposal.

Congress simplified that intentional dilution is prohibited for those wastes that have distinctly entered the "strictures" of RCRA (or conversely exited the manufacturing process), that is it (the hazardous waste) is being handled or managed after it is generated, transported, treated or stored.

Factors such as persistence, toxicity, mobility, and propensity to bioaccumulate at the point of environmental impact should be considered when determining the need for expansion of the Land Disposal Restrictions into Subtitle D wastes and units. For purposes of the Land Disposal Restrictions "the point of generation" is irrelevant along with what has occurred to a particular contaminant prior to its possible entry into the environment. The concern of EPA is "what is the waste possibly doing to the environment"; therefore, concern and focus should be on "the possible entry into the environment", and not on the regulatory status of the contaminant when it was first existed. If EPA is concerned with contaminants possibly entering the environment then the regulations should be written as such. These regulations should regulate all streams regardless of whether or not the waste stream is a decharacterized waste.

## RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P095  
COMENTER GE  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 095  
COMMENT

As recognized by EPA, the only clear holdings the court made regarding CWA surface impoundments are that formerly characteristic waste may be managed in them without compliance with Subtitle C, that treatment to attain RCRA treatment standards may be accomplished in impoundments, and that formerly characteristic wastes must meet RCRA treatment standards only upon exiting impoundments.<sup>11</sup> EPA's suggestion that "the opinion can be read more broadly" to include requiring LDR standards to prevent releases via routes other than through wastewater discharge is incorrect. EPA founded its suggested interpretation of the decision on two statements the court made: (1) that the RCRA land ban requirement may not be thwarted by cross-media transfers of untreated hazardous constituents; and (2) that non-Subtitle C regulation of CWA surface impoundments is necessary to ensure that waste remains in such impoundments only temporarily.<sup>12</sup> In EPA's view, the first statement may require it to promulgate RCRA regulations reducing all environmental emissions from surface impoundments, and the second statement suggests that it is required to regulate CWA impoundment if all wastes do not, in fact, remain in them only "temporarily."<sup>13</sup>

EPA's reasoning is contrary to the decision. The court's statement regarding reduction of untreated hazardous constituents entering the environment was clearly directed at pollutant mass being discharged through the surface impoundment outfalls. This is particularly clear from 976F.2d 23, footnote 9, where the court provides an example of a mass-balance calculation of the amount of cadmium that would have to be removed from a mixed formerly-hazardous/never-hazardous waste stream to assure that effluent from the impoundment would contribute no more mass of cadmium to the environment than would be the case if the formerly hazardous waste stream was treated separately. Just as significant is the fact that, with the exception of volatilization of organic chemicals from formerly ignitable waste streams, the court never mentions any other route by which chemicals in surface impoundments might enter the environment. There is absolutely no indication that the court was presented with, or considered, the issue of cross-media transfers of UHCs due to

air emissions, leaks, or sludge disposal.

The court's statement recognizing that formerly characteristic wastes are present in CWA impoundments only temporarily does not support EPA's broad reading. The court's point was that because wastes are present in CWA surface impoundments only temporarily, they should not be subject to Subtitle C-type standards.<sup>14</sup> EPA's observation that if a surface impoundment leaked, the wastes would not be there temporarily, is beside the point since this issue was not addressed by the court. Moreover, the entire tenor of the court's opinion was that CWA surface impoundments should not be regulated under Subtitle C because to do so would be contrary to the "accommodation" of the CWA under RCRA that was mandated by Congress.

## RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P095  
COMENTER GE  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 095  
COMMENT

Not only did the Agency not intend the Proposed Rule to apply to wastewater sumps, wetwells, and lift stations, it is unlikely that placement of materials in such units would be land disposal because such units are not the final resting place of wastes. In Chemical Waste Management, the court held that wastewater being managed in a surface impoundment was not required to meet land disposal standards prior to entering the impoundment. In distinguishing its decision from a previous decision in which land disposal standards had to be met before waste was placed in the land-based unit, the court noted that liquids are only placed in CWA surface impoundments temporarily, while in the previous case, the "land treatment" at issue represented the final resting place of the hazardous wastes.<sup>28</sup> The court's decision makes clear that the land disposal restrictions were intended to apply to land-based units that represent the "final resting place" of hazardous waste. Wastewater sumps, wet wells, and lift stations, however, are not the final resting place of the wastewater. In fact, the wastes managed in such units generally reside in the unit for even less time that waste would generally reside in a surface impoundment. Typically, sumps, wet wells, and lift stations are designed to have waste residence times of much less than 24 hours. For these reasons, if the Agency adopts either Option 2 or Option 3, the Agency should clearly state that the Proposed Rule does not apply to units that (i) are constructed of reinforced concrete, (ii) are part of a wastewater collection system, and (iii) are designed and operated so that the residence time of waste managed in the unit is less than 24 hours. Such "exempted" sumps, wet wells, and lift stations should also include units meeting the above criteria and in which neutralization of wastewater is accomplished.

If the Agency determines that such units are subject to the requirements of Option 2, then the Agency should reevaluate the potential impacts of the Proposed Rule. As noted above, the background documents supporting the Proposed Rule clearly did not consider such sumps in estimating the potential costs and benefits of the Proposed Rule. Moreover, the Agency did not consider the potential risks posed by such units. Because of

the tremendous number of such units in operation (which GE estimates to be at least equal to the number of surface impoundments previously identified) and the potential impact of having to bring such units into compliance with Options 2 or 3, the Agency must carefully review the costs, benefits, and risks associated with such units.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.



DCN PH4P095  
COMMENTS GE  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 095  
COMMENT

3. If the Agency adopts Option 2, the Agency should adopt GE's proposed version of the "battery limits" concept for determining the point of generation because the current rule for determining the point of generation is confusing and results in overbroad application of Option 2.

One of the most crucial concepts of the Proposed Rule, and any other land disposal standard, is the concept of "point of generation." Traditionally, the Agency has taken the position that land disposal restrictions apply at the point of waste generation.<sup>33</sup> Similarly, under the Proposed Rule, it is at the point of generation that one must determine whether the wastewater exhibits a hazardous characteristic, whether the air emissions standard of Option 2 applies, or whether the wastewater is exempt from the Proposed Rule because levels of underlying hazardous constituents are below the universal treatment standards. Neither the Agency's regulations nor the Proposed Rule define "point of generation." In general, however, the Agency has traditionally taken the position that the point of generation, and therefore the point at which land ban restrictions apply, is the point at which a secondary material is first removed from the process in which it is produced. As has been previously noted, however, applying land disposal restrictions at the point of generation poses a number of difficulties.<sup>34</sup> Consequently, the Agency requested comments on other approaches for determining applicability of land disposal restrictions. General Electric has previously submitted comments on this issue.<sup>35</sup>

In those comments, GE supported the adoption of a variation of the Agency's proposed "battery limits" approach. Under this approach, the determination of whether land disposal restrictions apply to wastewater would be made at the first readily accessible sampling point downstream of a process or group of processes.

As GE has previously pointed out, the "point of generation" approaches previously proposed by the Agency do not take into account the tremendous complexity of wastewater collection and treatment systems at large manufacturing facilities. Many of these plants, including most of GE's facilities, are older facilities that have grown in a somewhat haphazard fashion. As

such, the wastewater lines at GE's facilities are not always segregated by process or product. By defining the "point of generation" to be the first readily accessible sampling point downstream of a processor group of process, the Agency could avoid all of the practical problems that would be otherwise encountered in trying to determine wastewater characteristics at a point farther upstream. Accordingly, GE believes that the Agency should adopt this "point of generation" approach for determining applicability of Option 2.

## RESPONSE

The Agency did propose several options for the determination of point of generation, however, many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P099  
COMMENTS Ohio EPA  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 099  
COMMENT

Sludge removal should be considered a point of generation of a new wastes stream. These sludges should fall under RCRA only when failing TCLP standards and otherwise be considered non-hazardous (55 FR 22661-62).

Solid waste facilities are not prepared to handle non-hazardous wastes involving treatment standard notifications and certifications. These Subtitle D facilities may also be very hesitant in handling wastewaters or wastewaters treatment sludges for fear of future liabilities under the hazardous waste programs.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule. EPA also is not altering change of treatability group principles discussed in earlier FR notices.

DCN PH4P100  
COMMENTS Phillip Petroleum  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 100  
COMMENT

IV. The "Treatability Group Doctrine" Was Not Addressed In the "Third-Third" Decision.

As part of the Third-third LDR rule, EPA determined that when a prohibited characteristic waste changes treatability groups, this creates a new point of generation for purposes of determining if the land disposal restrictions apply. The treatability group doctrine was not challenged as part of the "Third-third" litigation, nor was it addressed by the court in the "Third-third" decision. Under EPA's previous pronouncements, the application of the treatability group rules to characteristic wastes was straight forward. EPA has not suggested any reason, other than an overly aggressive reading of the "Third-third" decision, to reverse this longstanding Agency policy. Consequently, EPA should not change the "treatability group doctrine."

RESPONSE

The Agency thanks the commenters for the interest in this issue. It is not EPA's intent to change the treatability group doctrine. In today's rule, EPA is only clarifying specific point of generation issues.

DCN PH4P102  
COMMENTS Chevron  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 102  
COMMENT

5) Chevron Supports EPA's Interpretation That The Generation Of A New Treatability Group Is The New Point Of Generation For Purposes Of Determining Where LDR Prohibitions Apply. For wastewater treatment sludges in non-hazardous surface impoundments, Chevron supports EPA's interpretation that the generation of a new treatability group is the new point of generation for purposes of determining where LDR prohibitions apply. Thus, sludges derived from wastewater management in CWA and CWA-equivalent impoundment systems should not be subject to LDRs unless they themselves are hazardous wastes.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P109  
COMMENTS Ford  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 109  
COMMENT

Option 3 requires waste streams to be treated such that the underlying hazardous constituents would meet the universal treatment standards at the "point of generation." Typical Wastewater Treatment facilities at manufacturing facilities have been designed so the industrial wastewater is segregated into at most two or three streams. That is oily wastewater and wastewater requiring metals treatment. These wastewaters are aggregated at the headworks of the wastewater treatment facility and then processed in a semi-batch manner. This particular arrangement of the equipment establishes a "central point" within the facility for wastewater treatment and thus allows for manageable labor allocation, maintenance and capital spending. To treat hazardous waste streams (wastewater streams flowing to wastewater treatment) at each point of generation is technically and administratively impossible. To identify and control these discharges at the point of generation would be extremely costly with respect to both capital improvements and labor, with minimal environmental benefit.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P113  
COMMENTS Chemical Manufacturers Assn  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 113  
COMMENT

**A. EPA Should Not Promulgate Phases III or IV Until It Has Clarified Its Interpretation Of The Point of Generation.**

EPA is planning to issue a Federal Register notice clarifying (and perhaps amending) its interpretation of the point of generation of hazardous wastes. This issue is crucial to facilities who will need to develop strategies for complying with Phases III and IV. The point at which a waste is either generated or prohibited will determine whether and what LDR standards are applicable. This clarification could eliminate certain waste streams from either Subtitle C regulation (or clarify that they never should have been included in the first place) or the land disposal restrictions. Thus, the clarification could have a profound effect on the upcoming LDR rules and on HWIR, and should be issued before any of those rules are finalized. Indeed, it is hard to see how EPA can make a final decision on any these rules without deciding the point of generation issues, since the environmental and regulatory impact of these rules will change depending on how the Agency decides the point of generation issues. Thus, unless the Agency decides to choose Option 1, we urge EPA to refrain from finalizing either Phase III or Phase IV until after it has clarified the point of generation.

**RESPONSE**

The Agency did propose several options for the point of generation in the Phase III rulemaking, however, many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule. However, EPA has chosen to clarify certain specific point of generation issues in the Phase IV rule.

DCN PH4P113  
COMMENTS Chemical Manufacturers As  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 113  
COMMENT

h) EPA needs to redefine the "point of generation" definition in order for the Pollution Prevention exemption to be useful. (Item #8)

CMA sees a significant problem in attempting to use the Pollution Prevention Compliance Alternative as a way to obtain an exemption from the Phase IV regulations the sheer number of points of generation that would likely have to be analyzed.

A chemical facility could have on the order of a hundred or more characteristic wastestreams which would need to be sampled and analyzed to determine the total amount of a specific underlying hazardous constituent that is generated at the facility. This enormous amount of points will create a huge amount of costs associated with sampling and analysis, and deciding which streams to address in minimizing pollution, let alone the difficulty of demonstrating compliance with the exemption. Such a situation will likely keep facilities from even considering using this exemption criteria, with the subsequent disadvantage that the facilities are addressing treatment of wastes as opposed to minimizing the generation of wastes.

There is a need to redefine the "point of generation" in order to make this exemption at all appealing. Such a redefinition was discussed in Section IV.D of the LDR Phase III proposal. Locating the "point of generation" to the battery limit of the facility units would significantly reduce the number of waste streams that would need to be addressed when using the Pollution Prevention exemption option. This will make the option much more workable to facilities with the ultimate advantage of promoting pollution prevention.

It is CMA's recommendation that EPA redefine the definition of "point of generation" to be the battery limits of the facility's units.

## RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer



prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P113  
COMMENTER Chemical Manufacturers As  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 113  
COMMENT

1. CMA suggests that the Agency define the point of generation for wastes which polymerize on a rapid time frame.

"CMA requests that the Agency determine that materials that are undergoing rapid polymerization (i.e., within a few moments of removal from the process), without catalyst addition should be evaluated as to their physical state (i.e., liquid or solid using the paint filter test) once the material has reached standard temperature and pressure. Thus, a waste which is solid within minutes of being removed from a process should be viewed as a generated solid for purposes of waste classification.

#### RESPONSE

This question is outside the scope of the point of generation issue and has been addressed in the response to comments for POLYM.

DCN PH4P116

COMMENTS Occidental Chemical Co.

RESPONDER HM

SUBJECT POG

SUBJNUM 116

COMMENT

C. No treatment standards should be set for non-hazardous sludges.

OxyChem agrees with EPA that sludges produced in treatment impoundments should be considered new points of waste generation.

RCRA Subtitle C sludge management constraints should apply only if sludges are hazardous wastes when removed from impoundments.

D. If Option 2 is selected, EPA should clarify requirements for CWA and CWA-equivalent impoundments where sludges are destined to be left in place.

Sludges produced in existing wastewater treatment impoundments that close with non-hazardous residues in place would not be subject to UTS standards unless sludges are removed. These units would, however, be subject to groundwater monitoring and corrective action, if necessary.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4P116  
COMMENTS Occidental Chemical Co.  
RESPONDER HM  
SUBJECT POG  
SUBJNUM 116  
COMMENT

IV. Provide Flexibility and Cost Effective Alternatives

A. Requiring treatment of minor constituents in decharacterized wastewater before impoundments would disrupt our current wastewater treatment operations and would be prohibitively expensive for minimal environmental benefits.

OxyChem agrees with EPA and is also not in favor of Option 3. Our previous estimates indicated capital costs up to \$25 million could be required to replace wastewater impoundments with tanks.

B. The definition of point of generation should be broadened.

If Option 2 or 3 is selected, as stated in our comments on the Phase III proposal, a "battery limits" definition is a practical way to simplify compliance determinations. Cost effective accommodation with existing collection and treatment systems will result from this approach.

RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4A070

COMMENTS FMC Corporation

RESPONDER HM

SUBJECT POG

SUBJNUM 070

COMMENT VIII. EPA Clearly Needs To Define The "Point Of Generation"

As Battery Limits, EPA needs to clearly define the "Point of Generation". FMC has previously expressed support for a "battery limits" approach to "Point of Generation".<sup>68</sup> This would include revising 40 C.F.R. 260.10 by adding the definition of "Point of Generation" as: "The point at which wastes become subject to Subject C regulation and at which land disposal restrictions apply is the point of exit of material from a process, except for aqueous wastes managed in Clean Water Act (CWA) or CWA equivalent systems, where the point of generation is defined as the wastewater discharge point(s) for the process area (also commonly termed "battery limits")." It is FMC's understanding that EPA is planning to issue a Federal Register notice clarifying (and perhaps amending) its interpretation of the point of generation of hazardous wastes. This issue is crucial, because a determination of the point of generation can determine whether a material is a hazardous waste at all, and what LDR standards are applicable. Even more fundamental, clarification of the point of generation will determine whether a material is a waste at all. This clarification could eliminate certain waste streams from Subtitle C regulation (or clarify that they never should have been included in the first place). Thus, the clarification could have a significant effect on the Phase IV LDR and Phase IV Supplemental rules and on the Hazardous Waste Identification Rule (HWIR), and should be issued before any of those rules are finalized.

#### RESPONSE

The Agency did propose several options for the point of generation in the Phase III rulemaking, however, many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain

decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.

DCN PH4A084

COMMENTER Chemical Manufacturers As

RESPONDER HM

SUBJECT POG

SUBJNUM 084

COMMENT CMA Continues to Advocate a Battery Limits Approach for Defining the Point of Generation As we suggested -in our comments to EPA's proposed Phase-III rule, CMA urges EPA to clarify the point at which a facility must determine that wastes are prohibited from land disposal. It is CMA's understanding that EPA is planning to issue a Federal Register notice clarifying (and perhaps amending) its interpretation of the "point of generation" for hazardous wastes. This issue is crucial to the RCRA program because the point of generation determine whether a material is a hazardous waste and what LDR standards are applicable. Thus, the clarification could have a significant effect on future LDR rules and on the Agency's Hazardous Waste Identification Rule (HWIR). Thus, as we recommended in our comments on the Agency's proposed Phase IV rules, EPA should clarify the point of generation before any of these rules are finalized.

#### RESPONSE

Many of the point of generation issues were resolved when, on March 26, 1996, President Clinton signed into law the Land Disposal Program Flexibility Act of 1996. This Act provided, among other things, that decharacterized wastes treated in CWA-regulated units are no longer prohibited from land disposal so long as they are not hazardous wastes at the point they are land disposed. The Act also required that EPA study the characteristics of such decharacterized wastes. If at some future time, the Agency determines that certain decharacterized wastes require LDR treatment standards, the EPA will revisit the options for point of generation that were presented in the Phase III rule.





DCN PH4P001  
COMMENTS Grady White Boats  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 001  
COMMENT

This letter is in support of the EPA's proposal to add polymerization as an approved treatment technology for disposal of excess of polyester resin. I would like to thank the EPA for recognizing the National Marine Manufacturer Association's petition to add this treatment technology. The addition of this treatment technology will allow us to make usable products with previously unusable waste resin and reduce waste through pollution prevention.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the availability of this treatment method for high-TOC ignitable wastes will reduce the risks associated with these wastes and adequately protect human health and the environment.

DCN PH4P002  
COMMENTS Olympic Boat Company  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 002  
COMMENT

It was with great interest that I read the proposed rule regarding "Polymerization as an approved treatment technology for polyester resin." Needless to say it makes me very happy. This material is no different than the boat that sets in the water.

This will allow boat builders as well as all the fiberglass industry the opportunity to reduce waste through pollution prevention, making usable products that were previously considered unusable waste.

Olympic Boat Company Inc. wants to thank NMMA for their petition on this matter and also we want to thank your department for taking these progressive steps toward the reducing of the waste stream.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that this new method of treatment will be beneficial to all concerned.

DCN PH4P003  
COMMENTS Sunfish Laser  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 003  
COMMENT

Sunfish Laser is strongly in favor of approval of POLYM method of treatment for High-TOC Ignitable D001 wastes. By adding polymerization as an approved treatment technology we will be able to reduce waste through pollution prevention as well as reduce emissions through source reduction

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the addition of this method of treatment will be beneficial to all concerned.

DCN PH4P004  
COMMENTS Larson  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 004  
COMMENT

We fully support your proposal to amend the RCRA regulations that adds polymerization as an accepted method of treatment for TOC ignitable (D001) wastes. We believe that this method of treatment is environmentally acceptable and also the most economical for the manufacturing sector.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the addition of this method of treatment will be beneficial to all concerned.

DCN PH4P005  
COMMENTS Arctco  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 005  
COMMENT

Arctco feels that this is a very wise decision as this will reduce our waste and prevent environmental contamination. Arctco strongly agrees with the Agency's statement that "the ongoing practices of polymerizing characteristic waste to a non-characteristic inert mass adequately protect human health and the environment."

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the addition of the method of treatment will be beneficial to all concerned.

DCN PH4P006  
COMMENTS Regal Marine Industries  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 006  
COMMENT

When considering the approved process for treatment of waste resins and gelcoats, being able to polymerize the product is most definitely a win/win situation. It helps in the following ways. First of all, a usable product can be made with the waste (parking lot bumpers), and it reduces the costs associated with hazardous waste removal. Enclosed are pictures of parking lot bumpers that our firm made using waste resin and gelcoat. I applaud your efforts and support this proposal to add polymerization as an approved treatment technology for Polyester Resin.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. In addition, the Agency thanks the commenter for the information on recycled-content products provided by the commenter. The Agency agrees with the commenter that the availability of this treatment method for high-TOC ignitable wastes will be beneficial to all concerned.

DCN PH4P007  
COMMENTS Godfrey Marine  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 007  
COMMENT

We would like to applaud the EPA for recognizing the NMMA's position to add polymerization as an approved treatment technology for disposing of unusable resin waste.

This technology will help reduce waste through pollution prevention and will also enable us to make usable products with previously unusable resin waste.

This is a "win - win" situation for everyone and should be an action welcomed by all in the recreational boat building industry.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the availability of this treatment method for high-TOC ignitable wastes will be beneficial to all concerned.

DCN PH4P008  
COMMENTS Florida DEP  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 008  
COMMENT

Polymerization Treatment of High TOC D001 Wastes: Based on what I know of boat builder waste management practices, non-polymerizable wastes are already being added to waste polymerized resins for disposal. Sometimes manufacturers have to discard resins because they won't polymerize properly. The resins remain semisolid, too thick to be properly tested by either the Pensky-Martens or Setaflash methods. If polymerization is incomplete, but the residual can't be tested, will EPA consider the waste to have been treated properly? Two modifications seem necessary:

1. Split the high TOC treatability group into 2, only allow polymerization for polymerizable organics that have not been mixed with other hazardous wastes.

2. Require the decharacterized high TOC waste to either be incinerated in a MSW facility operating in compliance with the Clean Air Act or meet the universal treatment standard.

Polymerization conducted within the original container within 90 days of the decision to discard the material is already excluded from regulation under §261.4(c). The waste is not be subject to the accumulation provisions under 262.34, and therefore would not be subject to land disposal restrictions per §261.5 and §262.1(b).

The polymerization process can generate excess heat and fumes and should not be conducted in units which are not subject to 262.34.

#### RESPONSE:

The commenter does not specify the characteristics of the non-polymerizable wastes that the commenter asserts are being added to waste polymerized resins for disposal. However, the Agency notes that if polymerization does not result in an inert mass, the treatment standard is not achieved. Such wastes must be treated further, or treated using an alternative treatment method (i.e., CMBST or RORGS). In addition, the Agency points out that polymerization is being added to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) only for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. This treatment technology is not being finalized for other hazardous wastes. Other hazardous wastes, including non-polymerizable wastes, must be characterized and must meet all applicable LDR treatment standards for the hazardous constituents contained in the waste, including the UTS, prior to land disposal. The mixing or dilution of non-polymerizable wastes with



polymerization process wastes is not acceptable treatment.

DCN PH4P009  
COMMENTS National Marine Manufacturers  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 009  
COMMENT

The National Marine Manufacturers Association, with its 1600 member companies, is grateful to the EPA for recognizing our petition and proposing to add polymerization as an approved treatment technology for polyester resin. By permitting boat builders to polymerize scrap resin, usable products can now be made with what had previously been unusable waste resin. We applaud this effort and are encouraged by EPA's response to our petition.

**RESPONSE:**

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the availability of this treatment method for high-TOC ignitable wastes will be beneficial to all concerned.

DCN PH4P011  
COMMENTS Blue Water Boats  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 011  
COMMENT

With present technology and design, large quantities of polyester resins are used in the production of fiberglass boats. As a result, there are a variety of containment systems required for storage and transportation. Our concern is how to clean and/or dispose of residual resin left in the used containers safely, cost effectively and within environmental guidelines. Here are some current options:

1. Cleaning containers requires solvents and rags. Solvents evaporate and the rags now contain the resin. Labor intensive, does not solve the problem
2. Incineration burns, depleting supplies of fuel and emits its own hazardous pollutants, which is dangerous and very expensive.
3. Organic recovery is not practical with the high level viscosity of polyester resins.
4. Fuel blending would require a chemist, an engineer and a pyro-tech to apply this method, which is not practical.
5. Polymerization requires taking two hazardous residual liquids (resin & MEKP) and putting them together to form a non-hazardous solid. Therefore, safe, environmentally sound, inexpensive and effective.

Allowing Fiberglass Reinforced Plastics (FRP) manufacturers to dispose of residual resins through polymerization involves a common sense approach toward the balance between the environment and business. Your consideration and approval of this technique are needed.

#### RESPONSE:

In today's final rule, EPA is adding polymerization (POLYM) to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter, and believes that polymerizing characteristic wastes to a non-characteristic inert mass adequately protects human health and the environment. The Agency notes that 40 CFR 262.34(a) provides that a generator may accumulate hazardous waste on-site for 90 days or less without a permit, or without having interim status, if the waste is placed either in containers that are in compliance with subparts I, AA, BB and CC of 40 CFR part 265 and/or in tanks in compliance with subparts J, AA, BB and CC of 40 CFR part 265 (except for §§265.197 and 265.200), and/or in drip pads if the generator complies with subpart W of 40 CFR part 265 as

well as additional record keeping requirements.

DCN PH4P013  
COMMENTS New York DEC  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 013  
COMMENT

DEC has no objections to the proposed polymerization (POLYM)  
method of treatment for D001 High-TOC ignitable wastes.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

DCN PH4P031  
COMMENTS Department of Energy  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 031  
COMMENT

III.C POLYM Method of Treatment for High-TOC Ignitable  
D001 Wastes

1. p. 43679, col. 1 -- EPA proposes to add polymerization (POLYM) to the set of required methods of treatment designated Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. DOE believes that polymerization is a superior method for treating certain high-TOC ignitable D001 wastes, and supports its addition to the set of treatment methods designated as BDAT.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

DCN PH4P047  
COMMENTS Merck  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 047  
COMMENT

4. The EPA has proposed to allow Polymerization as a method of treatment for high TOC D001 wastes. While we support this change, we request that the Agency also reconsider it's determination that biological waste treatment is not an appropriate method for high TOC D001 wastes. Merck and other companies have submitted extensive data demonstrating that wastewater treatment is an effective means of treating these wastes; that with equalization these wastes are easily assimilated and thoroughly treated in a waste treatment plant; that air emissions of these compounds in many cases are minimal (see comments on proposed Pharmaceutical Effluent guidelines); and that many of these streams have no underlying toxic constituents (such as a waste ethanol stream) and yet are prohibited from a very effective and safe means of treatment. There now exists information that would allow companies to predict which wastes have a higher tendency to volatilize in a waste treatment plant and as for "toxics along for the ride" if identifying underlying constituents is appropriate for low TOC D001 streams it is not clear why this would not be appropriate for high TOC D001 streams.

**RESPONSE:**

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

The Agency thanks the commenter for submitting data along with the request for the Agency to reconsider its previous decision not to designate biological treatment as BDAT for high-TOC wastes. The commenter's request is beyond the scope of POLYM. However, EPA has addressed the issue of treating high-TOC wastes in tank based biological treatment systems in the preamble discussion of Point of Generation. The Agency is taking the position that this type of treatment is allowable if the system does not include any land disposal units. The sludge generated from the process should be evaluated as generated to see if it is a hazardous waste.

DCN PH4P048  
COMMENTS Chemical Waste Management  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 048  
COMMENT

C. POLYM Method of Treatment for High-TOC Ignitable D001 Wastes (60 Fed. Reg. at 43,679)

The Agency is proposing to add polymerization (POLYM) to the set of required method of treatment for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. POLYM is proposed as an alternative to CMBST or RORGS for only those high-TOC D001 wastes which are chemical components in the manufacture of plastics (See 60 Fed. Reg. at 43,679). Typically waste polyester/styrene monomers and MEK peroxide are commonly disposed by reacting small quantities together to create fiberglass scraps that are no longer characteristics. POLYM would allow the practice of polymerizing high-TOC ignitable(D001) characteristic wastes to a non-characteristic inert mass which the Agency believes adequately protects human health and the environment.

CWM generally supports the promulgation of POLYM as a specified technology for high-TOC ignitable wastes from the plastics manufacturing industry; however, CWM believes that the description of POLYM proposed in 268.42 Table 1 should be modified.

The current description reads as follows:

"POLYM - Formulation of complex high-molecular weight solids through polymerization of monomers in high-TOC D001 nonwastewaters."

CWM believes the description should be amended to reflect that this specified technology is only available for those high-TOC D001 wastes which are chemical components in the manufacture of plastics. CWM believes that a list which reflects some of the acceptable constituents would be helpful. In addition to the list the suggested change is as follows:

"POLYM - Formulation of complex high-molecular weight solids through polymerization of monomers in high-TOC D001 nonwastewaters which are chemical Components in the manufacture of plastics."

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-



TOC ignitable (D001) wastes resulting from commercial polymerization processes.

The Agency appreciates the commenter's suggestions for clarifying the availability of polymerization for high-TOC D001 wastes which are chemical components in the manufacture of plastics. The Agency has included this clarification in the preamble to the final rule.

At this time the Agency is not publishing a list of acceptable constituents. EPA believes that the definition of POLYM is explicit enough for generators to make a determination as to whether POLYM is applicable to their wastes. Anyone who has a question is always free to contact State or EPA officials at any time.

DCN PH4P063  
COMMENTS Laidlaw.  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 063  
COMMENT

4.0 POLYM as a Method of Treatment for High-TOC Ignitable D001 Wastes

LES does not support the Agency's decision to allow POLYM as an alternative method of treatment for those high-TOC D001 wastes which are chemical components in the manufacture of plastics. While the polymerization technology employed may reduce the toxicity of the waste (although this has not been adequately demonstrated), it does not reduce the overall volume of waste which goes against the general goals of waste minimization. Further, the Agency has not addressed whether the polymerization process adequately treats any underlying hazardous constituents that may be present in the waste.

RESPONSE:

Based upon public comment, the Agency decided to finalize the proposal to add polymerization to required methods of treatment designated Best Demonstrated Available Technology (BDAT) for high-TOC ignitable wastes resulting from commercial polymerization processes. The Agency made this determination after analyzing data made available to the Agency and after reviewing public comments submitted in response to the proposed rule. The Agency believes that the practice of polymerizing characteristic wastes to a non-characteristic inert mass adequately minimizes threats posed by land disposal of the waste.

The Agency has several goals for waste minimization. Although the primary goal of waste minimization is source reduction, other goals for waste minimization include reducing the quantities of wastes that are disposed and reducing the overall toxicity of wastes. A reduction in the toxicity level of wastes treated by polymerization is achieved through the reduction in mobility of the constituents in the wastestream. Although the treatment of high-TOC ignitable wastes that are chemical components in the manufacture of plastics may not necessarily result in a chemical conversion of the UHC, such treatment will result in reducing the mobility of UHC through chemical bonding.

The Agency believes that the addition of polymerization to the list of designated BDAT for wastes resulting from commercial polymerization processes also will allow some generators to recycle the waste into useable products. The Agency received public comments that included information on recycling alternatives for such wastes treated by polymerization. Therefore, the Agency disagrees with the commenter and asserts that the addition of polymerization to the set of required methods of treatment designated as BDAT for high-TOC wastes resulting from

commercial polymerization processes may further the Agency's waste minimization goals.

DCN PH4P065

COMMENTS Safety-Kleen Corp.

RESPONDER JL

SUBJECT POLM

COMMENT 11. Safety-Kleen supports the Agency's proposal to add polymerization (POLYM) as a BDAT treatment method for high-TOC ignitable (D001) wastes from commercial polymerization processes. Safety-Kleen believes that the POLYM treatment technology provides the regulated community with a cost-effective, environmentally sound method of management for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. However, Safety-Kleen seeks Agency clarification that it is possible to generate monomer D001 wastes which continue to undergo polymerization without the need for additional catalyst (e.g., where catalyst is present in lower concentration than needed for commercial production, such as a bad reaction batch). Thus, the addition of a polymerizing component or catalyst to the discarded material need not be a required condition where the material is deemed capable of polymerizing fully without additional catalysts. 12. For wastes which polymerize on a rapid time frame, Safety-Kleen requests that the Agency find that the point of generation is after such polymerization occurs for purposes of waste classification and therefore for LDR determination. Safety-Kleen requests that the Agency determine that materials that are undergoing rapid polymerization without catalyst addition can be evaluated as to their physical state (i.e., liquid or solid using the paint filter test) once the material has reached standard temperature and pressure, rather than at the immediate point and time of generation. Stated another way, a waste which is solid within minutes of being removed from a process can be viewed as a generated solid for purposes of waste classification.

#### RESPONSE

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

Polymerization may be used to render both the reactive monomers and the catalysts in the reaction non-hazardous. In addition, other high-TOC (D001) monomers and catalysts, besides polyester/styrene monomer and MEK peroxide, that are hazardous because they exhibit the high-TOC/D001 characteristic, may be managed through polymerization. If a waste monomer has sufficient amounts of catalyst mixed with it for polymerization to occur, then that process may meet the definition of POLYM. However, treatment of the characteristic hazardous waste by

polymerization must result in the high-TOC ignitable waste being converted to an inert material that does not exhibit any characteristic of hazardous waste. Semi-solid materials would not achieve treatment as intended by polymerization.

If a waste is generated under the definition of POLYM (as defined in today's rule), then the point of generation is defined as being when an inert mass that does not exhibit any characteristic of hazardous waste is produced. If a waste monomer is discarded with sufficient catalyst mixed in at the time of discard, and the mixture produces an inert mass that does not exhibit any characteristic of hazardous waste, then POLYM has taken place regardless of the amount of time it takes for that mass to be produced, within storage and accumulation regulations.

DCN PH4P073  
COMMENTS Outboard Marine Corp.  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 073  
COMMENT

OMC supports EPA's proposed change as described in the preamble to the proposed rule (60 F.R. 43679). OMC also supports the proposed changes to 40 CFR 268.42 (60 F.R. 43697) allowing polymerization as Best Demonstrated Available Technology (BDAT) for high TOC (Total Organic Carbon) D001 ignitable characteristic non-waste waters.

When this rule is finalized, OMC plans to use this technology for satisfying LDR requirements for waste polyester resin and gelcoat generated in the fiberglass boat manufacturing process. Based on OMC data, polymerization of waste resin and gelcoat results in a solid waste that does not exhibit any hazardous waste characteristics. OMC believes that polymerization of waste polyester resin and gelcoat eliminates the ignitability characteristic of a hazardous waste via a "common sense" approach. We ask that the EPA clarify its preamble statements regarding the 90-day storage of this type of waste in tanks (60 F.R. 43679). The provisions of 40 CFR 262.34 allow large quantity generators to store hazardous waste up to 90 days in adequate containers and tanks. It is not clear why EPA specifically addressed tanks under 40 CFR 264.34 (a)(1)(ii) in the preamble. It is OMC's belief that the majority of fiberglass boat builders would store these types of wastes in containers as opposed to tanks. The preamble to the final rule should address this issue.

**RESPONSE:**

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

Although the Agency only made mention of the generator accumulation provisions for storage in tanks in the preamble to the final rule, 40 CFR 262.34(a) provides that a generator may accumulate hazardous waste on-site for 90 days or less without a permit, or without having interim status, if the waste is placed either in containers that are in compliance with subparts I, AA, BB and CC of 40 CFR part 265 and/or in tanks in compliance with subparts J, AA, BB and CC of 40 CFR part 265 (except for §§265.197 and 265.200), and/or in drip pads if the generator complies with subpart W of 40 CFR part 265 as well as additional record keeping requirements.

The Agency's mention in the preamble to the proposed rule of the generator accumulation provisions related to tanks was provided only as guidance and in no way limits a generator's responsibility to comply with all applicable hazardous waste management requirements.

DCN PH4P076  
COMMENTS Society of the Plastics Industry  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 076  
COMMENT

For over a decade, SPI, which represents all segments of the plastics industry in the United States, has recognized the merits of polymerization as an acceptable waste management technique and promoted its use. SPI is a participant in EPA's Sustainable Industry Project for the express purpose of developing a proposal on polymerization as a LDR methodology for certain plastics operations. SPI commends EPA for taking the initiative in the proposed rule to approve polymerization as an acceptable LDR technology. Polymerization is a safe, efficient, and effective means of diminishing the toxicity and mobility of certain hazardous wastes and eliminating or minimizing any threat to human health or the environment.

EPA is proposing to add POLYM to the set of Best Demonstrated Available Technology ("BDAT") methods for D001 ignitable liquids high-Total Organic Carbon ("TOC") nonwastewater subcategory. Without jeopardizing the significant gain that even limited recognition of this technology represents, SPI asks EPA to consider some additional points which are detailed in the remainder of these comments:

Clarify that the rule is not intended to be limited to reactions which are initiated by chemical catalysts. Other methods of polymerization, including thermal and light-initiated reactions, should be allowed within the definition of POLYM.

Clarify that high-TOC D001 monomers and catalysts besides polyester/styrene monomer and MEK peroxide are covered under this proposal.

Consistent with EPA's Common Sense Initiative and the Sustainable Industry Project's "cleaner/cheaper/smarter" approach, consider expanding the use of polymerization beyond high-TOC D001 nonwastewaters to include managed waste that is listed (and has a specified treatment technology that does not include deactivation) or characteristic, as long as the hazard is eliminated.

Clarify that generators which polymerize waste are not regulated as treatment, storage and disposal facilities.

Specify that POLYM may be used as a deactivation technology to accomplish this goal.



### **I. Clarify Scope of Proposed Rule**

EPA defines POLYM as the "formation of complex high molecular weight solids through polymerization of monomers in high TOC D001 nonwastewaters." 60 Fed. Reg. at 43679. EPA explains in this discussion that POLYM may be used to manage "those high-TOC wastes which are chemical components in the manufacture of plastics." The preamble discussion on page 43679 provides, as an example of an appropriate case in which POLYM may be used, the reaction of polyester/styrene with methyl ethyl ketone ("MEK") peroxide in a mold to form an inert fiberglass material that no longer exhibit a hazardous waste characteristic. The waste polyester/styrene monomer and the MEK peroxide are currently regulated as high-TOC ignitable wastes.

SPI understands the preamble language to mean that polymerization may be used to render both the reactive monomers and the catalysts in the reaction nonhazardous. As proposed by EPA, POLYM simply requires "the addition of a polymerizing component or catalyst to the discarded high-TOC D001 monomer stream." Therefore, SPI understands that other high-TOC D001 monomers and catalysts besides polyester/ styrene monomer and MEK peroxide may be managed through polymerization.

Further, the preamble language appears to limit POLYM to reactions initiated by "a polymerizing component or catalyst." The polymerization process need not be limited to a chemical reaction involving the addition of a catalyst. SPI is asking EPA to clarify in the final rule that at "a polymerizing component" includes typical polymerization methods, including thermally initiated polymerization. Another example might be ultra-violet (UV) light-initiated polymerization.

### **II. Polymerization Should Be Available For Any Reactive Monomer or Curing Agent Whether Listed or Characteristic Waste**

SPI supports the use of polymerization technology to manage monomers, catalysts, and other reactive starting materials that are considered to be high-TOC D001 nonwastewater. More than this, SPI is asking EPA to allow POLYM to be used to manage other characteristic and/or listed wastes which are chemical components in the manufacture of plastics, although SPI does not wish to delay or derail the proposal in any way.

EPA does not provide a basis for limiting POLYM to high-TOC D001 nonwastewater monomers and catalysts. Indeed, there are several policy reasons for expanding the use of polymerization in the LDR program to characteristic and hazardous reactive waste streams. Expanding POLYM is consistent with EPA's endorsement of

"the ongoing practice of polymerizing characteristic wastes to a non-characteristic inert mass" as a practice which "adequately protects human health and the environment." 60 Fed. Reg. 43679. Expanding POLYM is consistent with the practice of waste minimization and pollution prevention. It will also reduce the incidence of cross-media releases via leakage, air emissions, or disposal because there is no cross-media contamination associated with polymerization. If EPA expands the circumstances under which POLYM can be used, more companies will be able to avoid the need to incinerate and create cross-media releases via air emissions.

In addition, current methods are not as safe, effective, or economical as polymerization for treating certain types of waste. Expanding the use of a known technology would substantially ease the compliance and cost burdens of the LDR program for many small businesses. Polymerization is the most efficient and environmentally sound way to render waste nonhazardous in many cases, in part because it eliminates the need for long term storage of ignitable and other hazardous materials. Also, manufacturers do not have to ship the hazardous material off-site, and this reduces both the cost and risk of hazardous waste management. Such a change is consistent with the "cleaner/cheaper/smarter" approach embodied in EPA's Common Sense Initiative and the Sustainable Industry Project.

A way to effect this change, in part, is to revise the definition of POLYM to eliminate the reference to high-TOC D001 nonwastewaters, so that POLYM is defined as: "Formation of complex high-molecular weight solids through a chemical or physical process of polymerization of reactive components used in the manufacture of plastics." In addition, EPA should make POLYM one of a number of available technologies for managing LDR waste when "deactivation" is the specified standard. "Deactivation" (or "DEACT") is defined as "to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, and/or reactivity." 40 C.F.R. §268.42, Table 1. Polymerization fits this definition and would then be suitable for use with other D001 ignitable liquids, D002 (corrosive), D003 (reactive), and other wastes. California serves as an example of why this change is needed. The State has tried to amend its rules to permit polymerization of small amounts of waste resin. However, because of LDR constraints, this effort was unsuccessful. EPA's recognition of POLYM will allow California and other states to go forward with their proposals. This will benefit many companies in the plastics industry.

SPI is urging EPA to expand the uses of POLYM beyond high TOC D001 nonwastewaters to at least include all hazardous reactive starting materials with specified methods of treatment under the land disposal restriction program. SPI understands that, in the case of listed wastes with specified concentration levels, polymerization may be used now to treat the waste to below these concentration levels. For those characteristic and listed wastes with specified treatment technologies, a change in current regulations is needed. Furthermore, SPI's experience in this area leads us to suggest that the use of polymerization need not be tied to whether the reactive component is a monomer, curing agent, or other starting material used in the manufacture of plastics, or why the waste is hazardous. For example, 2,4-Toluene diisocyanate ("TDI") is a listed hazardous waste (LDR waste code U223). Although reacting polyol and TDI produces a nonhazardous polyurethane, currently EPA will only allow incineration or fuel substitution as treatment methods for U223 nonwastewaters. Another example is a small class of curing agents used in the polymerization of epoxy resin that may be flammable. A different set of epoxy curing agents exhibits the characteristic of corrosivity, but, if polymerized, are rendered nonhazardous. Other thermoset or thermoplastic materials for which polymerization could be used to render reactive hazardous waste nonhazardous include: polyurethanes, epoxies, phenolics, melamine formaldehyde, urea formaldehyde, alkyd polyester resins, and acrylic casting materials. The same principle applies to other thermosets in which the normal manufacturing process could be one which uses a process other than a catalyst, such as thermal or light polymerization to initiate the reaction.

Once polymerized, these wastes would be typically disposed of in landfills once polymerized, which is an acceptable environmental outcome because they would be rendered nonhazardous. The possible expansion of POLYM to other reactive polymer constituents would not result in a reduced level of protection for human health and the environment. POLYM would just be one a permissible way to manage hazardous waste, and facilities would still have generator's obligation to ensure that the waste is appropriately tested and handled prior to land disposal. Generators must ensure that the wastes they manage do not retain a hazardous characteristic or are otherwise nonhazardous prior to land disposal, or they are obligated to ensure that the waste continues to be properly managed for its associated hazard. Take the case of an off-specification

batch of material that does not polymerize well. The generator would have to manage the off-spec material using a method other than polymerization.

California serves as an example of why this change is needed. The State has tried to amend its rules to permit polymerization of small amounts of waste resin. However, because of LDR CONSTRAINTS, this effort was unsuccessful. EPA's recognition of POLYM will allow California and other states to go forward with their proposals. This will benefit many companies in the plastics industry.

### III. Generators That Polymerize Waste Are Not Regulated As Treatment, Storage and Disposal Facilities

SPI supports EPA's efforts to streamline LDR requirements for generators who manage their own waste, such as by proposing to require only a one-time notification and certification to the receiving facility, eliminating the requirement to submit waste analysis plants to States and Regions, and reduce record retention periods from five to three years. 60 Fed. Reg. at 43677. It would be of further help for the final rule to remind manufacturers of their inherent obligations, and to inform them that the use of POLYM does not trigger the need for treatment, storage and Disposal facility ("TSDF") permitting. Although permitting is not required if a generator chooses to manage waste in tanks, containers or containment buildings to meet the applicable LDR standards, other RCRA generator and LDR obligations apply. 51 Fed. Reg. 10168 (March 24, 1986). SPI believes that facilities will be able to perform the required polymerization well within the accumulated storage time limits. The involved facilities are familiar with safe handling techniques and the associated particulars of polymerization technology.

SPI believes that facilities will be able to perform the required polymerization well within the accumulated storage time limits. The involved facilities are familiar with safe handling techniques and the associated particulars of polymerization technology.

### IV. CONCLUSIONS

Since 1984, the land disposal of hazardous waste has been prohibited unless the waste meets treatment standards set by EPA. RCRA requires that the treatment standards "substantially diminish the toxicity or mobility of hazardous waste such that short- and long-term threats to human health and the environment are minimized." 60 Fed. Reg. at 43655.

Polymerization is recognized as a way of handling material so that it no longer presents the hazard that prompted the characterization

of hazardous. The use of POLYM has benefits that extend far beyond one process. EPA is proposing that polymerization be limited to certain polymerized monomers and catalysts which are hazardous due to ignitability. As discussed in these comments, SPI is requesting certain clarification and believes that a broader application of polymerization is consistent with safe, effective, and economical waste management under RCRA, the Common Sense Initiative and the Sustainable Industry Project. The toxicity and mobility of hazardous waste are rendered nonexistent by the technology, regardless of whether the need to treat the waste is based on a hazardous waste listing or because the waste exhibits a hazardous characteristic. EPA should consider SPI's comments on additional sectors in which this technology may be effectively used, and incorporate these recommendations to the extent that it can do so without disrupting the finalization of the proposal for high-TOC ignitable wastes.

#### RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

The commenter is correct in stating that polymerization may be used to render both the reactive monomers and the catalysts in the reaction non-hazardous. In addition, other high-TOC (D001) monomers and catalysts, besides polyester/styrene monomer and MEK peroxide, that are hazardous because they exhibit the high-TOC/D001 characteristic, may be managed through polymerization. However, treatment of the characteristic hazardous waste by polymerization must result in the high-TOC ignitable waste being converted to an inert material that does not exhibit any characteristic of hazardous waste. As the commenter points out, if polymerization does not result in an inert mass, the treatment standard is not achieved, and the waste must be managed using a different form of treatment (i.e., CMBST or RORGS).

At this time, the Agency is limiting the definition of POLYM to include only those reactions initiated by a polymerizing component or catalyst. EPA has no data on other polymerization methods such as thermal or ultra-violet light initiated polymerization. The data you have submitted and any further data you or others submit will be evaluated and the Agency will revisit this issue in the future.

The Agency notes that the addition of polymerization to the set of required methods of treatment designated as BDAT applies to high-TOC ignitable (D001) non-wastewaters only. The Agency is not designating polymerization as BDAT for any listed hazardous wastes. The Agency does not have sufficient data at this time to make a determination of the applicability of

polymerization as BDAT for listed hazardous wastes.

In addition, the Agency is not adding polymerization to the list of designated BDAT for any characteristic hazardous wastes other than high-TOC D001. The Agency does not have the data to make a determination of the applicability of this treatment technology to other characteristic hazardous wastes at this time. Such a determination is beyond the scope of today's rulemaking.

The Agency appreciates the commenter's suggestions for clarifying the availability of polymerization for high-TOC ignitable wastes which are chemical compounds in the manufacture of plastics. The Agency has included this clarification in the preamble to the final rule.

The Agency notes that 40 CFR 262.34(a) provides that a generator that manages high-TOC ignitable D001 wastes on-site, may manage the wastes through polymerization while accumulating the wastes on-site without obtaining a permit, or without having interim status, provided the wastes are not stored for more than 90 days and provided the wastes are placed either in containers that are in compliance with subparts I, AA, BB and CC of 40 CFR part 265 and/or in tanks in compliance with subparts J, AA, BB and CC of 40 CFR part 265 (except for §§265.197 and 265.200), and/or in drip pads if the generator complies with subpart W of 40 CFR part 265 as well as additional record keeping requirements.

DCN PH4P089  
COMMENTS ASTSWMO  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 089  
COMMENT

10. The Task Force has no objection to the proposed Polymerization (POLYM) method of treatment for D001 High-TOC ignitable wastes.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

DCN PH4P092  
COMMENTS Union Carbide Corp.  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 092  
COMMENT

III.B. Union Carbide supports addition of the proposed POLYM standard for treatment of high TOC ignitable nonwastewaters. The proposed definition of POLYM appropriately includes applications beyond styrene monomer. For example, the proposed POLYM option will facilitate the most safe and effective management of the following emergency response scenario: Union Carbide manufactures a product using a highly reactive monomer. The reaction system is designed so that the contents can be purged in case of process upset. The unreacted mixture, which would exhibit the characteristic of ignitability, would be sent to a section of piping (a totally enclosed treatment unit) into which caustic soda is introduced. The caustic would cause the polymerization of the monomer and remove the characteristic of ignitability. The polymer in this case would be a fine suspension of particles in an aqueous stream. The most practical means to continue treatment would be to sewer the polymerized stream for further biological treatment in the location's surface impoundments.

**RESPONSE:**

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

The Agency notes that the commenter is incorrect in assuming that polymerization is appropriate treatment for a high-TOC ignitable waste where the treatment results in a fine suspension of particles in an aqueous stream. Treatment by polymerization must result in an inert mass, and not result in suspended particles in an aqueous stream that must be further treated by biological treatment.



DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 097  
COMMENT

Polymerization Method of Treatment for High-TOC Ignitable D001  
Wastes (60 CFR 43679)

The Agency proposes to add polymerization to the set of required methods of treatment for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. Polymerization is proposed as an alternative to CMBST or RORGS for only those high-TOC D001 wastes which are chemical components in the manufacture of plastics (60 F.R. 43679). Typically, waste polyester/styrene monomers and MEK peroxide are commonly disposed by reacting small quantities together to create fiberglass scraps that are no longer characteristics. Polymerization would allow the practice of polymerizing high-TOC ignitable (D001) characteristic wastes to a non-characteristic inert mass which the Agency believes adequately protects human health and the environment.

HWM generally supports the promulgation of polymerization as a specified technology for high-TOC ignitable wastes from the plastics manufacturing industry; however, the description of polymerization proposed in §268.42 Table 1 should be modified. The description should be amended to reflect that this specified technology is only available for those high-TOC D001 wastes which are chemical components in the manufacture of plastics. A list which reflects some of the acceptable constituents would be helpful and should be included. In addition to the list, the suggested change is as follows:

"POLYM" - Formulation of complex high-molecular weight solids through polymerization of monomers in high-TOC D001 nonwastewaters which are chemical components in the manufacture of plastics.

**RESPONSE:**

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

The Agency appreciates the commenter's suggestions for clarifying the availability of polymerization for high-TOC D001 wastes which are chemical components in the manufacture of plastics. The Agency has included this clarification in the preamble to the final rule.

At this time the Agency is not publishing a list of acceptable constituents. EPA believes that the definition of POLYM is explicit enough for generators to make a determination as to whether POLYM is applicable to their wastes. Anyone who has a question is always free to contact State or EPA officials at any time.

DCN PH4P103  
COMMENTS Ciba-Geigy Corp.  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 103  
COMMENT

Ciba supports the finalization of POLYM as an alternative to CMBST or RORGS for those high-TOC D001 wastes which can polymerize to form complex high molecular weight solids. Although EPA in its discussion focuses solely on the reaction of polyester/styrene with methyl ethyl ketone peroxide, a POLYM alternative is applicable to a number of thermosetting resin wastes. As a manufacturer of epoxy resin, which cures in an addition reaction with amine and phenolic hardeners among others, we see application for this treatment method for laboratory wastes in addition to manufacturing materials.

**Expanding the Applicability of POLYM to Thermosetting Resin Wastes.**

Ciba questions the need to limit the exclusion to commercial processes and chemical components in the manufacture of plastics. Ciba recommends that the preamble to the final rule not appear to unduly limit the applicability of the polymerization alternative. Without any discussion, the EPA proposed rule apparently intends to limit this alternative to "commercial polymerization processes" and to manufacturing wastes. "Today's rule proposes POLYM as an alternative to CMBST or RORGS for those high-TOC D001 wastes which are chemical components in the manufacture of plastics." The preamble statements appear to limit the applicability of the POLYM alternative for laboratory wastes. Additionally, many commercial thermosetting resin applications result in coatings or adhesives and these application wastes maybe prevented from using this alternative because neither of these uses produce a "plastic" using the common meaning of the word.

**RESPONSE:**

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the set of required methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

Polymerization may be used to render both the reactive monomers and the catalysts in the reaction non-hazardous. In addition, other high-TOC (D001) monomers and catalysts, besides

polyester/styrene monomer and MEK peroxide, that are hazardous because they exhibit the high-TOC/D001 characteristic, may be managed through polymerization. However, treatment of the characteristic hazardous waste by polymerization must result in the high-TOC ignitable waste being converted to an inert material that does not exhibit any characteristic of hazardous waste.

At this time, the Agency is limiting the definition of POLYM to include only those reactions initiated by a polymerizing component or catalyst. EPA has no data on other polymerization methods such as thermal or ultra-violet light initiated polymerization. The data you have submitted and any further data you or others submit will be evaluated and the Agency will revisit this issue in the future.

The Agency notes that, in the case of laboratory wastes, better treatment options are available to the generator. Combustion may be a better alternative for these wastes than polymerization. There are few limitations to the types of constituents that may be present in lab packs destined for incineration (i.e., no mercury or arsenic). Burning achieves complete destruction of the organic components of the wastes. However, EPA does not have data to support a finding that polymerization will result in the construction or adequate chemical reactions of the hazardous constituents in lab packs, particularly since the composition of these wastes can vary greatly.

The Agency notes that the addition of polymerization to the set of required methods of treatment designated as BDAT applies to characteristic (high-TOC D001) non-wastewaters only. The Agency is not designating polymerization as BDAT for any listed hazardous wastes or for any other characteristic wastes at this time. The Agency does not have sufficient data at this time to make a determination of the applicability of polymerization as BDAT for listed hazardous wastes or other characteristic wastes.

DCN PH4P103  
COMMENTS Ciba-Geigy Corp.  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 103  
COMMENT

**Easing Implementation Without Compromising Environmental Protection.**

In the proposed rule, EPA states ignitable materials can be stored for up to 90 days in RCRA generator tanks. A more useful implementation discussion for generators of these wastes would have been to propose an accommodation to resin manufacturers and users so that waste hardening operations could be integrated into their day-to-day operations. Ciba believes this regulation would be greatly improved by allowing generators to polymerize their own wastes. Since polymerization is a standard operation for these manufacturers this treatment should not require that process vessels meet RCRA tank regulations provided the state environmental agency agrees with the generator that the equipment used for polymerization is suitable.

In summary, the POLYM alternative is too narrowly drafted. It does not appear to be applicable to many thermosetting resin waste streams where POLYM is an appropriate land disposal restriction technology. Ciba recommends that preamble language in the final rule show that the POLYM treatment technology alternative has broader applicability, including the treatment of laboratory wastes amenable to polymerization.

In order to reduce the cost and difficulty of utilizing this land disposal restriction alternative, the EPA should specify that POLYM need not be performed in RCRA tanks (including the requirements of Subpart AA, Subpart BB, and Subpart CC) as long as the storage and treatment operations are protective of human health and the environment and deemed suitable by the state RCRA authority.

As a side note, Ciba recommends that the parenthetical included in the D001 high-TOC IGNITABLE Subcategory in the 268.40 Table Treatment Standards for Hazardous Waste be clarified." (Note: this subcategory consists of nonwastewaters only)." This parenthetical is confusing in that the land disposal restriction definition for waste waters is typically limited to aqueous waste which contains less than 1% TOC and less than 1% TSS. By definition, all high-TOC ignitable wastes do not meet this definition of wastewater. If a different definition of wastewater is intended, it has not been elucidated by EPA and should be re-proposed so that stakeholders

can understand the scope of this limitation.

**RESPONSE:**

The Agency disagrees with the commenter's assertion that generators should be allowed to treat high-TOC / D001 wastes on-site in unregulated storage units. The Agency believes that the required generator accumulation and storage provisions are necessary to ensure adequate protection of human health and the environment. Generators who manage high-TOC D001 wastes on-site may manage the wastes while accumulating the wastes in tanks or containers, without obtaining a permit or interim status, provided the wastes are not stored for longer than 90 days and provided the generator is in compliance with all applicable RCRA management requirements, including the accumulation and storage provisions of 40 CFR 262.34. 40 CFR 262.34(a) provides that a generator may accumulate hazardous waste on-site for 90 days or less without a permit, or without having interim status, if the waste is placed either in containers that are in compliance with subparts I, AA, BB and CC of 40 CFR part 265 and/or in tanks in compliance with subparts J, AA, BB and CC of 40 CFR part 265 (except for §§265.197 and 265.200).

Polymerization may be used to render both the reactive monomers and the catalysts in the reaction non-hazardous. In addition, other high-TOC (D001) monomers and catalysts, besides polyester/styrene monomer and MEK peroxide, that are hazardous because they exhibit the high-TOC/D001 characteristic, may be managed through polymerization. However, treatment of the characteristic hazardous waste by polymerization must result in the high-TOC ignitable waste being converted to an inert material that does not exhibit any characteristic of hazardous waste.

At this time, the Agency is limiting the definition of POLYM to include only those reactions initiated by a polymerizing component or catalyst. EPA has no data on other polymerization methods such as thermal or ultra-violet light initiated polymerization. The data you have submitted and any further data you or others submit will be evaluated and the Agency will revisit this issue in the future.

The Agency notes that, in the case of laboratory wastes, better treatment options are available to the generator. Combustion may be a better alternative for these wastes than polymerization. There are few limitations to the types of constituents that may be present in lab packs destined for incineration (i.e., no mercury or arsenic). Burning achieves complete destruction of the organic components of the wastes. However, EPA does not have data to support a finding that polymerization will result in the construction or adequate chemical reactions of the hazardous constituents in lab packs, particularly since the composition of these wastes can vary greatly.

The Agency also notes that the addition of polymerization to the methods of treatment designated as BDAT applies to characteristic (high-TOC D001) non-wastewaters only. The Agency is not designating polymerization as BDAT for any listed hazardous wastes or for any other characteristic wastes at this time. The Agency does not have sufficient data at this time to make

a determination of the applicability of polymerization as BDAT for listed hazardous wastes or other characteristic wastes.

DCN PH4P108  
COMMENTS Tiara  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 108  
COMMENT

SO Yachts, Inc. supports the proposal to add polymerization as an approved treatment technology for polyester resin. Polymerization creates a non-hazardous waste, thereby protecting human health and the environment.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the availability of this treatment method for high-TOC ignitable wastes will reduce the risks associated with these wastes and adequately protect human health and the environment.



DCN PH4P113  
COMMENTS Chemical Manufacturers Assn  
RESPONDER JL  
SUBJECT POLM  
SUBJNUM 113  
COMMENT

#### VII. Additional Comments

A. CMA supports the Agency proposal to establish POLYM as an LDR treatment method but believes the preamble discussion unnecessarily constrains the option.

CMA believes that POLYM provides the regulated community with a cost effective, environmentally sound method of management for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. However, CMA seeks Agency clarification on language contained within the discussion that appears to unnecessarily constrain the use of POLYM

The Agency discussion (60 Fed. Reg. 43,679, August 22, 1995) states:

"POLYM requires the addition of a polymerizing component or catalyst to the discarded high-TOC D001 monomer stream intended for land disposal."

CMA requests that the Agency also acknowledge that it is possible to generate monomer D001 wastes which continue to undergo polymerization without the need for additional catalyst (in instances where catalyst is present in lower concentration than needed for commercial production, such as a bad reaction batch). Thus, the addition of a polymerizing component or catalyst to the discarded material should not be a required condition where the material is deemed capable of polymerizing fully without additional catalysts.

1. CMA suggests that the Agency define the point of generation for wastes which polymerize on a rapid time frame.

"CMA requests that the Agency determine that materials that are undergoing rapid polymerization (i.e., within a few moments of removal from the process), without catalyst addition should be evaluated as to their physical state (i.e., liquid or solid using the paint filter test) once the material has reached standard temperature and pressure. Thus, a waste which is solid within minutes of being removed from a process should be viewed as a generated solid for purposes of waste classification.

2. CMA suggests that the Agency allow POLYM for off-specification U-listed catalyst monomers which are characteristically hazardous. In a parallel request and employing the same logic as the Agency has advanced, CMA requests that the Agency consider that off-specification monomer which would otherwise be a U-listed waste and which is listed due to a characteristic other than toxicity be eligible to employ this treatment method as well. CMA also sees no reason why off-specification characteristic initiator cannot have monomer added and accomplish the same goal. CMA asks that the Agency apply POLYM to these wastes as well.

3. CMA suggests that the Agency not subject the storage of polymerizing wastes in 90-day areas to waste analysis plan provisions.

CMA requests that when D001 materials are left to polymerize (with or without the addition of catalysts), and such polymerization takes place in a 90 day tank or container, that this activity be exempt from the requirement to prepare and submit a waste analysis plan to EPA Regional Administrator. (Since verification of completion of polymerization would likely involve a combination of visual, physical and procedural steps, and the number of prohibited streams treated is very limited at most facilities, i.e., a lack of variability in waste streams eliminates much of the need for detailed waste analysis plans, the current generator requirements to characterize the treated residues under RCRA would provide adequate protection as well as the fact that in some cases the catalyst or additional polymerizing materials would be added directly to the manufacturing unit, i.e., the batch is determined to be off-spec and catalyst and/or polymerizing materials are added directly to the process.

4. CMA suggests that the Agency allow wastes which are treated using POLYM be eligible for use as sealing agents under the debris standards.

CMA requests that the Agency consider allowing the use of the polymerized wastes in satisfying the Sealing technology option specified under the debris land disposal restrictions. If a facility is going to allow a batch of waste to polymerize, that polymer should be allowed to additionally serve the function specified in the debris rule of a polymeric agent, which will save raw material and energy otherwise required to create first-quality polymers to serve that purpose.

## RESPONSE:

Polymerization may be used to render both the reactive monomers and the catalysts in the reaction non-hazardous. In addition, other high-TOC (D001) monomers and catalysts, besides polyester/styrene monomer and MEK peroxide, that are hazardous because they exhibit the high-TOC/D001 characteristic, may be managed through polymerization. If a waste monomer has sufficient amounts of catalyst mixed with it for polymerization to occur, then that process may meet the definition of POLYM. However, treatment of the characteristic hazardous waste by polymerization must result in the high-TOC ignitable waste being converted to an inert material that does not exhibit any characteristic of hazardous waste. Semi-solid materials would not achieve treatment as intended by polymerization.

The Agency notes that the addition of polymerization to the set of required methods of treatment designated as BDAT applies to characteristic (high-TOC D001) non-wastewaters only. The Agency is not designating polymerization as BDAT for any listed hazardous wastes or for any other characteristic wastes at this time. The Agency does not have sufficient data at this time to make a determination of the applicability of polymerization as BDAT for listed hazardous wastes or other characteristic wastes.

If a waste is generated under the definition of POLYM (as defined in today's rule), then the point of generation is defined as being when an inert mass that does not exhibit any characteristic of hazardous waste is produced. If a waste monomer is discarded with sufficient catalyst mixed in at the time of discard, and the mixture produces an inert mass that does not exhibit any characteristic of hazardous waste, then POLYM has taken place regardless of the amount of time it takes for that mass to be produced, within storage and accumulation regulations.

Generators who manage high-TOC D001 wastes on-site may manage the wastes while accumulating the wastes in tanks or containers, without obtaining a permit or interim status, provided the wastes are not store for longer than 90 days and provided the generator is in compliance with all applicable RCRA management requirements, including the accumulation and storage provisions of 40 CFR 262.34. 40 CFR 262.34(a) provides that a generator may accumulate hazardous waste on-site for 90 days or less without a permit, or without having interim status, if the waste is placed either in containers that are in compliance with subparts I, AA, BB and CC of 40 CFR part 265 and/or in tanks in compliance with subparts J, AA, BB and CC of 40 CFR part 265 (except for §§265.197 and 265.200).

In addition, 40 CFR 262.34(a)(4) does require generators who treat hazardous wastes on-site in tanks, containers, and/or containment buildings to comply with the waste analysis plan provisions of 40 CFR 268.7(a)(4). The Agency does not believe that this provision is overly burdensome. Generators must develop a waste analysis plan, keep a copy of the plan on-site, and must make one-time submission of the plan to EPA or an authorized state. The Agency does not believe that the development of a waste analysis plan for a generator treating high-TOC ignitable D001 wastes on-site in tanks or containers is a complicated or overly burdensome process. In

addition, the Agency believes that such a requirement does provide a necessary level of accountability on the part of hazardous waste generators. Therefore, the Agency is retaining this requirement with today's final rule.

The commenter's request that the Agency allow wastes that are treated using polymerization to be rendered to be in compliance with the sealing technology option specified under the debris land disposal restrictions requirements is beyond the scope of this rulemaking. At present, the Agency had no data to support the commenter's request. The Agency appreciates the commenter's request, and may revisit the issue at a future time when comments can be requested and fully considered on this topic.

DCN PH4P117  
COMENTER Boston Whaler  
RESPONDER JL  
SUBJECT POLYM  
SUBJNUM 117  
COMMENT

The polymerization of resin can be an environmentally sound, safe, and efficient solution for the many boat builders across the country. First, the polymerization of resin can be controlled and accomplished in a safe manner. Moreover, the polymerization of resin will lessen the potential dangers and liabilities associated with waste transportation and disposal.

**RESPONSE:**

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the availability of this treatment method for high-TOC ignitable wastes will reduce the risks associated with these wastes and adequately protect human health and the environment.



DCN PH4A004

COMMENTER Heritage Environmental Services

RESPONDER RE

SUBJECT SCRP

SUBJNUM 004

COMMENT Scrap Metal Heritage agrees with EPA's conclusion that scrap metal is a valuable national resource, the recycling of which should be encouraged. In addition, scrap metal has little potential for release of hazardous constituents to the environment. Therefore, Heritage supports EPA's proposal to exempt processed scrap metal that is recycled from the definition of solid waste. Heritage further encourages EPA to include unprocessed scrap metal that is recycled in the exemption from the definition of solid waste. While Heritage does not have hard data demonstrating unprocessed scrap metal is a similarly minimal environmental risk, it is intuitive that if it is destined for recycling it: a) has undergone some minimal processing, such as collection for shipment, dismantling of equipment, or sizing prior to shipping to a scrap dealer, smelter, mill or foundry; b) has economic value as it will eventually be processed and sold in a manner similar to processed scrap metal; c) is just as analogous to raw metal concentrates as process scrap metal; and d) has the same end market (i.e., scrap metal reclamation) as processed scrap metal, otherwise it would not be destined for recycling. If EPA determines it will not exempt all scrap metal destined for recycling from the definition of solid waste, Heritage supports maintaining the existing exclusion from the definition of hazardous waste for recycled scrap metal other than processed scrap metal. Heritage would like to point out that some scrap metal is marketed directly to the foundry, mill or smelter without the involvement of a scrap metal dealer trading-on the recycling market. As currently written, EPA's rule appears to exclude scrap metal that is not handled by scrap metal dealers. The exemption should apply to all scrap metal destined for recycling, whether it has passed through the hands of a scrap metal dealer or not. In fact, it seems a more environmentally sound method of management to ship scrap metal directly from the generator to the mill, foundry or smelter. This eliminates the additional shipping and storage at a scrap processor's site that could potentially result in a negative environmental impact. In addition to the preceding comments, Heritage requests that EPA further clarify the definition of "processed scrap metal". For

example, would a decommissioned steel tank cut to meet the size specification of a scrap metal dealer or foundry be considered processed scrap metal, even though the tank was cut on-site and the process was not performed by a scrap metal recycler? As another example, would piping, pumps or other processing equipment dismantled for shipment to a scrap dealer or foundry be considered processed scrap metal, even though the work was performed by a demolition contractor and not a scrap metal recycler?

**RESPONSE:**

The Agency thanks the commenter for supporting the proposed exclusion for processed scrap metal. The commenter raised a number of additional issues and concerns. First, the commenter suggests that EPA expand its exclusion to cover all scrap metal being recycled. The commenter asserts that the five factors that EPA used to evaluate whether processed scrap metal is "commodity-like" as used in 40 CFR §260.31 apply equally to unprocessed scrap metal being recycled. In response to information provided by similar commenters, EPA identified and analyzed three different types of unprocessed scrap metal to determine whether the scope of the exclusion should be expanded: home scrap metal, prompt scrap metal and obsolete scrap metal. Home scrap is scrap metal generated by steel mill, foundries, and refineries such as turnings, cuttings, punchings, and borings. Prompt scrap, also known as industrial or new scrap metal, is generated by the metal working/fabrication industries and includes such scrap metal as turnings, cuttings, punchings, and borings. Obsolete scrap metal is composed of worn out metal or a metal product that has outlived its original use, such as automobile hulks, railroad cars, aluminum beverage cans, steel beams from torn down buildings, and household appliances.

The Agency used five factors to evaluate partially-reclaimed solid wastes to determine if it is appropriate to exclude a waste from RCRA Subtitle C jurisdiction (40 CFR §260.31(c)). The five factors are: 1) the degree of processing the material has undergone and the degree of further processing that is required, 2) the value of the material after it has been reclaimed, 3) the degree to which the reclaimed material is like an analogous raw material, 4) the extent to which an end market for the reclaimed material is guaranteed, and 5) the extent to which a material is managed to minimize loss. The Agency applied these five factors to the three categories of unprocessed scrap metal to determine if these categories are "commodity-like" (as used in 40 CFR §260.31(c)) and not part of the waste management problem.

The Agency evaluated unprocessed home scrap and prompt scrap against each of the five factors and found that these categories of scrap metal are substantially similar to processed scrap metal due to the availability of established markets for the material's utilization, inherent positive economic value of the material, the physical form of the material, and absence of damage incidents attributable to the material. However, the Agency has not found sufficient data to justify an exclusion for unprocessed obsolete scrap metal at this time.

Based on its analysis, the Agency has determined that the scope of the exclusion should be expanded to include unprocessed home and prompt scrap metal. The Agency is not



expanding the scope of the exclusion from the definition of solid waste to include obsolete scrap metal. Providing an exclusion from the definition of solid waste for obsolete scrap metal at this time would be premature and is better addressed in the Definition of Solid Waste rulemaking, due to be proposed in the near future.

The commenter also pointed out that the rule, as written, appears to exclude materials from the definition of processed scrap metal if the processing does not occur at a scrap metal dealer. The language in the proposal was not intended to limit the exclusion in this way. In the final rule the Agency clarifies that the exclusion for processed scrap metal being recycled applies to scrap metal that has undergone a processing step (as defined in the preamble to the proposed rule) regardless of who does the processing. In other words, a processing step may be performed by the generator, an intermediate scrap handler (e.g., broker, scrap processor), or a scrap recycler. Once the scrap metal has undergone a processing step, it may qualify for the exclusion from the definition of solid waste.

The commenter also asks for further clarification of the term "processed scrap metal" and gives examples of generators who perform some work on scrap metal before sending it off-site. In response to this commenter and other commenters who requested more specifically defined processes in the definition of "processed scrap metal," the Agency is adding certain processes to the definition. Specifically, the Agency is adding chopping crushing, flattening, cutting and sorting to the types of processes that qualify as "processed scrap metal." Therefore, in the first example, a tank that is cut at a generator site prior to shipment to a scrap metal dealer or foundry would meet the definition of "processed scrap metal" after the first processing step at the generator site. Additionally, in the second example, equipment that is dismantled and shipped to a scrap dealer or foundry also would qualify as processed scrap metal, as dismantling (i.e., manual separation) of the equipment serves to improve the handling of the material.

DCN PH4A004

COMMENTER Heritage Environmental Services

RESPONDER RE

SUBJECT SCRP

SUBJNUM 004

COMMENT Heritage also supports EPA's proposal to exempt shredded circuit boards destined for metal recovery from the definition of solid waste. However, Heritage does not understand why EPA does not extend this exemption to whole circuit boards and make this explicit through a rulemaking. It appears that EPA is being unnecessarily obtuse by allowing the exemption of whole circuit boards from the definition of hazardous waste as "scrap metal" through internal memoranda and minimal preamble discussion in a proposed rule. Very few members of the regulated community have access to, or the time for reading, unpublished internal memoranda or preambles to proposed rules. If EPA wishes to facilitate recovery of circuit boards and does not feel it inappropriate to manage whole circuit boards differently than shredded circuit boards, Heritage suggests that the EPA simply publish an exemption from the definition of solid waste for whole and shredded circuit boards with appropriate management requirements, such as storage and shipment in containers.

RESPONSE:

EPA thanks the commenter for supporting the shredded circuit board exclusion from the definition of solid waste. The commenter also requests that the exclusion be extended to whole circuit boards.

Since 1992, used whole boards are classified as scrap metal and therefore when recycled whole circuit boards are completely exempt from RCRA regulatory requirements. Therefore, no RCRA regulatory requirements such as manifesting, export or storage permit requirements currently operate as disincentives to environmentally sound recycling of these materials. Used whole circuit boards clearly meet the definition of scrap metal. It is not practical for the Agency to list individually all items that meet the definition of scrap metal. The exclusion from RCRA jurisdiction for used shredded circuit boards is necessary only because they do not qualify for the definition of scrap metal and thus may be subject to RCRA regulatory requirements that may serve as disincentives to their recovery. EPA also believes that because whole used circuit boards are classified as scrap metal, excluding whole used boards from the definition of solid waste is not necessary to ensure environmentally sound recovery of these materials and would be confusing to the Agency's current definition of scrap metal.

DCN PH4A006

COMMENTS Department of Energy

RESPONDER RE

SUBJECT SCRP

SUBJNUM 006

COMMENTS EPA is proposing to amend the definition of solid waste by excluding processed scrap metal being recycled from RCRA jurisdiction. The Agency is also proposing to exclude shredded circuit boards destined for metal recovery that are managed in containers during storage and shipment prior to recovery from the definition of solid waste to facilitate recovery of this material. DOE generally supports these proposed regulatory changes in that they will facilitate and expedite the recycling of two types of materials which are managed at certain DOE facilities. Moreover, by minimizing the regulatory and reporting burdens associated with these recoverable materials, the proposed regulatory changes provide economic impetus that should benefit the regulated community and the recycling industry.

RESPONSE:

The Agency thanks the commenter for supporting the proposed exclusions from the definition of solid waste for scrap metal and shredded circuit boards being recycled.

DCN PH4A006

COMMENTS Department of Energy

RESPONDER RE

SUBJECT SCRP

SUBJNUM 006

COMMENT Other RCRA Issues: Exclusion of Processed

Scrap Metal and Shredded Circuit Boards from the Definition of Solid Waste LA. Processed Scrap Metal Being Recycled IA.2.

Background 1. D. 2361, col. 3 - EPA describes the proposed exclusion of processed scrap metal being recycled by referring to its "commodity-like" nature and to the Agency's belief that "processed scrap metal being recycled should be excluded from the definition of solid waste because this type of material has not been shown to be part of the waste disposal problem." EPA also describes the existing regulatory exemption from regulation under RCRA Subtitle C of all scrap metal being recycled as "an interim measure to allow the Agency to study scrap metal management." As explained in the preamble, EPA has heretofore exempted all scrap metal being recycled from regulation under RCRA Subtitle C, but not from the definition of solid waste in 40 CFR 261.2. The definition of hazardous waste pursuant to 40 CFR 261.3 is specifically limited to those wastes defined under 40 CFR 261.2 as solid wastes. Thus the definition of hazardous waste would not include processed scrap metal being reclaimed under the proposed exclusion. Under the mixture rule [40 CFR 261.3(a)(2)(iii) and (iv)], mixtures of solid wastes with listed hazardous wastes, and mixtures of solid wastes and hazardous wastes that exhibit hazardous waste characteristics, are regulated as hazardous. Considering the above-mentioned regulatory provisions and the proposal to amend the definition of solid waste by excluding processed scrap metal being recycled from RCRA jurisdiction, clarification is requested as to the regulator status and exact applicability of the RCRA regulations to the potential situation where scrap metal (i.e., processed scrap metal being reclaimed) is contaminated with a hazardous waste residue.

**RESPONSE:**

The commenter requests clarification on the applicability of the RCRA regulations to scrap metal which is contaminated with hazardous waste residues. The commenter is correct in concluding that the mixture rule (40 CFR 261.3(a)(2)(iii) and (iv)) does not apply to excluded scrap metal. The mixture rule applies to hazardous waste that is mixed with solid

waste. Under today's final rule, excluded scrap metal being recycled is not a solid waste, therefore the mixture rule does not apply. Today's exclusion is not intended to modify the existing definition of scrap metal. Therefore, the determination as to whether a waste meets the definition of scrap metal has not changed and is made at the point of generation. Under the definition of scrap metal, a secondary material from smelting and refining operations (e.g., slags, drosses, and sludges), liquid wastes containing metals (e.g., spent acids and caustics), liquid metal wastes (e.g., liquid mercury), and metal-containing wastes with a significant liquid component (e.g., spent lead acid batteries) do not meet the definition of scrap metal and therefore also are not classified as processed scrap metal. If, at the point of generation, a secondary material has enough hazardous waste residue to constitute a "significant liquid component," the material would not qualify as a scrap metal. For example, if a tank is being decommissioned, and it has some hazardous residue on the bottom, the tank may not qualify as scrap metal if the implementing agency determines that the residues constitute a significant liquid component. In order to meet the definition of processed scrap metal, the material must first meet the definition of scrap metal. Therefore, any distinct components that are separated from a scrap metal that would not otherwise meet the current definition of scrap metal would not meet the definition of processed scrap metal. The separated material would be a newly generated waste and therefore subject to a hazardous waste determination. If this newly generated waste is a hazardous waste, then the waste must be handled as hazardous waste.

DCN PH4A006

COMMENTS Department of Energy

RESPONDER RE

SUBJECT SCRP

SUBJNUM 006

COMMENT Definition of Processed Scrap Metal 1. D. 2361, col. 3 - p. 2362, col. 1 - EPA describes the scope of the proposed scrap metal exclusion (i.e., it is "restricted to scrap metal which has been processed by scrap metal recyclers to be traded on recycling markets for further reprocessing into metal end products"), offers a definition of "processed" scrap metal, and introduces the terms "unprocessed" and "partially processed" scrap metal. EPA further limits the extent of the exclusion by stating that "processed scrap metal does not include any distinct components separated from unprocessed or partially processed scrap metal that would not otherwise meet the current definition of scrap metal." The definition for "processed scrap metal" is clearly described in the proposed amendment to the regulatory language for 261.1(c)(9). The Agency should consider equally explicit definitions for "unprocessed" and "partially processed" scrap metal. Furthermore, clarification would be helpful in regards to the points(s) at which processing may take place [i.e., relative to the proposed exclusion of processed scrap metal being recycled]. As described in the preamble to the supplemental notice, the proposed exclusion (and associated definition) of processed scrap metal is "restricted to scrap metal which has been processed by scrap metal recyclers" [emphasis added]. The preamble and proposed regulatory language [61 FR 2371; §261.1(c)(9)] also provide a reasonable set of criteria for what is meant by "processing" of scrap metal. However, clarification is not offered as to who does and does not belong to the community of 'scrap metal recyclers.' Thus, it is possible that anyone who carries out the processes described qualifies as a "scrap metal recycler," and thus, would be eligible for the exclusion. DOE requests that EPA clarify its intent concerning the qualifications of "scrap metal recyclers." The term "partially processed" scrap metal is introduced in the preamble but is not defined, nor is it included in the proposed regulatory language. It can be inferred that scrap metal that still contains "distinct components ... that would not otherwise meet the current definition of scrap metal" would be considered partially processed, and would not be eligible for the exclusion. DOE

suggests that, if "partially processed" is intended to provide a meaningful distinction to generators and recyclers of scrap metal, EPA should provide specific clarification or guidance on how to distinguish this from scrap metal, and on the consequences relative to the proposed exclusion. Such clarification or guidance would help the regulated community determine whether scrap metal containing certain "distinct components" could be subject to the proposed exclusion. Clarification is requested in regards to whether the applicability of the exclusion would be affected by the point at which processing is conducted -- e.g., the scrap metal is "processed" at the point of generation (by the generator) versus by a commercial "processing" facility. Guidance on practices considered to be manual separation methods at the point of generation, and the applicability of speculative accumulation requirements per 261.2 to the proposed exclusion would also be useful.

#### RESPONSE:

The commenter requests clarification on several different topics: the definition of partially processed scrap metal and unprocessed scrap metal; whether a scrap metal recycler must be used to qualify for the proposed exclusion; and the point at which the exclusion for processed scrap metal takes effect, and the applicability of the speculative accumulation requirements.

In regard to the first issue, EPA used the terms "unprocessed" and "partially processed" scrap metal in the preamble to clarify the term "processed scrap metal." Partially processed scrap metal was used in the preamble as a way of indicating that the processed scrap metal need not be completely recycled, but may have completed one of several steps in the process of recycling the material. For instance, scrap metal that has been cut and sorted by the generator prior to being sent to a scrap metal recycler would meet the definition of processed scrap metal. The term partially processed scrap metal was intended to convey this type of activity. Therefore, in the context of the final rulemaking, the term "partially processed scrap metal" has the same meaning as the term "processed scrap metal." The term "unprocessed scrap metal" covers the universe of scrap metal which does not fall within the definition and scope of processed scrap metal.

The commenter also pointed out that the rule, as written, appears to exclude materials from the definition of processed scrap metal if the processing does not occur at a scrap metal dealer. The language in the proposal was not intended to limit the exclusion in this way. In the final rule the Agency clarifies that the exclusion for processed scrap metal being recycled applies to scrap metal that has undergone a processing step (as defined in the preamble to the proposed rule) regardless of who does the processing. In other words, a processing step may be performed by the generator, an intermediate scrap handler (e.g., broker, scrap processor), or a

scrap recycler.

The commenter requested clarification concerning whether the applicability of the exclusion would be affected by the point at which the processing is conducted. As discussed in the preceding section, the exclusion for processed material is not effective until the scrap metal has been processed. Once the scrap metal has undergone a processing step, it may qualify for the exclusion from the definition of solid waste. And finally, in today's final rule, the exclusions for excluded scrap metal and shredded circuit boards being recycled are not conditioned on speculative accumulation requirements.



DCN PH4A006

COMMENTS Department of Energy

RESPONDER RE

SUBJECT SCRP

SUBJNUM 006

COMMENT Shredded Circuit Boards 1. D. 2362, col. 3 - v. 2363, col. 2 - EPA is proposing to exclude shredded circuit boards destined for metal recovery that are managed in containers during storage and shipment (prior to recovery) from the definition of solid waste in order to facilitate recovery of this material. Used whole (i.e., intact) circuit boards sent for reclamation may be considered to be scrap metal and may therefore be exempt from RCRA regulation. Used whole circuit boards, however, do not meet the definition of processed scrap metal (thus, the proposed exclusion for processed scrap metal would not apply to these materials). DOE supports EPA's proposal to exclude shredded circuit boards from the definition of solid waste when such materials are managed in containers during storage and shipment prior to recovery. However, as discussed in the following paragraphs, the Department requests clarification in regards to certain issues and terms associated with the management of circuit boards destined for recovery. Under the proposed exclusion, shredded circuit boards that would potentially exhibit a hazardous characteristic would remain outside of RCRA hazardous waste regulation. It would be useful to the regulated community if EPA were to provide clarification in the final rule explaining that shredded circuit boards managed in containers need not be characterized (i.e., analyzed using the TCLP) and that there are no time limitations associated with the storage of shredded circuit boards subject to the exclusion. In the preamble, EPA uses two expressions (specifically, "properly containerized" and "managed in containers") in describing how shredded circuit boards must be stored and shipped to qualify for the proposed exclusion from the definition of a solid waste. If it is EPA's intent that the types of containers typically used to ship shredded circuit boards will suffice for the purposes of the proposed exclusion, then the term "properly containerized" should be removed in favor of language such as "managed in containers". Use of the term "properly containerized" is vague (without further clarification) and therefore open to a range of interpretations. EPA acknowledges that processing through "shredders, hammer mills, and similar devices to decrease the size of the boards" is common (p. 2362,

col.3). DOE requests EPA to clarify whether, and under what circumstances, such volume-reduction measures are to be considered treatment of hazardous waste. Compactible solid waste material (such as Tyvek or paper) is routinely compacted to remove void spaces and maximize the efficiency of the container. There are instances where States have required treatment permits for volume reduction measures such as compacting, hammering, or shredding. DOE believes in general that volume-reduction measures that do not alter the fundamental physical, chemical, or biological character of the material, and are not intended to remove or reduce the hazardous nature of the material in any way, should not be considered "treatment". As such, no permits for this type of activity should be necessary.

#### RESPONSE:

EPA thanks the commenter for supporting the exclusion from the definition of solid waste for shredded circuit boards that are reclaimed or recovered. The commenter requested clarification regarding several issues: whether shredded circuit boards managed in containers need to be characterized; whether there is a time limit for storage; how the Agency defines or characterizes the phrase "properly containerized;" and whether volume reduction techniques (such as compacting) are considered treatment.

In regard to the first issue, whether shredded circuit boards managed in containers require hazardous waste characterization, the Agency is not modifying the current regulations. Under 40 CFR §262.11, generators are required to determine if a waste is hazardous only if they generate a solid waste. Therefore, if the shredded circuit boards are in compliance with the exclusion from the definition of solid waste, the generator would not be required to perform a hazardous waste characterization. However, the commenter should be aware that under 40 CFR §261.2(f), if a material is excluded from the definition of solid waste, the claimant must provide appropriate documentation to demonstrate that the material is excluded from regulation and therefore it need not be characterized.

The commenter also requested clarification of whether there is a time limit for storage of shredded circuit boards that are excluded from the definition of solid waste. In the final rule, EPA is placing the exclusion from the definition of solid waste for shredded circuit boards under 40 CFR §261.4(a)(13). This exclusion is not conditioned on the speculative accumulation provisions and therefore those particular storage requirements do not apply to these materials.

The commenter requested clarification concerning how the Agency defines "properly containerized." In the preamble of the proposed rule, the Agency stated that the exclusion for shredded circuit boards was contingent upon the shredded circuit board being "properly containerized." In the final rule, the Agency codified the exclusion to state that shredded circuit boards are excluded from the definition of solid waste only if they are stored in

containers that are sufficient to prevent a release to the environment. Although the final rule does not define "sufficient to prevent a release to the environment," the Agency would consider a claimant to be in compliance if they can show that the container intended to hold the shredded circuit boards is sufficiently sound to carry the material to its intended destination without any possibility of a leak or emission into the environment.

Lastly, the commenter asked whether volume reduction techniques (such as compacting) are considered treatment. Since the definition of treatment under §260.10 is such a broad definition, volume reduction techniques of wastes defined as hazardous could be considered treatment under an implementing agency interpretation. However, when the exclusion for shredded circuit board becomes effective, whole boards destined for recycling will be exempt from the definition of hazardous waste, and shredded boards will be excluded from the definition of solid waste. Assuming that all handlers stay in compliance with the conditions of the exclusion, there will not be any point in the generation and recycling of printed circuit boards that hazardous waste is being handled. If waste defined as hazardous is not being handled, treatment can not occur.

DCN PH4A009  
COMMENTER IPC  
RESPONDER RE  
SUBJECT SCRP  
SUBJNUM 009

COMMENT As the trade association representing the US electronic interconnection industry, the Institute for Interconnecting and Packaging Electronic Circuits (IPC), would like to submit these comments on the proposed rule that would exclude shredded circuit boards from the Resource Conservation and Recovery Act (RCRA) definition of solid waste as long as the boards are destined for metal recovery and are managed in containers during storage and shipment prior to recovery. The proposed rule was published in the Federal Register on January 25, 1996 (61 Fed. Reg. 2338). IPC represents approximately 1900 companies in the electronic interconnection industry. Our regular membership includes companies that produce bare printed circuit boards (which are commonly referred to as printed wiring boards in the industry) as well as companies that produce electronic assemblies by attaching electric components to bare PWBS. IPC members also include suppliers to the industry as well as major original equipment manufacturers (OEMS) that use PWBs in their own products. These products include consumer electronics as well as more sophisticated industrial and military electronic systems. In addition, the IPC membership includes over 100 representatives from government and academia with vital interests in this crucial technology. IPC and its member companies are committed towards improving the environmental performance of the PWB industry. IPC is actively involved in the EPA's Common Sense Initiative, participating as an industry representative on its Computers and Electronics Subcommittee. That Subcommittee is examining barriers to pollution prevention in the computers and electronics industries, and has identified RCRA's solid waste definition as a barrier to increased materials reuse and recycling. IPC is also working with EPA's Design for the Environment project which is examining and testing alternatives to PWB manufacturing processes that may result in better environmental performance.

IPC would like EPA to comment on why F006 sludge has not been selected for exclusion from EPA's solid waste definition. Like shredded boards, F006 sludge contains high levels of valuable reusable and recyclable materials -namely, precious

metals. F006 sludge can also be easily containerized during storage and shipment prior to recovery. Given the reasoning that EPA used to exclude shredded circuit boards from the definition of solid waste in the proposed rule, EPA could also exclude F006 wastewater sludge from the definition of solid waste. Excluding F006 wastewater sludge from the definition of solid waste would go a long way towards encouraging facilities to recycle this metal-rich material. 1.7.3 The National Mining Association has proposed that the EPA provide an exclusion for metal-bearing secondary materials from outside industries (e.g., electroplating sludge from the metal finishing industry, F006) that are processed within the primary mineral processing industry. EPA has contended, however, that such an exclusion is "beyond the scope of this rulemaking." The EPA states that the scope of the rulemaking is "to amend the solid waste definition specifically for the mineral processing industry at this time in order to most accurately set out the scope of land disposal prohibition and treatment standard for mineral processing waste." 61 Fed. Reg. at 2348. IPC contends, however, that since EPA is addressing industries other than the mineral processing industry in this proposed rule as well as the recovery of materials generated by such industries (e.g., processed scrap metal, shredded circuit boards), the exclusion of F006 wastewater sludge, which is a significant by-product of the printed circuit board industry, is indeed within the "scope of this rulemaking".

#### RESPONSE:

The Agency still supports that expanding the exclusion to include F006 is beyond the scope of this rulemaking. EPA is currently working on a proposed rule to amend the definition of solid waste and believes that effort is the correct forum to address the status of any additional materials.

DCN PH4A009  
COMMENTS IPC  
RESPONDER RE  
SUBJECT SCRP  
SUBJNUM 009

COMMENT IPC would also like EPA to expressly verify in the public record that EPA has determined that spent solder baths, also known as "pot dumps," meet the definition of scrap metal and, therefore, are not subject to RCRA solid waste regulations as long as they are being reclaimed. Jeffrey Denit, Acting Director of EPA's Office of Solid Waste, sent a letter to the Lead Industries Association on September 20, 1993, stating that the EPA has determined that spent solder baths meet the definition of scrap metal when reclaimed and, therefore, are not defined as solid waste under RCRA (see Attachment). Many IPC members are unaware of this EPA determination and, therefore, treat their spent solder baths as RCRA-regulated solid waste despite the fact that EPA has determined that such treatment is unnecessary. It is important for EPA's internal determinations to be disseminated to regulated entities, particularly when such determinations represent a cost savings to the industry. As a result, IPC requests EPA to include spent solder baths in the definition of scrap metal in the Code of Federal Regulations.

RESPONSE:

In response to the commenter's request that the interpretation of the regulatory status of secondary materials associated with the generation or management of printed circuit boards be made available in a rulemaking, rather than solely in the form of an interpretive letter, EPA is publishing a clarification of the regulatory status of these materials (including pot dumps) in the preamble to the final rule. Spent solder baths meet the definition of scrap metal and are therefore excluded from RCRA regulation under the regulatory exclusion for scrap metal being recycled. It is not practical for the Agency to list individually all items that meet the definition of scrap metal.



DCN PH4A009  
COMMENTS IPC  
RESPONDER RE  
SUBJECT SCRP  
SUBJNUM 009

COMMENT IPC applauds EPA for proposing to exclude shredded circuit boards from the RCRA definition of solid waste. This exclusion will remove shredded circuit boards from the jurisdictional reach of RCRA Subtitle C which, when triggered, requires solid waste generators to comply with costly and administratively burdensome hazardous waste management practices. The costs and administrative burdens associated with Subtitle C management discourage the recovery and reuse of materials contained in substances that are characterized as hazardous under RCRA. As a result, the proposed rule will encourage the reuse and recycling of materials contained in shredded circuit boards and will greatly assist the PWB industry improve its environmental performance.

EPA's proposed rule represents a reasonable approach to the RCRA classification of solid waste, which acknowledges that materials, even those in a "waste-like" stage (i.e., shredded), should not be classified as a solid waste if they contain valuable reusable and/or recyclable materials, such as precious metal, if their constituents can be containerized during storage and shipment prior to recovery, and if they are destined for materials recovery.

IPC applauds EPA for acknowledging that the regulatory costs and administrative burdens associated with RCRA solid waste management can operate as a deterrent to the successful reuse and recycling of materials, particularly those that are generated as a by-product of manufacturing processes. EPA's proposed rule, excluding shredded circuit boards from the RCRA definition of solid waste, will go a long way towards removing that disincentive. However, since the proposed rule applies only to shredded circuit boards, IPC urges EPA to use the reasoning behind the proposed rule to craft a multi-purpose exclusion rule that will achieve greater environmental gains through increased reuse and recycling for all industries. For example, EPA could issue a proposed rule, which could be used to exclude materials that contain high levels of valuable constituents with high reuse and/or recyclability potential (e.g., precious metals) as long as they are sufficiently containerized when stored or shipped and as long as they are destined for metals recovery. IPC would like EPA to comment on the feasibility of



proposing such a multi-industry solid waste exclusion rule that builds on EPA's current scrap metal exclusion.

**RESPONSE:**

The Agency thanks the commenter for supporting the exclusion for shredded circuit boards that are being reclaimed or recycled from the definition of solid waste. The Agency notes that the exclusion from the definition of solid waste for shredded circuit boards is being promulgated based upon an analysis of the available information on the characterization and management of these wastes against the five factors that the Agency has established for determining whether materials are "commodity-like." The Agency notes that containerization in and of itself was not the only reason the Agency concluded that shredded circuit boards should be excluded from the definition of solid waste. The other five factors support this determination as well.

EPA further notes for the commenter that the Agency will be addressing broader issues and clarifications related to the definition of solid waste in a future rulemaking. Modifying the Agency's current interpretation of the definition of solid waste is beyond the scope of this rulemaking and is more appropriately addressed in the context of the Definition of Solid Waste rulemaking, which will be proposed in the near future. The definition of solid waste rulemaking is the correct forum to address the regulatory status of any additional metal-bearing materials. However, the Agency points out that any party may petition the EPA or state, if authorized, for a variance from classification as a solid waste for materials that are partially reclaimed. Partially reclaimed materials may be granted a variance from classification as solid waste, if after reclamation, the resulting material is "commodity-like." The Regional Administrator will evaluate such a petition and make a determination based on the evaluation factors for determining whether a partially-reclaimed material is "commodity-like" provided in 40 CFR 260.31(c).



DCN PH4A011

COMMENTS NY State Dept. of Environ

RESPONDER RE

SUBJECT SCRP

SUBJNUM 011

COMMENT EPA proposes to exclude processed scrap metal being recycled from RCRA jurisdiction. "Processed scrap metal" means scrap metal that has undergone sorting or processing that separates out non-metal materials. The Department agrees that a material which has been processed to the point that it has become equivalent to a product or raw material in quality would be excluded from RCRA jurisdiction as a "commodity" when used or reused. EPA should emphasize, however, that any residues generated by the processing of scrap metal are not scrap metal and if such residues exhibit a waste characteristic, or are derived from a listed hazardous waste, they would be subject to full regulation under Subtitle C. EPA only partially addresses this in paragraph 2 of page 2362. Page 2362, paragraph 2 suggests that items can qualify as scrap metal even though they include components such as batteries and mercury switches which, when separated, cannot themselves qualify as processed scrap metal. This contrasts with OSWER document 9442.1994(06), dated July 22, 1994, where EPA determined that, 15-pound natural gas flow regulators consisting mainly of metal were not allowed to qualify as scrap metal because of the two ounces of liquid mercury present. ("In general, any quantity of liquid mercury other than trace amounts attached to or contained in a spent material precludes that material from being a scrap metal.") Please clarify when a material consisting primarily of metal, but which contains some non-metal components such as mercury, qualifies as scrap metal. On page 2362, paragraph 7 suggests that the variance provision of 260.31 (c)(3) (the degree to which the reclaimed material is like an analogous raw material") is not when a partially reclaimed material is similar in concentration to intermediates produced from virgin ores, etc. EPA should make it clear that 260.31 (c)(3) is met by having the candidate material of the same concentration as an early raw intermediate. In the case of scrap metal, the "analogous raw materials" are manufactured metal products. Comparison should be made to metal products with regard to quality. According to our understanding of the preamble discussion of the January 4, 1985 Federal Register (page 655) the measure of whether condition 260.31 (c)(3) applies is not the degree to which the candidate material is like

an equivalent virgin finished product. It is not met when the candidate material simply has the same concentration as virgin ore or as some early intermediate. In short, the test is how product-like or commodity-like the candidate material is. Therefore, the reference to a reclaimed material being like an analogous raw material when taken in context, addresses the situation where the "raw material" is itself a product.

#### RESPONSE:

The commenter has raised several different issues that require response: the status of any residues generated by the processing of scrap metal; a request for clarification that a material that consists primarily of metal, but contains some non-metal components, still qualifies for the definition of scrap metal; and a request for clarification that 40 CFR §260.31(c)(3), which sets the criteria of "the degree to which the reclaimed material is like an analogous material," is satisfied when the candidate material is of the same concentration as an early raw intermediate.

The commenter first requested clarification of the status of residues from scrap metal recycling and second, whether or not materials that are primarily metal, but have some non-metal components still qualify as scrap metal. Today's exclusion is not intended to modify the existing definition of scrap metal. Therefore, the determination as to whether a waste meets the definition of scrap metal has not changed and is made at the point of generation. Under the definition of scrap metal, a secondary material from smelting and refining operations (e.g., slags, drosses, and sludges), liquid wastes containing metals (e.g., spent acids and caustics), liquid metal wastes (e.g., liquid mercury), and metal-containing wastes with a significant liquid component (e.g., spent lead acid batteries) do not meet the definition of scrap metal and therefore also are not classified as processed scrap metal. If, at the point of generation, a secondary material has enough hazardous waste residue to constitute a "significant liquid component," the material would not qualify as a scrap metal. For example, if a tank is being decommissioned, and it has some hazardous residue on the bottom, the tank may not qualify as scrap metal if the implementing agency determines that the residues constitute a significant liquid component. In order to meet the definition of processed scrap metal, the material must first meet the definition of scrap metal. Therefore, any distinct components that are separated from a scrap metal that would not otherwise meet the current definition of scrap metal would not meet the definition of processed scrap metal. The separated material would be a newly generated waste and therefore subject to a hazardous waste determination. If this newly generated waste is a hazardous waste, then the waste must be handled as hazardous waste.

The commenter also asks about the applicability of one of the factors at 40 CFR §260.31(c)(3) that the Agency uses in determining whether a material should be granted a partially-reclaimed material variance. The Agency evaluates available information and data related to a material against the five factors in 40 CFR §260.31(c)(3) for determining whether partially-reclaimed materials are "commodity-like" and not part of the waste management problem. The commenter specifically references the factor related to the degree to which the initially-reclaimed material is like an analogous raw material. This factor examines if a material

can substitute for a virgin material in a process. The Agency notes that in the context of today's rulemaking, these factors were used to evaluate whether excluded scrap metal being recycled is "commodity-like" rather than part of the waste management problem. This evaluation was not intended to determine whether this material should be granted a partially-reclaimed variance under 40 CFR §260.31(c)(3). The Agency did not rely on a single factor in its analysis for the excluded scrap metal exclusion, but based this decision on available data and information on all of the five factors. Discussion of the criteria found at 40 CFR §260.31(c)(3) as it is used in evaluating materials for a partially-reclaimed material variance is beyond the scope of this rulemaking.

EPA further notes for the commenter that the Agency will be addressing broader issues and clarifications related to the definition of solid waste in a future rulemaking. Modifying the Agency's current interpretation of the definition of solid waste is beyond the scope of this rulemaking and is more appropriately addressed in the context of the Definition of Solid Waste rulemaking, which will be proposed in the near future.

DCN PH4A011

COMMENTER NY State Dept. of Environ

RESPONDER RE

SUBJECT SCRP

SUBJNUM 011

COMMENT EPA proposes to exclude from RCRA jurisdiction Shredded Circuit Boards destined for metal recovery that are managed in containers during storage and shipment prior to recovery. Currently, whole circuit boards are recognized as "scrap metal," which is currently exempt from regulation. According to EPA the purpose of this proposed exclusion is to facilitate recovery of this material. The Department finds EPA's reasoning difficult to follow, particularly when EPA suggests that shredded circuit boards may not qualify as "scrap metal." Shredding does not enrich or deplete the material with respect to metal content. Since shredding does not involve separation of non-metal components, SCBs have as much "scrap metal" after shredding as before. As scrap metal, shredded circuit boards would be exempt from regulation and this would facilitate recovery of this material as well as a jurisdictional exclusion. Perhaps the issue can be resolved by reexamining the reasoning used originally to designate printed circuit boards as scrap metal in the 1992 memorandum. This memorandum, believed to be OSWER number 9441-1992(27), dated August 26, 1992, states that "...scrap metal is defined based in large part on the physical appearance of a secondary material...." That same memorandum allowed circuit boards destined for metals reclamation to be burned. For shredded circuit boards that do not qualify as scrap metal, would the proposed regulatory exclusion of 261.4(a)(14) allow the burning of these shredded boards prior to metal reclamation/recycling/recovery? Or, since burning in incinerators is "... never an exempt type of recycling ... " (OSWER document 9489, 1994(02), dated September 19, 1994), are these shredded boards forbidden from being considered destined for reclamation/recovery if they are burned first? Also, please clarify how the Sept 19, 1994 document's seemingly unqualified rejection of burning as a preliminary recycling step can be reconciled with the August 26, 1992 document's allowance of burning as a preliminary recycling step. It is more difficult to understand why a jurisdictional exclusion is proposed for SCB and why it is conditioned upon management in containers. EPA has never before conditioned a jurisdictional exclusion on the type of storage units employed, except where it was necessary to rule

out the use of land-based units that might provide an element of discard. We do not see why SCB are "more like articles in commerce" than whole circuit boards, when further processing is still required to separate out the non-metal components.

Moreover, by requiring management in containers in order to utilize the jurisdictional exclusion, shipments of SCB in bulk would then, presumably, be fully regulated (i.e., it not excluded or considered to be "scrap metal"), unless managed in large containers, such as roll-offs. If anything, this proposal could establish a barrier to the recycling of printed circuit boards removing all regulatory exceptions and not allowing the jurisdictional exclusion for bulk shipments of SCB. It would be better for EPA to remain silent on this issue or to affirm that SCB would still be regarded as "scrap metal" and exempt from regulation. If circuit boards were processed to separate out non metal components, then, at that point, the enriched material could properly be excluded from RCRA jurisdiction, consistent with the proposed exclusion for processed scrap metal.

#### RESPONSE:

The commenter raises three issues: a request for clarification of why whole circuit boards also are not excluded from the definition of solid waste; clarification of two policy directives that appear to contradict each other concerning burning as a recycling step; and clarification of why containers are required to meet the shredded circuit board exclusion.

The commenter first discusses the issue of extending the proposed exclusion to whole circuit boards. The commenter argues that since the content of the boards is no different before or after shredding, there should be no difference in their regulatory status. The Agency disagrees. Whole used circuit boards are less commodity-like than shredded circuit boards. Whole used boards, compared to shredded circuit boards, are harder to assay, more difficult to handle and may contain proprietary information of generators and manufacturers. EPA also notes that since 1992, used whole boards are currently classified as scrap metal and therefore when recycled are completely excluded from RCRA regulatory requirements. Therefore, no RCRA regulatory requirements such as manifesting, export or storage permit requirements currently operate as disincentives to environmentally sound recycling of these materials. The exclusion from RCRA jurisdiction for used shredded circuit boards is necessary because they do not qualify for the definition of scrap metal and thus may be subject to RCRA regulatory requirements that may serve as disincentives to their recovery. EPA also believes that because whole used circuit boards are classified as scrap metal, that excluding whole used boards from the definition of solid waste is not necessary to ensure environmentally sound recovery of these materials and would be confusing to the Agency's current definition of scrap metal.

The commenter also requested clarification of how to reconcile a 1994 policy letter stating that the regulatory exclusion for certain recyclable materials (e.g., precious metal-

bearing recyclable materials are not exempt from incineration requirements) with a 1992 memorandum on circuit boards that identifies burning as a possible preliminary step in recycling of whole circuit boards. First, the commenter's request is outside the scope of the final rule. The policy the commenter is discussing pertains to an Agency memorandum on whole circuit boards rather than shredded circuit boards. Second, the commenter is incorrect in assuming an apparent conflict exists between these two Agency statements. The commenter assumes that all burning of secondary materials must occur in incinerators instead of other thermal devices such as boilers, industrial furnaces and miscellaneous thermal treatment units. The recycling exclusion of 40 CFR 261.6(a)(2) only pertains to shredded circuit boards with economically recoverable amounts of precious metals. In 1993, EPA clarified that precious metal-bearing hazardous wastes, when legitimately recovered in thermal recovery units, are not subject to 40 CFR Part 264, Subpart O requirements (Simon to Shapiro; December 27, 1993 memorandum). The September 1994 letter does not disturb this policy and describes the status of the thermal unit as an incinerator rather than a boiler or industrial furnace.

Lastly, the commenter requests a clarification of why containers are required to meet the shredded circuit board exclusion. The process of shredding the boards produces small fines from the whole board which are dispersible and do not meet the RCRA regulatory definition of scrap metal. However, the Agency has concluded that the application of RCRA regulatory provisions to shredded boards may present serious disincentives to their recovery. EPA proposed to exclude shredded circuit boards being reclaimed from the definition of solid waste to facilitate their recovery. In addition, the Agency determined that shredded circuit boards satisfy the five factors for evaluating whether a material is "commodity-like," and therefore not a part of the waste management problem. Containerization of the shredded circuit boards, along with the value of the material, serve to minimize loss. Note that containerization in and of itself was not the only reason the Agency concluded that shredded circuit boards should be excluded from the definition of solid waste. The other five factors supported this determination as well.



DCN PH4A015

COMMENTS General Motors Corporation

RESPONDER RE

SUBJECT SCRP

SUBJNUM 015

COMMENT Processed Scrap [61 FR 2361, 40 CFR 261.1 (c)(9)] The preamble discussion and the proposed definition of processed scrap does not at all recognize the handling methods that may be in use at a particular generator site. The proposed definition of processed scrap metal is scrap metal which has been manually or mechanically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes, but is not limited to scrap metal which has been bailed ... This definition is adequate for its intended purpose; however, an inspector using a narrow interpretation definition could cause difficulties to arise at facilities that generate scrap metal. Scrap metal in route from its "point of generation" to the area of the facility where bailing, shredding, melting, etc., occurs could be called a solid waste. General Motors does not believe, especially in light of this preamble discussion and proposed rulemaking that the Agency intends for scrap metal in process at a manufacturing facility to be subject to solid waste regulations. General Motors suggest that the definition of "processed scrap metal" be modified to include an addition such as the one utilized in the text below. Processed scrap metal is scrap metal which has been or will be processed on-site such that it will be manually or mechanically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes but is not limited to scrap metal which has been bailed ...

RESPONSE:

Under the final rule's exclusion for excluded scrap metal, if the scrap metal is not home or prompt scrap, the exclusion will not take effect at facilities until scrap metal has undergone a processing step. Therefore, there will be a certain period of time from the point that the scrap metal is generated to the first processing step that scrap metal will be exempt from the hazardous waste definition, but not excluded from the definition of solid waste (40 CFR §261.6(a)(3)(ii)). The commenter seems to be requesting that the exclusion from the definition of solid waste be extended to unprocessed scrap metal if the processing will occur on-site. The Agency has shown that there are some types of unprocessed scrap metal (home and prompt) which are sufficiently commodity-like that they will be handled properly. However, other types

of unprocessed scrap metal are not similar to analogous raw metal concentrates and intermediates, and therefore were not granted an exclusion from the definition of solid waste. In today's final rule, the Agency has expanded the scope of the exclusion to include home scrap metal (e.g., turnings, cuttings, punchings, and borings generated by steel mills, foundries, and refineries) and prompt scrap metal (e.g., turnings, cuttings, punchings, and borings generated by the metal working/fabrication industries). Although the Agency appreciates, from a theoretical standpoint, that there are situations where the time between the point of generation and the first processing step could be as little as a few minutes, there could also be situations where unprocessed scrap metal is stored on-site for a significant period of time. The Agency is confident that processed scrap metal is sufficiently commodity-like that it will be handled as carefully as a raw material.

DCN PH4A016

COMMENTS Public Service Electric &

RESPONDER RE

SUBJECT SCRP

SUBJNUM 016

COMMENT PSE&G supports EPA's proposal to exclude scrap metal and shredded circuit boards managed in containers from the definition of solid waste. (61 Fed. Reg. 2361-63) PSE&G, which is actively involved in resource recovery operations views this proposal as very much a progressive step in the right direction towards promoting recycling of these products. As EPA has recognized, the designation of recyclable materials as solid wastes stigmatizes the material and creates a significant deterrent to its beneficial reuse. (id. at 2363) While this initiative is well-intended, PSE&G is concerned that such rulemaking, on a case-by-case basis, through individual proposed rulemaking and comment is inefficient. We also believe that such regulatory development leads to confusion by promoting differing regulatory positions for different materials that are inherently similar in their marketability and value. PSE&G, like many other companies, generates recyclable materials that are marketable and considered valued commodities, rather than solid wastes. These materials are inherently more commodity-like than waste-like. Because of this distinction, PSE&G believes a more productive approach would be for EPA to establish criteria that may be used to distinguish between solid waste and commodity-like designations. This approach would be consistent with that used by the regulated community under the RCRA program, where the generator determines whether a solid waste is a hazardous waste (40 C.F.R. 262.11) PSE&G encourages the Agency to move forward in a comprehensive proposal to amend the definition of solid waste to encourage recycling and reduce the generation of solid wastes.

**RESPONSE:**

The commenter appears to be taking the position that promulgating exclusions for recyclable materials one by one is inefficient because there are many wastes that could be considered to be commodity-like, and therefore should be excluded from the definition of solid waste. The commenter's request is beyond the scope of this rulemaking and is better addressed in the Definition of Solid Waste rulemaking, due to be proposed in the near future.



DCN PH4A017

COMMENTER Chemical Waste Management

RESPONDER RE

SUBJECT SCRP

SUBJNUM 017

COMMENT Exclusion of Process Scrap Metal From the Definition of Solid Waste (61 Fed. Reg. at 2361) The Agency is proposing to amend the definition of solid waste by excluding processed scrap metal being recycled from RCRA jurisdiction. The proposal is restricted to scrap metal which has been processed by scrap metal recyclers to be traded on recycling markets for further reprocessing into metal end products. The Agency describes processing of scrap metal to include: 1) manual or mechanical separation of scrap metal either into specific scrap categories containing different metals or metal and non-metal components, and 2) unit operations such as sintering and melting operations which melt or agglomerate materials such as drosses and fines into scrap metal. CWM supports this change to the definition of solid waste.

#### RESPONSE:

The Agency would like to thank the commenter for supporting the exclusion from the definition of solid waste for excluded scrap metal. In today's final rule, the Agency has expanded the scope of the exclusion to include home scrap metal (e.g., turnings, cuttings, punchings, and borings generated by steel mills, foundries, and refineries) and prompt scrap metal (e.g., turnings, cuttings, punchings, and borings generated by the metal working/fabrication industries). The Agency notes that in the final rule the Agency clarifies that the exclusion for processed scrap metal being recycled applies to scrap metal that has undergone a processing step (as defined in the preamble to the proposed rule) regardless of who does the processing. In other words, a processing step may be performed by the generator, an intermediate scrap handler (e.g., broker, scrap processor), or a scrap recycler. Once the scrap metal has undergone a processing step, it may qualify for the exclusion from the definition of solid waste.

DCN PH4A017

COMMENTER Chemical Waste Management

RESPONDER RE

SUBJECT SCRP

SUBJNUM 017

COMMENT Exclusion of Shredded Circuit Boards From the Definition of Solid Waste (61 Fed. Reg. 2362) The Agency is proposing to exclude shredded circuit boards destined for metal recovery that are managed in containers during storage and shipment prior to recovery from the definition of solid waste. CWM supports this proposal. CWM believes that shredded circuit boards should be excluded from the definition of solid waste in order to facilitate recovery. In addition, CWM believes that the Agency should clarify the regulatory status of sweeps/ash, fluff, and baghouse dust associated with the shredding of circuit boards. In a August 26, 1992 memorandum from Sylvia K. Lowrance, to Region Waste Management Division Directors (See Attachment 1), that discusses the regulatory status of printed circuit boards, the Agency indicates that shredded circuit boards are no longer similar to the materials that meet the definition of scrap metal. As a result, the sweeps/ash, fluff, and baghouse dust also do not meet this definition. Since the Agency is proposing to change this position CWM believes that it is appropriate for the Agency to also address sweeps, fluff, and baghouse dust. CWM believes that the Agency should also exclude these items from the definition of solid wastes when they are destined for metal recovery.

RESPONSE:

The Agency would like to thank the commenter for supporting the exclusion from solid waste for shredded circuit boards. The commenter also requested clarification of the current regulatory status of secondary materials associated with the shredding of spent printed circuit boards, including sweeps/ash, and baghouse dust.

Sweeps refer alternatively to a powdered material that is a residue of thermal recovery of precious metal-bearing secondary material (often ash that is crushed into particulate form in a ball mill or similar device) or particulate material that is collected from firms handling precious metals such as jewelers and metal finishers. Sweeps, which may be generated when spent shredded circuit boards are sent for assaying and reclamation, have been previously classified by EPA as a by-product (Lowrance to Waste Management Division Directors US EPA, Regions I-X; August 26, 1992). As such, when sent for reclamation, sweeps are not solid waste when considered hazardous solely by exhibiting a characteristic. Characteristic by-products are

not solid wastes when reclaimed (40 CFR §261.2(c)(3)). In contrast, when sweeps are derived from source material that meets the description of a listed hazardous waste, the sweeps are solid wastes that are also hazardous wastes and are regulated under the appropriate RCRA regulation provisions (40 CFR §261.2(c)(3)).

EPA has classified baghouse dust from precious metal recovery furnaces as a sludge (Lowrance to Waste Management Division Directors US EPA, Regions I-X; August 26, 1992). As with the by-product classification for sweeps, baghouse dust is not a solid and hazardous waste when reclaimed, when considered hazardous solely by exhibiting a characteristic. However, if the source material to the furnace contained a listed hazardous waste, then the baghouse dust would be considered a solid and hazardous waste due to its classification as a listed sludge being reclaimed. Also as with the sweeps, even if the baghouse dust is a listed sludge, it may still be exempt from the definition of hazardous waste under 40 CFR Part 266, Subpart F if it contains economically recoverable levels of precious metals.

The commenter's request to establish a global exclusion from the definition of solid waste for materials such as sweeps/ash, fluff, and baghouse dust is beyond the scope of this rulemaking. The Agency asserts that no change to the current regulatory framework is necessary for these materials, given current regulatory interpretations.

DCN PH4A019

COMMENTER Westinghouse Electric Cor

RESPONDER RE

SUBJECT SCRP

SUBJNUM 019

COMMENT Westinghouse supports EPA's

proposal to exclude scrap metal and shredded circuit boards from the definition of solid waste. We concur with the rationale presented by EPA in the preamble and believe these actions would not adversely impact human health or the environment.

**RESPONSE:**

The Agency thanks the commenter for supporting the exclusion from the definition of solid waste for shredded circuit boards.





DCN PH4A021

COMMENTS Association of Container

RESPONDER RE

SUBJECT SCRP

SUBJNUM 021

COMMENT The Association of Container Reconditioners (ACR) hereby comments on the proposed Exclusion of Processed Scrap Metal and shredded Circuit Boards from the definition of Solid Waste, which appeared in the January 25, 1996 Federal Register. Our members are businesses engaged in the cleaning and restoration of packaging materials, primarily 55-gallon steel drums. Each year, more than 40 million steel drums are reconditioned for reuse in the U.S. Since source reduction including reuse is an EPA priority, ACR believes the proposed rule must be revised to encourage U.S. businesses to recondition and reuse containers where practicable, instead of prematurely scrapping used containers. 7.0 Definition of Processor ACR believes EPA has not adequately defined the term "processing." As published, processed scrap metal is metal that "has been separated, melted, or otherwise processed to add value or improve handling qualities." EPA proposes to exclude processed scrap metal from the definition of solid waste because it is a secondary material that is "commodity-like." Processed scrap metal is "commodity-like" if it has an "inherent positive economic value," and can be sold into an established market. Since there is no definition of the term "processing" in the proposal, any action that "adds value" to scrap metal, e.g., segregation of like items, constitutes "processing." Thus, virtually any facility handling metals in any form could be a scrap metal processor. It is a given that at some point during the collection and processing stages, scrap metal becomes secondary material and assumes commodity-like characteristics, but this stage is not defined by the EPA. In fact, the Agency's own research shows that processing is required before scrap metal could be considered commodity-like. Therefore, ACR believes that EPA must determine (a) at what point in the metal recycling continuum does scrap processing begin, and (b) what amount or type of processing is necessary before scrap metal becomes commodity-like and falls out of the definition of solid waste.

**RESPONSE:**

A material that meets the definition of scrap metal is excluded from the definition of solid waste when it also meets the definition of excluded scrap metal. If the scrap metal does not fall within the definition of one of the categories of excluded unprocessed scrap metal (home or prompt scrap), then the material must meet the definition of processed scrap metal to be excluded from the definition of solid waste. In response to information provided by commenters, the Agency has identified chopping, crushing, flattening, cutting and sorting as processes typically used in the processing of scrap metal for recycling that were omitted from the proposed definition. The Agency has added these processes to the definition of processed scrap metal in today's final rule which reads: "scrap metal which has been manually or physically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes but is not limited to scrap metal which has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type (i.e., sorted), and, fines, drosses and related materials which have been agglomerated." The Agency clarifies that the exclusion for excluded scrap metal being recycled applies to scrap metal that has undergone a processing step regardless of who does the processing. In other words, a processing step may be performed by the generator, an intermediate scrap handler (e.g., broker, scrap processor), or a scrap recycler. Once the scrap metal has undergone a processing step, it may qualify for the exclusion.

DCN PH4A021

COMMENTS Association of Container

RESPONDER RE

SUBJECT SCRP

SUBJNUM 021

COMMENT ACR believes EPA should structure a category of "reusable metal materials that can be reused for their original intended purpose. Such items should not be defined as scrap until they have met separate and specific management criteria. For example, a RCRA-empty container between 30 and 3,000 liters that previously contained hazardous substances must be cleaned and mechanically altered (i.e., crushed or shredded) in order to be defined as processed scrap metal. After mechanical alteration, such scrap metal should meet at least the following requirements to be defined as processed scrap metal: (1) the Institute of Scrap Recycling Industries (ISRI) definition of cleanness for ferrous scrap be referenced by EPA. ISRI's definition states: "All grades shall be free of dirt, nonferrous metals, or foreign material of any kind". However, these terms are not intended to preclude the accidental inclusion of negligible amounts where it can be shown that this amount is unavoidable in the customary preparation and handling of the particular grade; and (2) a steel container must be mechanically processed so as to meet one of ISRI's ferrous scrap codes, such as code number 211 shredded scrap. These definitions and standards are referenced in ISRI, Scrap Specifications Circular 1994, 1325 G Street, N.W., Washington, D.C. 20005. Consistent with ISRI's cleanness definition, ACR and ISRI have an agreement that affirms containers are to be cleaned prior to being sent to a scrap yard. Currently, under the Department of Transportation (DOT) regulations, an unclean RCRA-empty container is handled analogously to a full container. The empty container must have all closures in place and all labeling as to original contents and associated hazards. Any unclean crushed containers would be required to be containerized and labeled. Cleaning prior to crushing ensures DOT compliance. Under normal circumstances, steel drums can be reused 5 - 10 times. By clarifying the definition of processing or differentiating "reusable metal materials" from other scrap metal, EPA would encourage industry to reuse prior to recycling, which is consistent with EPA's Hierarchy of Integrated Waste Management. (EPA, Decision-Makers Guide to Solid Waste Management, EPA/530-SW-89-072) A reconditioner operates in a manner consistent with the hierarchy

by cleaning and scrapping only those that are unfit for reuse. We appreciate this opportunity to comment on the proposed changes in regards to processed scrap metal.

**RESPONSE:**

In the final rule, the Agency did not create a separate category for reusable metal materials that can be used for their original intended purpose. Although the commenter suggests that establishing a separate category would be an incentive for the reconditioning and reuse of 55-gallon steel drums and other like containers, the Agency does not believe that the regulation as proposed is a disincentive for such activity. Currently, drum reconditioning is a form of recycling activity and is exempt under 40 CFR §261.2(c) provided it meets conditions at 40 CFR part 261.7 for empty containers. Therefore, drums being reconditioned are not affected by today's rule. Such drums are generally fabricated from materials such as carbon steel which do not contain hazardous constituents and would likely not be classified as hazardous. The Agency believes that the proposed regulation does not serve as a disincentive to reuse and therefore, a separate category for reusable metal materials is not being established in today's final rulemaking.

DCN PH4A032  
COMENTER Eastman Kodak Company  
RESPONDER RE  
SUBJECT SCRP  
SUBJNUM 032  
COMMENT

We would like to take this opportunity to provide our strong support for the exclusions to the RCRA definition of solid waste being proposed for processed scrap metal and shredded circuit boards which are incorporated within the proposed rule on mineral and mining processing wastes.

RESPONSE:

The Agency thanks the commenter for supporting both exclusions from the definition of solid waste for excluded scrap metal and shredded circuit boards.

DCN PH4A032

COMMENTS Eastman Kodak Company

RESPONDER KM

SUBJECT SCRP

SUBJNUM 032

COMMENT Adopt the Proposed Exclusion for Processed Scrap Metal

Kodak agrees with the Agency that processed scrap metal should not be captured by the RCRA definition of solid waste when it is destined for recycling. Many companies, including Kodak, separate scrap metal into categories in order to enhance its value in the marketplace. This material has truly become a commodity in the world market, sought by many who operate metal recycling facilities. Once these materials have been separated into metal types (e.g., iron and steel; aluminum; copper and brass) they are managed to reflect the real value which they represent. Clearly this material is not part of the "waste disposal problem," and should not be subject to RCRA regulation. Even though currently there are minimal requirements in the RCRA regulations for scrap metal, it is stigmatized by being considered a solid (and potentially hazardous) waste. By providing the proposed exclusion to the definition of solid waste the Agency can help remove this impediment to the recycling of these materials. This is not only important in the present manufacturing climate, but will become increasingly important in the years ahead as companies become more involved in the de-manufacturing of end-of-life equipment.

RESPONSE:

EPA thanks the commenter for supporting the proposed exclusions from the definition of solid waste for scrap metal.

DCN PH4A032

COMMENTER Eastman Kodak Company

RESPONDER KM

SUBJECT SCRP

SUBJNUM 032

COMMENT Adopt the Proposed Exclusion for Shredded Circuit Boards  
Kodak also agrees with the Agency that shredded circuit boards should not be

defined as a solid waste when intended for metals recovery. Typically their precious metal content gives these materials a real value, making them a commodity in the marketplace. Shredding them is a practical technique used to destroy any proprietary information they may contain, as well as reducing the total volume to be stored and shipped. Using this technique should not penalize the generator of these materials by making them ineligible for the current interpretation as being scrap metal. The condition of environmentally protective container storage, which is to be applied to the exclusion seems to be a reasonable one. In Kodak's experience, shredded circuit boards are commonly stored and transported in containers. Since these containers are intended to keep their valuable contents inside, they will also serve to protect the environment from spills. We must commend the Agency for presenting this requirement as a performance standard, rather than establishing detailed prescriptive requirements (e.g., size, porosity, structural integrity) for the containers. This is refreshing and hopefully reflects a small hint of the future direction of other environmental regulations. Removing regulatory uncertainties and allowing shredded circuit boards to move freely in the stream of commerce will do much to enhance their recycling rate. This is not only important in the U.S. but it also sets a precedent for the rest of the world. When this material is being recycled it is clearly not being "discarded", and therefore is not part of the "waste disposal problem".

RESPONSE:

EPA thanks the commenter for supporting the shredded circuit board exclusion from the definition of solid waste.





DCN PH4A032

COMMENTER Eastman Kodak Company

RESPONDER KM

SUBJECT SCRP

SUBJNUM 032

COMMENT Move Toward a More Generic

Definition of Solid Waste. While Kodak believes that the exclusions being proposed in this rulemaking are the right thing to do at the present time, we urge the Agency to take a broader look at the issue of commodities being recycled. Just as the two materials which are the subject of this rulemaking do not deserve to be considered solid wastes, there are many other secondary materials being put to equally environmentally friendly uses which should not be subject to RCRA regulation. Rather than continue to study materials one or two at a time and propose specific exclusions, the Agency should concentrate its efforts on establishing a more generic regulatory construct which excludes secondary materials which are recycled back into bonafide manufacturing processes. A definition of "manufacturing process" could be established to guide generators and regulatory agencies in determining what recycling operations are outside the jurisdiction of RCRA. If necessary, a limited number of criteria which are indicia of discard could be used to provide limitations for the definition. This approach could allow many of the present exclusions to be eliminated. The end result would be to simplify the RCRA regulations and to remove many of the current disincentives to recycling.

RESPONSE:

The commenter's request, that EPA establish a more generic regulatory construct which excludes secondary materials that are recycled back into manufacturing processes, is beyond the scope of this rulemaking. The Agency will be addressing broader issues and clarifications related to the definition of solid waste in a future rulemaking. Modifying the Agency's current interpretation of the definition of solid waste is more appropriately addressed in the context of the Definition of Solid Waste rulemaking, which will be proposed in the near future.

DCN PH4A033

COMMENTER International Precious Metals Institute

RESPONDER RE

SUBJECT SCRP

SUBJNUM 033

COMMENT Scrap printed circuit boards contain a substantial amount of recoverable precious metals (i.e., gold, silver) and non-precious metals (i.e., copper), that render them a valuable commodity and feedstock to the precious metal refining industry. Scrap printed circuit boards are shredded for a number of important reasons, all of which have been accurately portrayed by the agency in the proposed rule. The shredding of printed circuit boards also has long been a standard practice in the industry and has not resulted in an environmental incident. IPMI agrees with the agency that shredded printed circuit boards must be properly containerized prior to refining, not only for environmental protection but because of the high value as well. IPMI also agrees with the Agency that such material should be excluded from RCRA jurisdiction.

RESPONSE:

The Agency thanks the commenter for supporting the exclusion from the definition of solid waste for shredded circuit boards.



DCN PH4A034

COMMENTS Institute of Scrap Recyclers

RESPONDER RE

SUBJECT SCRP

SUBJNUM 034

COMMENT ISRI supports efforts by the Agency to amend the definition of solid waste by excluding from its definition "commodity-like" materials, such as scrap metal. Following are ISRI's comments in response to issues raised by the Agency in the above referenced Proposed Rulemaking. ISRI enthusiastically supports EPA's efforts at recognizing the "commodity-like" nature of scrap metal. Scrap metal which has been diverted or removed from the waste stream for recycling is a commodity that is analogous in value, physical state, and environmental benefits - if not better in terms of environmental benefits- to any other product or raw material. Scrap processors purchase scrap metal so as to reclaim the metal components, and then sell the recovered metal to mills, foundries, alloy manufacturers, ingot makers, and other consumers for use in making new metal bearing products, such as automobiles, appliances, and other consumer products. The metal recovered by the scrap processing industry is a product sold in the open market in competition with virgin raw materials. Scrap processors have no motivation to dispose of such a valuable and useful product, and in fact, their activities preclude the disposal of these products. EPA's basis for excluding processed scrap metal being recycled from regulation as solid waste is that it is sufficiently 'commodity-like.'" The Agency further discusses five factors which it utilizes in evaluating the commodity-like nature of processed scrap metal, or any other material being considered for exclusion from the definition of solid waste. Using these five factors, ISRI would like to add the following points to further support the Agency's determination of the commodity-like nature of processed scrap metal: 1. "The degree of processing the material has undergone and the degree of further processing that is required." All shipments of processed scrap metal meet strict specifications. Industry specifications exist for approximately 250 different grades of nonferrous and ferrous scrap metal. Shipments are rejected if the specifications are not met. 2. "The value of the material after it has been reclaimed." As acknowledged by EPA, scrap metal is traded both nationally and internationally in established markets for positive economic value. As evidence of its value, prices for

many scrap commodities are generally published in the daily American Metal Market and weekly Metals Week. European and world price evaluations are published weekly in Metal Bulletin (London). Reported prices for specific transactions in the Asian market are published in the TEX Report (Tokyo). Other publications provide additional pricing data. 3. "The degree to which the reclaimed material is like an analogous raw material." Scrap metal is used in lieu of virgin metal because of its comparable (and in some cases preferable) performance to virgin metal, while providing a substantial cost savings for the manufacturer reflecting the market price and the environmental benefits of scrap. Steel made from scrap is chemically and metallurgically equivalent to steel manufactured from virgin ore. In fact, most metals and alloys produced in the United States are made using secondary materials. Any weighing of the environmental costs and benefits of virgin versus scrap metal use as raw materials should also take into account the avoided environmental damages associated with mining and beneficiation of virgin metal. In some industries, the use of scrap lowers emissions and waste generation. 4. "The extent to which an end market for the reclaimed material is guaranteed." End markets for scrap metals include steel mills, foundries, die casters, mills, fabricators, and manufacturers. Due to the fact that the capital and operating costs of using scrap metal are generally lower than those costs involved with using virgin ores and that there are no chemical or physical differences between the respective outputs, it is likely that the importance of scrap as a raw material will only grow by the future, thus ensuring the availability of end markets. There is virtually unanimous agreement that demand for scrap metal is, and will continue, on an upward trend. 5. "The extent to which a material is managed to minimize loss." The scrap processing industry is committed toward responsible and environmentally safe operating procedures and practices. According to an EPA sponsored report on the environmental risks associated with scrap metal recycling, "very few, if any, instances of environmental or human health damages can be directly attributed to scrap metal mismanagement during scrap metal recycling." In fact, environmental management practices in the scrap processing industry are increasing. According to EPA: "given increasingly stringent controls on recycling facilities, requiring containment buildings and runoff control, increased use of engineering controls to capture dusts, and increased hygiene awareness at

the job site, the potential for contamination and worker exposure appears to have dramatically decreased over the past decade." 7. As acknowledged by EPA in the study quoted above: "scrap yards historically accepted a vast array of materials which resulted in contamination not directly associated with the metal. Over the past decade, at the urging of the Institute of Scrap Recycling Industries, shredder operators have begun to refuse any scrap containing batteries, gas tanks, tires, and other items to reduce contamination from lead, PCBS, CFCs, and other hazardous substances. 8 In fact, several years ago ISRI issued an Environmental Operating Guidelines manual providing site management practices designed to minimize potential adverse environmental effects for all the types of equipment and processes typically employed at a scrap processing facility. Source control programs are now common throughout the scrap processing industry. 9 In addition, the NPDES storm water permit program has resulted in the issuance of permits requiring scrap processing facilities throughout the country to develop pollution prevention plans containing Best Management Practices addressing good housekeeping, preventive maintenance, spill control and response, employee training, runoff management, erosion control, and other control measures. 10. By recognizing that scrap metal is a commodity-like material and not solid waste, the Agency is removing a significant deterrent to the increased recycling of scrap metal. The proposed exclusion will minimize the regulatory burden currently associated with scrap metal and provide added economic and other incentives to recycle the material, thus benefiting the environment, industry, and the nation as a whole. One example of the way the current inclusion of scrap metal in the definition of solid waste acts as a possible deterrent to its recycling is in the international trade of scrap metal. In September of 1995, Parties to the Basel Convention agreed to amend the Convention to include a ban on the movement of hazardous waste recyclables from developed countries to developing countries, effective January 1, 1998. To date, few countries have ratified the amendment and instead are awaiting guidance from the Convention's Technical Working Group on what recyclables are covered or excluded by the ban. Significant trade in scrap metal and other secondary materials currently exists and the amendment to the Basel Convention could represent a significant non-tariff trade barrier to its continuing trade. The Clinton Administration has been very vocal in its support of the fact that scrap metal should be excluded

from the jurisdiction of the Basel Convention. The exclusion of scrap metal from the U.S. definition of solid waste as expressed in RCRA, would bring the U.S. domestic regulatory situation in line with the position that the State Department, the Department of Commerce, and EPA have taken internationally.

**RESPONSE:**

The Agency thanks the commenter for supporting the exclusion from the definition of solid waste for processed scrap metal.



DCN PH4A034

COMMENTER Institute of Scrap Recyclers

RESPONDER RE

SUBJECT SCRP

SUBJNUM 034

COMMENT EPA SHOULD MODIFY ITS PROPOSAL SO THAT ALL SCRAP METAL  
DIVERTED OR REMOVED FROM THE SOLID WASTE STREAM AND

OF DESTINED FOR RECYCLING IS EXCLUDED FROM THE DEFINITION  
SOLID WASTE. EPA should not distinguish between processed and

unprocessed scrap metal in promulgating the solid waste exclusion for scrap metal

that is to be recycled. The five factors that EPA utilizes to evaluate the commodity-like nature of processed scrap metal apply to unprocessed scrap metal that has been diverted or removed from the solid waste stream for the purpose of being recycled. Scrap metal diverted or removed from the solid waste stream also has economic value and end markets and is just as analogous to raw material as processed scrap metal. In addition, as with processed scrap metal, the physical state of scrap metal diverted or removed from the solid waste stream limits the dispersion of metal constituents during handling and for processing. According to a recent EPA report: "Bureau of Mines commodity experts and other experts contacted by SAIC agree that scrap metal itself should not pose an environmental concern, even if the scrap is stored exposed to the elements during storage. In fact, many of the metals are either corrosion-resistant or will oxidize, binding potential contaminants in the metal." The artificial distinction created by EPA between processed and unprocessed scrap metal also creates unnecessary confusion for individual facility operators. It will be extremely difficult in many instances for a particular facility operator to differentiate between processed and unprocessed scrap metal for the purposes of regulatory jurisdiction due to their similar - and in some cases identical - nature. ISRI recognizes that in order for the regulations to work, both the regulated community and the regulators need to know at what point scrap metal exits RCRA Subtitle C jurisdiction. ISRI recommends that point not be when processing occurs, but instead when the scrap metal is diverted or removed from the solid waste stream for the purpose of recycling. Thus, proposed Section 261.4(a)(113) would read as follows: 261.4 Exclusions. (a) \* \* \* (13) Processed scrap metal diverted or removed from the solid waste stream for the purpose of recycling

being reclaimed. By specifying that scrap metal is no longer a solid waste when diverted or removed from the solid waste stream for recycling, the exclusion will fully capture all scrap metals meeting the "commodity-like" criteria specified by EPA. In addition, as the following examples make clear, such a criteria can be easily followed by both industry and EPA: Example #1: Industrial Cuttings and Turnings. Industrial cuttings and turnings are a very common form of scrap metal generated by the metal working/fabrication industries. Turnings and cuttings are often generated in such a way that processing is unnecessary prior to shipment to the consumer. Thus, the turnings and cuttings might never meet EPA's proposed exclusion for processed scrap even though they are definitely "commodity-like" (i.e., they have high intrinsic value, are in demand in many end markets, and pose little environmental risk). Under ISRI's proposed exclusion, the turnings and cuttings would be excluded from the definition of solid waste at the point the generator decides that the material will be sent for recycling. Example #2: Automobiles and White Goods. What about, an automobile, or appliance, found abandoned along the roadside? In such a case, the materials have not been diverted from the solid waste stream for the purpose of recycling and thus would not qualify for the proposed exclusion. If the city picks them up and delivers them to a landfill for disposal, the same result would occur. However, what if the landfill decides to sell the automobile to a scrap processor for recycling, or if the city makes the same decision? The automobile is no longer a solid waste and exits RCRA jurisdiction at the point where a party takes an active step to put the material in question into a stream of commerce which leads to its recycling. Example #3: Demolition Scrap. There are some situations in which scrap metal destined for recycling may be generated in a form such that it is mixed with waste destined for disposal. Such may be the case during demolition projects. In such a situation, the scrap metal would exit Subtitle C jurisdiction at the point at which the scrap metal is removed from the solid waste and sent for recycling. This often occurs at the demolition site. As the above examples illustrate, creating an exit from RCRA jurisdiction for scrap metal based not on whether it has been processed, but on when it has been diverted or removed from the solid waste stream would not be difficult to manage and would be more consistent with EPA's desire to exclude from the definition of solid waste "commodity-like" materials.

## RESPONSE:

In response to information provided by commenters, EPA identified and studied three different types of unprocessed scrap metal to determine whether the scope of the exclusion should be expanded: home scrap metal, prompt scrap metal and obsolete scrap metal. Home scrap is scrap metal generated by steel mill, foundries, and refineries such as turnings, cuttings, punchings, and borings. Prompt scrap, also known as industrial or new scrap metal, is generated by the metal working/fabrication industries and includes such scrap metal as turnings, cuttings, punchings, and borings. Obsolete scrap metal is composed of worn out metal or a metal product that has outlived its original use, such as automobile hulks, railroad cars, aluminum beverage cans, steel beams from torn down buildings, and household appliances.

The Agency evaluated five factors to determine if it is appropriate to exclude the waste from RCRA Subtitle C jurisdiction. The five factors are: 1) the degree of processing the material has undergone and the degree of further processing that is required, 2) the value of the material after it has been reclaimed, 3) the degree to which the reclaimed material is like an analogous raw material, 4) the extent to which an end market for the reclaimed material is guaranteed, and 5) the extent to which a material is managed to minimize loss. The Agency applied these five factors to the three categories of unprocessed scrap metal to determine if any of these categories meet the criteria for "commodity-like" found at 40 CFR §260.31(c).

The Agency evaluated unprocessed home scrap and prompt scrap against each of the five factors and found that these categories of scrap metal are substantially similar to processed scrap metal due to the availability of established markets for the material's utilization, inherent positive economic value of the material, the physical form of the material, and the absence of damage incidents attributable to the material. However, the Agency has not found sufficient data for evaluating unprocessed obsolete scrap metal against the set of factors considered when determining if a partially reclaimed material qualifies as "commodity-like," and therefore be granted a variance from the definition of solid waste.

Based on its analysis, the Agency has determined that the scope of the exclusion should be expanded to include both unprocessed home and prompt scrap metal. The Agency is not expanding the scope of the exclusion from the definition of solid waste to include obsolete scrap metal. Providing an exclusion from the definition of solid waste for obsolete scrap metal at this time would be premature and will be better addressed in the Definition of Solid Waste rulemaking, due to be proposed in the near future.

DCN PH4A034

COMMENTER Institute of Scrap Recyclers

RESPONDER RE

SUBJECT SCRP

SUBJNUM 034

COMMENT IN THE ALTERNATIVE, SHOULD EPA ELECT TO RETAIN ITS

PROPOSED DISTINCTION BETWEEN "PROCESSED" AND  
UNPROCESSED  
SCRAP METAL, CLARIFICATION OF THE TERM "PROCESSING" IS

REQUIRED

Although ISRI clearly prefers that EPA not distinguish between processed and unprocessed scrap in promulgating the exemption from the definition of solid waste for scrap metal that is to be recycled, should EPA decide to do so ISRI requests that the Agency clarify its definition of processed scrap metal and provide guidance in the final rule on how the exclusion will be implemented. Specifically, EPA should specify that for the purposes of Subtitle C jurisdiction, scrap metal is solid waste up until the point at which it has passed through the first process operation, regardless of who performs the first processing step. This is further explained below.

RESPONSE

Under the new exclusion for excluded scrap metal, if the scrap metal is not home or prompt scrap, the exclusion will not take effect at facilities until scrap metal has undergone a processing step. Therefore, there will be a certain period of time from the point that the scrap metal is generated until the first processing step that scrap metal will be exempt from the hazardous waste definition, but not excluded from the definition of solid waste (40 CFR §261.6(a)(3)(ii)). A material that meets the definition of scrap metal is excluded from the definition of solid waste when it also meets the definition of excluded scrap metal. If the scrap metal is not one of the unprocessed materials (home or prompt scrap), then the material must meet the definition of processed scrap metal to be excluded from the definition of solid waste. Based on several comments, the Agency has identified chopping, crushing, flattening, cutting and sorting as processes typically used in the processing of scrap metal for recycling that were omitted from the proposed definition. The Agency has added these processes to the definition of processed scrap metal in today's final rule which reads: "scrap metal which has been manually or physically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes but is not limited to scrap metal which has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type (i.e., sorted), and, fines, drosses and related materials which have been agglomerated."



DCN PH4A034

COMMENTER Institute of Scrap Recyclers

RESPONDER RE

SUBJECT SCRP

SUBJNUM 034

COMMENT The Definition of "Processed Scrap Metals" Must be Clarified to Include Chopping, Sorting, and Other Common Processing Steps in the Recycling of Scrap Metals. ISRI requests that EPA modify the definition of processed scrap metal to clarify the range of processes that are typically employed for processing scrap metal. Scrap processors prepare ferrous scrap in a number of ways. By far the most common methods are sorting (identifying and segregating the scrap into different categories or grades before it can be melted into new metal products), shredding (primarily used in processing automobile hulks and appliances), shearing (primarily used in cutting large and heavy scrap - including I-beams, pipes, ship plate, and railroad cars - into useable sizes), baling (used to compress metals that require greater density before remelting), and torch cutting (used to reduce metal objects into a more manageable size or to separate one metal from another for sorting purposes). Some facilities have more specialized operations, such as choppers (used to process wire and cable through granulation), automotive engine block breakers, flatteners, turnings crushers and borings briquetters. Non-ferrous metal is processed in similar ways. The purpose of all of these operations is to recover the metal content of the scrap by processing it into prepared grades suitable for use in making new metal. Although the definition of processed scrap metal proposed by EPA incorporates many of the above processes for handling scrap metal, not all are included. In addition, the preamble discussion includes a definition of processing which appears to be even narrower than the processed scrap metal definition: "Processing includes 1) manual or mechanical separation of scrap metal either into specific scrap categories containing different metals (e.g., ferrous and nonferrous, copper and steel) or metal and non-metal components (such as shredded steel and fluff), and 2) unit operations such as sintering and melting operations which melt or agglomerate materials such as drosses and fines into scrap metal." ISRI requests that the Agency modify the definition of processed scrap metal as follows in order to further specify processes typically used in the processing of scrap metals for recycling: "scrap metal which has been manually or physically

altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes but is not limited to scrap metal which has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted, agglomerated (for fines, drosses and related materials which are not scrap metal prior to agglomeration) or separated by metal type (i.e., sorted). EPA Must Recognize that the Processing of Scrap Metal May Begin at a Point Prior to Delivery of the Scrap Metal to a Scrap Processing Facility According to the preamble discussion to the proposed rule, the exclusion of processed scrap metal from the definition of solid waste is "restricted to scrap metal which has been processed by scrap metal recyclers." The proposed regulation itself does not contain this restriction, but ISRI requests that the Agency acknowledge in the final rule that scrap metal processing is frequently a multi-step process. Scrap metal which is cut, sorted, baled, or otherwise processed by a scrap generator prior to delivery to a scrap processor for further processing has delivered processed scrap to the scrap processor, but the preamble does not seem to recognize this possibility. For example, stamping plants often bale metal Stampings prior to shipment to the scrap processor, generating some of the highest quality baled scrap. Obviously the baled scrap metal should be considered processed when it leaves the stamping plant for recycling. Similarly, if a scrap processor receives a mixed load of scrap metal containing steel pipe, I-beams, and auto parts, sorts the scrap into different grades or different categories from which these different grades can be made (e.g., the steel pipe into #1 steel, the I-beams into a plate and structural grade, and the auto parts into #2 steel), and then ships some or all of the sorted scrap to a second scrap processor for further processing (e.g., baling or shearing), is the metal considered processed scrap when it arrives at the second yard? The answer should be yes. Scrap processing facilities vary in terms of the equipment they possess and the operations they conduct. The variability in operations is dependent upon a number of factors, not limited to customer needs, resources, transportation requirements, and geographical limitations. As a result, some processing facilities serve as brokers of some scrap metals and processors - both intermediate and final - of other scrap metals. It is very common for scrap processors (or brokers) to purchase processed scrap either for direct resale to

a consumer (e.g., a foundry, smelter, or mill), or for further processing prior to sale. It is also common for generators of industrial scrap to take certain preliminary processing steps prior to deliver of the scrap to a scrap processor. Thus, it would be helpful if the Agency clarified the preamble language when it promulgates the final rule to recognize these scenarios and make it clear that scrap metal exits RCRA jurisdiction at the time it has passed through the first processing operation, regardless of who performs it. There is No Need to Create a Separate Category of "Reusable Metal Materials" in Subtitle C to Address the Reconditioning of Drums. ISRI is aware of the concern of the Association of Container Reconditioners (ACR), as expressed in their letter to this docket dated March 25, 1996, that the definition of "processed scrap metal" be narrowed in some way to assure that reusable metal materials (metal containers) are reused to the maximum extent possible before they are scrapped." Specifically, ACR's comments propose a new category of materials - "reusable metal materials" - that would be exempted from the definition of scrap metal "until they have met separate and specific management criteria." 17 Presumably, the purpose of doing so would be to ensure that drums sent for reconditioning would also be excluded from the definition of solid waste and would not be seen to have any regulatory disadvantage over drums sent for scrap processing. However, ACR fails to recognize that under the current Subtitle C regime, drums being shipped to a reconditioner for reuse are not solid wastes since they were never "discarded," nor would this change under EPA's proposed exclusions for processed scrap metal. Thus, ACR's concern over differing regulatory treatment of drums destined for Reconditioning versus drums destined for scrap processing is unfounded and unnecessary.18

#### RESPONSE:

In response to information provided by several commenters, the Agency has identified chopping, crushing, flattening, cutting and sorting as processes typically used in the processing of scrap metal for recycling that were omitted from the proposed definition. The Agency has added these processes to the definition of processed scrap metal in today's final rule which reads: "scrap metal which has been manually or physically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes but is not limited to scrap metal which has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type (i.e., sorted), and, fines,



drosses and related materials which have been agglomerated."

The Agency agrees that today's regulation is not a disincentive for container reconditioning. Currently, drum reconditioning is a form of recycling activity and is exempt under 40 CFR §261.2(c). Therefore, drums being reconditioned are not affected by today's rule. Such drums are generally fabricated from materials such as carbon steel which do not contain hazardous constituents and would likely not be classified as hazardous. The Agency believes that the proposed regulation does not serve as a disincentive to reuse and therefore, a separate category is not being established in today's final rulemaking.

DCN PH4A034

COMMENTER Institute of Scrap Recyclers

RESPONDER RE

SUBJECT SCRP

SUBJNUM 034

COMMENT METAL-BEARING BY-PRODUCTS GENERATED FROM THE PROCESSING OF SECONDARY MATERIALS ARE "COMMODITY-LIKE" AND, CONSISTENT WITH THIS PROPOSED RULEMAKING, EPA SHOULD EXCLUDE THEM FROM THE DEFINITION OF SOLID WASTE UNDER SECTION

261.4,

RATHER THAN CONTINUE THEIR CURRENT EXCLUSION UNDER SECTION 261.2 Metal-bearing by-product materials generated during secondary

materials processing (e.g., slags, drosses, and skimmings) are currently categorized by EPA under the general category of "characteristic byproducts," along with a wide range of by-product materials generated by the chemical, manufacturing, and other industries. The broad categorization of materials from such a wide range of industries does not recognize differences in environmental risk and recycling rates that exists between these materials. Similar to scrap metal, and unlike many other by-product materials, metal-bearing by-products generated from secondary materials processes are "commodity-like" in that they pose little environmental risk, possess high intrinsic value, and are recycled at high rates. The fact that metal-bearing by-products are recycled in such high volumes clearly indicates that a demand exists for such secondary materials and that end markets are available. All characteristic by-product materials when reclaimed are exempted from the definition of solid waste under Subtitle C by virtue of 40 CFR Sec. 261.2. EPA is currently re-evaluating this exclusion, along with the entire definition of solid waste, as part of the Agency's "Reengineering RCRA process." Given the similarities between scrap metal and metal bearing by-products, ISRI recommends that the Agency retain the current exclusion from the definition of solid wastes for metal bearing by-products, but remove it from the larger category of by-product materials contained in Sec. 261.2 and place it under Section 261.4 (exclusions). Specifically, EPA should revise proposed Section 261.4(a) so that it reads as; follows: 261.4 Exclusions. (a) \* \* \* (17) Metal-bearing- by-products from secondary materials processes that are being recycled. Although EPA will be addressing the regulation of by-product materials as part of its "Reengineering RCRA process", it would be most

appropriate for the Agency to make the above proposed change in this Rulemaking, since this Rulemaking is focusing on the proper regulation of "commodity-like" materials under Subtitle C.

**RESPONSE:**

At this time, the Agency is in the process of addressing regulation of by-product materials as part of the Definition of Solid Waste rulemaking. Finalizing the recommended revision is beyond the scope of this rulemaking and would be more appropriately addressed in the context of the Definition of Solid Waste rulemaking. In today's final rule, the exclusion from the definition of solid waste for metal-bearing by-product materials will remain part of the broader exclusion for by-products exhibiting a characteristic of hazardous waste when reclaimed found at 40 CFR §261.2.

DCN PH4A034

COMMENTER Institute of Scrap Recyclers

RESPONDER RE

SUBJECT SCRP

SUBJNUM 034

COMMENT ISRI supports the Agency's proposed exclusion of shredded circuit boards from the definition of solid waste. The shredded boards are sold in international markets for their precious metals content. The current regulatory scheme adds unnecessary cost to the recycling of printed circuit boards. In fact, due to the decreasing amount of precious metals on circuit boards, many recyclers are finding that the costs associated with processing are exceeding the value of the recovered material. The exclusion of the shredded circuit boards from the definition of solid waste will help decrease the costs associated with processing, thus making the recycling of the boards more economical. In a past internal memorandum, the Agency has stated that unprocessed, spent printed circuit boards are considered "scrap metal" due to their physical state and the fact that recoverable metals are an integral part of the boards." Unfortunately, many persons have not had access to this internal memorandum, thus ISRI requests that the Agency reiterate its position with regard to spent printed circuit boards in the final rule promulgating the exclusion for shredded circuit boards.

RESPONSE:

The Agency thanks the commenter for supporting the exclusion from the definition of solid waste for shredded circuit boards. In the final rule, the Agency reiterates the status of whole spent printed circuit boards, and cites the internal memorandum referenced by the commenter, so that the information should be readily available in both the Federal Register form and in the internal memorandum (which is also available to the public).



DCN PH4A034

COMMENTS Institute of Scrap Recyclers

RESPONDER RE

SUBJECT SCRP

SUBJNUM 034

COMMENT ISRI REQUESTS THAT THE AGENCY FIND THAT THE PROPOSED EXCLUSIONS FROM THE DEFINITION OF SOLID WASTE FOR SCRAP METAL AND SHREDDED CIRCUIT BOARDS ARE BEING PROMULGATED PURSUANT TO HSWA SO THAT THE EXCLUSIONS WILL TAKE EFFECT IMMEDIATELY IN ALL THE STATES.

In its discussion of state authority, EPA states that the proposed solid waste exclusions for scrap metal and shredded circuit boards fall into the category of rules implementing non HSWA statutory provisions. The effect of such a determination on the part of the Agency is that the environmental and economic benefits of the exclusions will be delayed for a substantial amount of time as each state begins the process of amending its own regulations and EPA approves these changes. Given EPA's intent to promote the recycling of commodity-like materials, it would be more appropriate for the exclusions to take effect in each of the states immediately following promulgation by EPA. Thus, ISRI encourages EPA to include the solid waste exclusions under HSWA such that the exclusions will take effect immediately. If this is not possible, ISRI requests that EPA provide incentives and encouragement to the states to adopt the exclusions in a time efficient manner.

RESPONSE:

Under §3006 of RCRA, EPA may authorize qualified states to administer and enforce the RCRA program within the state. Following authorization, EPA retains enforcement authority under section 3008, 3013, and 7003 of RCRA, although authorized states have primary enforcement responsibility. The standards and requirements for authorization are found in 40 CFR Part 271.

Prior to HSWA and in cases where Federal regulations are promulgated under the authorities provided by RCRA, states with final authorization administer their hazardous waste programs in lieu of EPA administering the Federal program in the states. The Federal requirements no longer apply in authorized states, and EPA can not issue permits for any facilities that the state is authorized to permit. When new, more stringent Federal requirements are promulgated or enacted, states are obliged to enact equivalent authorities and/or regulations within specified time frames. New Federal requirements do not take effect in an authorized state until the state adopts the requirements as state law.

After HSWA took effect, the new RCRA section 3006(g) mandated that if new requirements and prohibitions are more stringent than the current program, and the new requirements and provisions are written pursuant to a HSWA provision, then the rule takes effect in authorized states at the same time that they take effect in unauthorized states. EPA is directed to carry out these requirements and prohibitions in authorized states, including the issuance of permits, until state are granted authorization. New Federal requirements which are less stringent than state programs do not take effect in authorized states, unless and until the states adopt such provisions.

The determination of whether a new regulation or provision is HSWA or non-HSWA depends upon whether the new provision is written pursuant to the language that was originally promulgated in RCRA in 1976, or language that was changed or appended under HSWA. The Agency has determined that the amendments to the definition of solid waste proposed in the supplemental Phase IV rule were written pursuant to non-HSWA language in RCRA. In addition, the new exclusions are less stringent than the current program. For these reasons, the final rule will not take effect in authorized states until the states adopt the provisions.

DCN PH4A035

COMMENTS Metals Industries Recycling

RESPONDER RE

SUBJECT SCRP

SUBJNUM 035

COMMENT MIRC supports the exclusion of processed scrap metal from the definition of solid waste.

RESPONSE:

The Agency thanks the commenter for supporting the exclusion from the definition of solid waste for processed scrap metal.





DCN PH4A035

COMMENTS Metals Industries Recycling

RESPONDER RE

SUBJECT SCRP

SUBJNUM 035

COMMENT MIRC Supports the Exclusion of Processed Scrap Metal from the Definition of Solid Waste. EPA has proposed to amend the definition of solid waste by excluding "processed scrap metal" that is recycled. Id. at 2361. EPA's proposal is limited to scrap metal which has been "processed" by "scrap metal recyclers" to be "traded on the recycling market" for further reprocessing into metal end products. EPA has defined "processing" of scrap metal to include: "(1) manual or mechanical separation of scrap metal either into specific scrap categories containing different metals (ferrous and non-ferrous, copper and steel) or metal and nonmetal components (such as shredded steel and fluff), and (2) unit operations such as sintering and melting operations which melt or agglomerate materials such as drosses and fines into scrap metal." Id. at 2362. As a general matter, NURC strongly supports EPA's proposal to exempt processed scrap metal that is recycled from RCRA jurisdiction. However, the definitions of "partially processed" and "unprocessed" need clarification. the preamble states that "processed scrap metal does not include any distinct components separated from unprocessed or partially processed scrap metal that would not otherwise meet the current definition of scrap metal." It is unclear at which point scrap metal would no longer contain distinct components and would be considered "processed." EPA should clarify this point for the regulated community. MIRC supports the position taken by the Institute of Scrap Recycling Industries, Inc. ("ISRI") that EPA should modify the definition of processed scrap metal as follows: Scrap metal which has been manually or physically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes but is not limited to scrap metal which has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted, agglomerated (for fines, drosses and related materials which are not scrap prior to agglomeration) or separated by metal type (i.e., sorted). (See ISRI) Scrap metal should exit RCRA Subtitle C at the point that the material has been diverted or removed from the solid waste stream for the purpose of recycling, or, alternatively, at the point that the scrap metal

has passed through the first processing operation (see id. 6-9). EPA has not adequately defined "scrap metal recyclers." It is not clear from the preamble whether anyone would be considered a scrap metal recycler or whether it is limited to individuals meeting specific criteria. It is equally unclear what is meant by "traded on the recycling market." As proposed, EPA's exclusion may not apply to scrap metal that is not "traded on the recycling market." Some scrap metal is sold directly to a recycler or otherwise processed by a facility for its own recycling purposes. EPA should clarify that the scrap metal exemption would apply equally to all processed scrap metal regardless of who performs the processing and whether it is actually traded on the recycling market. Such a clarification would accommodate those that process scrap metal for their own use (i.e., an electric arc steel maker that operates its own scrap yard or remelts unprocessed "home" scrap). MIRC also encourages EPA to continue evaluating the appropriateness of exempting all scrap metal from the definition of solid waste. In the meantime, NIRC supports maintaining the exemption from the definition of hazardous waste for unprocessed scrap metal that is recycled.

#### RESPONSE:

The Agency would like to thank the commenter for supporting the exclusion from the definition of solid waste for excluded scrap metal. The commenter has raised several different issues for response: a request for clarification of the terms "partially processed" and "unprocessed;" the point at which scrap metal would be considered "processed;" and a request for clarification of the terms "scrap metal recycler" and "traded on the recycling market."

EPA employed the terms "unprocessed" and "partially processed" scrap metal in the preamble to clarify the term "processed scrap metal." The term "partially processed scrap metal" was used in the preamble as a way of indicating that scrap metal meeting the definition of processed scrap metal need not be completely recycled, but may have completed one of several steps in the process of recycling the material. For instance, scrap metal that has been cut and sorted by the generator prior to being sent to a scrap metal recycler would meet the definition of processed scrap metal. The term partially processed scrap metal was intended to convey this type of activity. Therefore, in the context of the final rulemaking, the term "partially processed scrap metal" has the same meaning as the term "processed scrap metal." The term "unprocessed scrap metal" covers the universe of scrap metal which does not fall within the definition of processed scrap metal.

The language in the proposal was not intended to limit excluded materials from the definition of processed scrap metal if the processing does not occur at a scrap metal dealer. In the final rule the Agency clarifies that the exclusion for processed scrap metal being recycled

applies to scrap metal that has undergone a processing step (as defined in the preamble to the proposed rule) regardless of who does the processing. In other words, a processing step may be performed by the generator, an intermediate scrap handler (e.g., broker, scrap processor), or a scrap recycler.

Additionally, the commenter requested clarification concerning whether the applicability of the exclusion would be affected by the point at which the processing is conducted. As discussed in the preceding section, the exclusion for processed material is not effective until the scrap metal has been processed. Once the scrap metal has undergone a processing step, it may qualify for the exclusion from the definition of solid waste.

Finally, the term "traded on the recycling market" is intended to convey that a market exists for the material and therefore the material is likely to be handled as a valuable commodity. This rationale holds true for materials which are recycled or processed on-site to enhance a facility's process.

DCN PH4A036

COMMENTS ASARCO Incorporated

RESPONDER RE

SUBJECT SCRP

SUBJNUM 036

COMMENT The exclusion for shredded circuit boards should be expanded. ASARCO supports EPA's proposed exclusion from the definition of solid waste for shredded circuit boards destined for metal recovery that are containerized. There are, however, additional materials related to the manufacture of circuit boards that are also recycled within the primary mineral processing industry that should likewise be excluded from the definition of solid waste. For example, Asarco's East Helena plant processes valuable silver and gold fines and dusts that are by-products of the circuit board manufacturing process. As circuits are carved into a board, a dust containing copper, gold and silver is produced. The dust is collected and shipped to East Helena for metals recovery and these materials are containerized during shipment and storage. Therefore, EPA should exclude metal-bearing dusts and fines generated in the production of circuit boards from the definition of solid waste for all the reasons EPA has identified to exclude shredded circuit boards. Although the current precious metals exclusion may apply to these materials, see 40 C.F.R. S 266.70, the more tailored or particularized relief for recycled circuit boards would be more appropriate.

RESPONSE:

Several commenters requested that EPA expand the scope of the exclusion to include other secondary materials that are currently classified as solid and hazardous wastes such as F006 (wastewater treatment sludges from electroplating operations) and metal-bearing dusts and fines. EPA is currently working on a proposed rule to amend the definition of solid waste and believes that effort is the correct forum to address the regulatory status of these additional materials.

DCN PH4A053

COMMENTS Inco Ltd., Internat'l Met

RESPONDER RE

SUBJECT SCRP

SUBJNUM 053

COMMENT The Proposal To Exclude Processed Scrap Metal and Shredded Circuit Boards that are recycled from the definition of Solid Waste also is sound. We also support EPA's proposal to exclude processed scrap metal and shredded circuit boards that are recycled from the definition of solid waste. As EPA correctly notes, processed scrap metal clearly qualifies as "commodity-like" when evaluated in terms of the factors that the Agency has established for making that determination, i.e., "1) the degree of processing the material has undergone and the degree of further processing that is required, 2) the value of the material after it has been reclaimed, 3) the degree to which the reclaimed material is like an analogous raw material, 4) the extent to which an end market for the reclaimed material is guaranteed, 5) the extent to which a material is managed to minimize loss." 61 Fed. Reg. at 2362. We note in passing that application of these same factors would lead to a conclusion that high temperature metals recovery slag is "commodity-like" as well. EPA also is on sound ground in proposing to exclude from the definition of solid waste shredded circuit boards destined for metal recovery, provided that they are managed in containers sufficient to prevent a release to the environment during storage and shipment to the recovery facility. As the Agency observes, it is important to create a conditional exclusion of this sort for shredded circuit boards "in order to facilitate recovery of this material." See 61 Fed. Reg. at 2362/3. EPA should recognize that creating comparable conditional exclusions for other metal-bearing materials will facilitate recovery of those materials as well. As discussed in Part I, above, one way of accomplishing this would be to broaden and generalize the conditional exclusion that the Agency has proposed to establish for characteristically hazardous secondary materials generated and reclaimed within the primary mineral processing industry. We urge EPA to expedite the development of a generalized conditional exclusion for all metal-bearing secondary materials that are destined to be reclaimed.

**RESPONSE:**

The Agency thanks the commenter for supporting the exclusion from the definition of solid waste for both excluded scrap metal and shredded circuit boards. The commenter also suggested two other wastes that should be excluded. First, the commenter suggested that high temperature metals recovery (HTMR) slag could qualify for an exclusion based upon the five factors under 40 CFR §260.31(c) that EPA uses to evaluate whether partially reclaimed materials qualify for an exclusion from the definition of solid waste. EPA is currently working on a rulemaking that addresses the regulatory status of HTMR slag and the Agency believes that there is no reason to discontinue that effort. The commenter also suggested evaluating other metal-bearing materials under the same five factors. EPA is currently working on a proposed rule to amend the definition of solid waste and believes that effort is the correct forum to address the regulatory status of any additional metal-bearing materials. However, the Agency points out that any party may petition the EPA or state, if authorized, for a variance from classification as a solid waste for materials that are partially reclaimed. Partially reclaimed materials may be granted a variance from classification as solid waste, if after reclamation, the resulting material is "commodity-like." The Regional Administrator will evaluate such a petition and make a determination based on the evaluation factors for determining whether a partially-reclaimed material is "commodity-like" provided in 40 CFR 260.31(c).

DCN PH4A054

COMMENTS RSR Corporation

RESPONDER RE

SUBJECT SCRP

SUBJNUM 054

COMMENT RSR supports the proposed exclusion for "processed scrap metal" from the RCRA definition of solid waste. RSR urges EPA to clarify that batteries and certain materials associated with lead-acid batteries are not "processed scrap metal."

RESPONSE:

The Agency thanks the commenter for supporting the proposed exclusion from the definition of solid waste for excluded scrap metal. In the preamble to the proposal, the Agency discussed materials which are not considered to be excluded scrap metal. The Agency explained that "excluded scrap metal does not include any distinct components separated from unprocessed or partially processed scrap metal that would not otherwise meet the current definition of scrap metal." The language in the preamble was intended to clarify that any distinct components that are separated from the scrap metal that would not otherwise meet the current definition of scrap metal would not meet the definition of processed scrap metal. The language was not intended to confuse the existing definition of scrap metal. In the January 4, 1985 preamble (50 FR 614), the Agency defined scrap metal as bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that are combined together with bolts and soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled. The Agency excluded from the definition of scrap metal: secondary materials from smelting and refining operations (e.g., slags, drosses, and sludges), liquid waste containing metals (e.g., spent acid and caustics), liquid metal wastes (e.g., liquid mercury), and metal-containing wastes with a significant liquid component (e.g., spent lead acid batteries). For a material to qualify as processed scrap metal, it must first meet the definition of scrap metal. Under today's exclusion, the existing definition of scrap metal continues to apply. Therefore, secondary materials from smelting and refining operations (e.g., slags, drosses, and sludges), liquid wastes containing metals (e.g., spent acids and caustics), liquid metal wastes (e.g., liquid mercury), and metal-containing wastes with a significant liquid component (e.g., spent lead acid batteries) do not meet the definition of scrap metal and therefore do not qualify as excluded scrap metal.





DCN PH4A054

COMMENTS RSR Corporation

RESPONDER RE

SUBJECT SCRP

SUBJNUM 054

COMMENT Based on the foregoing, RSR believes that the options and proposed exemptions are patently unfair. If the rationale for the proposed exemption holds true for the primary industry, it should hold equally true for the secondary metals industry. RSR thus urges EPA to abandon the expansive approach as proposed, or to promulgate a like exemption for the secondary metals industry.

#### RESPONSE

The commenter's request is beyond the scope of the proposed exclusion for scrap metal and shredded circuit boards proposed in the Phase IV supplemental rule.

DCN PH4A054  
COMMENTS RSR Corporation  
RESPONDER RE  
SUBJECT SCRP  
SUBJNUM 054

COMMENT RSR supports the proposed exclusion for "processed scrap metal" from the RCRA definition of solid waste, provided that it is EPA's intent to exclude from this definition materials such as lead-acid batteries; and certain other lead-bearing materials generated by battery reclamation and/or separation activities. RSR agrees with EPA's conclusion that processed scrap metal (as defined in the proposed rule) is sufficiently "commodity like", and that regulation of this material is not necessary. RSR seeks clarification on the definition of "processed scrap metal." EPA's proposed definition of this term is as follows: "Processed scrap metal" is scrap metal which has been manually or mechanically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes but is not limited to scrap metal which has been bailed, shredded, sheared, melted, agglomerated (for fines, across and related materials which are not scrap metal prior to agglomeration) or separated by metal type. EPA's preamble discussion on this definition states that the term "processed scrap metal" is not intended to include batteries, spent acids, slags, dross, ashes, and sludges that have a form dissimilar to scrap metal. RSR believes excluding these types of materials from the definition is appropriate and consistent with EPA's past interpretations on the RCRA regulatory status of such materials. Provided that EPA clearly intends to exclude such materials from the definition of "processed scrap metal," RSR supports the proposed exemption. RSR is concerned, however, that the proposed regulatory definition does not accurately reflect this intent, particularly agglomerated materials. Regulated entities or State agencies could construe the parenthetical statement to mean that dross, etc., are considered processed scrap metal. This concern is heightened by the fact that EPA's clarification limiting the scope of the proposed definition is contained in the preamble, and not clearly reflected in the proposed regulatory language. To ensure that EPA's intent is clear in this regard. RSR recommends that EPA revise the definition of processed scrap metal as follows (suggested revisions are redlined): "Processed scrap

metal is scrap metal which has been manually or mechanically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials.

Processed scrap metal includes but is not limited to scrap metal which has been bailed, shredded, sheared, melted, agglomerated (for fines, dross and related materials which are not scrap metal prior to agglomeration) or separated by metal type.

"Processed scrap metal" does not include lead-acid batteries; slags, dross, ashes, sludges, capacitors, or other liquid-bearing material, fluff, or other non-metal residuals, liquid metals such as mercury, or spent caustics or acids, or distinct components separated from these materials.

#### RESPONSE:

In the preamble to the proposal, the Agency discusses materials which are not included within the definition of excluded scrap metal. The Agency explained that "excluded scrap metal does not include any distinct components separated from unprocessed or partially processed scrap metal that would not otherwise meet the current definition of scrap metal." The language in the preamble was intended to clarify that any distinct components that are separated from the scrap metal that would not otherwise meet the current definition of scrap metal would not meet the definition of excluded scrap metal. The language was not intended to confuse the existing definition of scrap metal. In the January 4, 1985 preamble (50 FR 614), the Agency defined scrap metal as bits and pieces of metal parts (e.g., bars, turning, rods, sheets, wire) or metal pieces that are combined together with bolts and soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled. The Agency excluded from the definition of scrap metal: secondary materials from smelting and refining operations (e.g., slags, drosses and sludges), liquid waste containing metals (e.g., spent acid and caustics), liquid metal wastes (e.g., liquid mercury), and metal-containing wastes with a significant liquid component (e.g., spent lead acid batteries). In order for a material to qualify as processed scrap metal, it must first meet the definition of scrap metal. Under today's exclusion, the existing definition of scrap metal continues to apply. Therefore, secondary materials from smelting and refining operation (e.g., slags, drosses, and sludges), liquid wastes containing metals (e.g., spent acids and caustics), liquid metal wastes (e.g., liquid mercury), and metal-containing wastes with a significant liquid component (e.g., spent lead acid batteries) do not meet the definition of scrap metal and therefore also do not qualify as excluded scrap metal.

DCN PH4A055

COMMENTER Copper & Brass Fabricator

RESPONDER RE

SUBJECT SCRP

SUBJNUM 055

COMMENT The Council Supports the Agency's Proposed Exclusion of Processed Scrap Metal from the Definition of Solid Waste. The Council agrees with the Agency that processed scrap metal which has been diverted or removed from the waste stream for recycling is sufficiently commodity-like that regulation is not necessary. The Council further supports the Agency's recognition that, because of its physical qualities, processed scrap metal has not historically contributed to the waste management problem and it is unlikely to do so in the future. The Agency's decision to exclude scrap metal will further encourage the already active beneficial recycling activities that are more analogous to manufacturing operations than waste management. In its proposed rule, the Agency cites five factors it considered in determining whether to exclude processed scrap metal from the definition of solid waste. The Council supports the Agency's rationale for each factor and adds the following comments as they relate to the brass mill industry: 1. The degree of processing the material has undergone and the degree of further processing that is required. Processed scrap metal generated from brass mill operations must meet strict industry specifications for metal content in order to be sold as a commodity. Shipments not meeting these strict standards are rejected. Scrap metal sold as a commodity undergoes substantial processing before being sourced as raw material for a fabricated product. For example, brass fines would be remelted along with other brass scrap to be used as raw material for brass sheet. 2. The value of the material after it has been reclaimed. As acknowledged by the Agency, scrap metal is traded both nationally and internationally in markets. In the United States, the copper is listed daily in the American Metal Market, reporting on the metals industry, and copper brass mills is sold at prices related to virgin copper. For example, on April 19, copper scrap from brass mills was priced at \$117.25/lb and AMM virgin copper cathode was priced at \$129.00/lb. 3. The degree to which the reclaimed material is like an analogous raw material. In the brass mill industry, the principal raw material source is scrap metal, not virgin metal. Brass products (copper and zinc alloy) made from scrap are chemically

and metallurgically equivalent to products manufactured from virgin copper and zinc. The difference in input material does not affect the chemical composition, the physical characteristics, or the end use of the finished brass mill products. 4 The extent to which an end market for the reclaimed materials is guaranteed. End markets for scrap metal from brass mill operations are guaranteed. Brass mills reuse their own scrap metal or sell to recyclers. Recyclers will often further process the material and resell to the original mill under a tolling arrangement. In other words, all metals generated from brass mill operations are reused. With its reduced costs and environmental benefits, the demand for scrap metal as a raw material source will only grow in the future thus ensuring the availability of end markets. 5. The extent to which a material is managed to minimize loss. Scrap metal from brass mill operations is in a solid non-dispersible form so that loss is minimal. Because of its commercial value, scrap metal resulting from brass mill operations is contained in a designated area with minimal handling and movement until it is reused. This type of beneficial reuse offers minimal risk to the environment. By recognizing that processed scrap metal is a commodity-like material and not solid waste, the Agency is removing a significant disincentive to recycling. The proposed exemption will minimize the regulatory burden currently associated with scrap metal and provide added economic and other incentives to recycle the material. Further, the exclusion of scrap metal from the U.S. definition of solid waste as expressed in RCRA, would add consistency and support to the U.S. position with respect to the ban placed on the transboundary movement of solid wastes, some of which are recyclable materials, under the Basel Convention. The United States has not ratified the Basel Convention and it is unlikely to do so until it has clear guidance from the Convention's Technical Working Group on what recyclable materials are covered by the ban. The United States has advanced the position that scrap metal should be excluded from the jurisdiction of the Basel Convention. The Agency's decision to exclude scrap metal from RCRA jurisdiction would bring the U.S. domestic regulatory scheme in line with the position the United States has taken internationally.

**RESPONSE:**

The Agency thanks the commenter for supporting the exclusion from the definition of solid waste for scrap metal.

DCN PH4A055

COMMENTER Copper & Brass Fabricator

RESPONDER RE

SUBJECT SCRP

SUBJNUM 055

COMMENT Metal bearing by-products generated from the processing of secondary materials are commodity-like metal bearing by-products generated during secondary materials processing (e.g., slags, drosses, and skimmings) are currently categorized by the Agency under the general category of "characteristic by-products" under RCRA. Unlike other by-products in this general category, metal bearing by-products resulting from secondary materials processing possess high intrinsic value and are recycled at high rates. For example, zinc-rich baghouse dusts captured from secondary copper and brass smelting and casting operations were marketed as commodities long before methods to capture emissions were required by air pollution control regulations. Like scrap metal, metal bearing by-products are recycled on-site as raw material or sold to recyclers who further processes the by-product for various applications. Further, like scrap metal, a demand exists for secondary materials and end markets are available. Thus they are more like scrap metal than by-products. Currently, characteristic by-products when reclaimed are exempted from the definition of solid waste under 40 CFR section 261.2 (Definition of solid waste). Given the similarities between scrap metal and metal bearing by-products, the Council recommends that the Agency retain the current exemption for metal bearing byproducts, but provide it under 40 CFR section 261.4 (Exclusions). Although the Agency will be addressing the regulation of byproducts as part of its "Reengineering RCRA for Recycling" initiative, metal bearing by-products generated from the processing of secondary materials are commodity-like. Therefore, consistent with this rulemaking, the Council requests that the Agency exclude metal bearing by-products under section 261.4 rather than continue their exclusion under section 261.2.

RESPONSE:

Currently, by-products exhibiting a characteristic of hazardous waste are excluded from the definition of solid waste when reclaimed (40 CFR §261.2). The commenter is correct in stating that metal-bearing by-product materials generated during secondary material



processing, such as slags, drosses, skimmings, and sludges, retain the current exclusion from the definition of solid waste when reclaimed. The regulatory status of reclaimed by-products is beyond the scope of this rulemaking. The Agency is in the process of addressing the regulation of by-product materials as part of the upcoming Definition of Solid Waste rulemaking. Finalizing the commenter's recommended revision is beyond the scope of this rulemaking and is more appropriately addressed in the context of the Definition of Solid Waste rulemaking. In today's final rule, the exclusion from the definition of solid waste for metal-bearing by-product materials will remain part of the broader exclusion for by-products exhibiting a characteristic of hazardous waste when reclaimed found at 40 CFR §261.2.

DCN PH4A056

COMMENTER Utility Solid Waste Activities Group

RESPONDER RE

SUBJECT SCRP

SUBJNUM 056

COMMENT USWAG supports EPA's proposal to exclude from the definition of solid waste processed scrap metal and shredded circuit boards that are managed in containers. 61 Fed. Reg. at 2361 -63. This proposal is grounded in sound environmental policy and will encourage and promote the recycling of these waste streams. While this proposal is a step in the right direction, USWAG believes that the use of separate rulemakings on a case-by-case basis is not the most efficient or productive method for excluding recyclable waste streams from the RCRA program. This approach involves an extraordinarily onerous and time-consuming mechanism for advancing recycling. This is especially true in the case of the electric utility industry, which generates many secondary recyclable materials that are more "commodity-like" than "waste-like" (e.g., slightly contaminated mercury that must be "cleaned up" prior to reuse), but that nonetheless are labeled as "solid wastes" under the current regime and are faced with market entry barriers common to most recyclable solid wastes. As EPA itself recognizes, the designation of a recyclable material as a "solid waste" stigmatizes the waste stream and creates a significant deterrent to its beneficial reuse. Id. at 2363. Attempting to remove these barriers on a case-by-case basis through individual notice and comment rulemakings, as is being proposed for circuit boards, is inefficient and unnecessarily delays the commercial advantages and environmental benefits of increased recycling. A more productive and efficient approach would be for EPA to establish self-implementing criteria for qualifying for a variance from the definition of "solid waste" - i.e., establishing readily identifiable factors for distinguishing between "solid waste" and "commodity-like" secondary materials that do not warrant "solid waste" designation -- in lieu of making such determinations through the case-by-case approach under the current 40 C.F.R. §260.31 procedure. Indeed, the very cornerstone of the RCRA program is predicated on the regulated community using a self-implementing procedure to determine whether a "solid waste" is hazardous (e.g., per 40 CFR 262.11); surely, a similar self-implementing procedure can be used by the regulated community to distinguish between

"commodity like" secondary materials and "solid wastes." USWAG also understands that EPA is preparing its comprehensive proposal to amend the definition of "solid waste" to simplify the requirements applicable to recycling. This effort also will advance recycling efforts while reducing unnecessary regulatory burdens. USWAG urges EPA to issue this proposal as soon as possible.

**RESPONSE:**

The Agency thanks the commenter for supporting the exclusions from the definition of solid waste for excluded scrap metal and shredded circuit boards that are being reclaimed or recycled.

The commenter seems to be taking the position that promulgating exclusions for recyclable materials one by one is inefficient because there are many wastes that could be considered to be commodity-like, and therefore should be excluded from the definition of solid waste. The commenter's request is beyond the scope of this rulemaking and is better addressed in the Definition of Solid Waste rulemaking, due to be proposed in the near future.

DCN PH4A075

COMMENTS Recyclers of Copper Alloy

RESPONDER RE

SUBJECT SCRP

SUBJNUM 075

COMMENT The commercial recycling of copper alloy products has been a dynamic aspect of the United States economy for nearly three quarters of a century. RE-CAP's comments seek to ensure that EPA and others who may review this Docket are aware of the scope and importance of copper alloy recycling. We do so to underscore the concomitant importance of EPA ensuring that its final rule continues to recognize, as appears to be intended by the Agency, that the commodity-like nature of scrap metal (including metal by-products) warrants exclusion from RCRA Subtitle C jurisdiction under 40 CFR Part 261.4. In this regard, we incorporate the comments which were filed in this Docket by the Institute of Scrap Recycling Industries, Inc. on April 18, 1996, and by the Copper and Brass Fabricators Council, Inc. on April 24, 1996. See also Eastman Kodak Company's April 17, 1996, comments in this Docket at 1-2, and RE-CAP's May 15, 1995, submission to the EPA Reengineering Task Force (SERVICES 212A) concerning commodity like secondary materials. At least 4 billion pounds (2 million tons) of brass and recycled copper alloys are recycled every year in the United States. The alloys are recycled by a wide variety of industries. For example, nearly all of the brass used by the American plumbing fittings industry comes from recycled copper alloys. The faucet you use today may have been made from the faucet which your grandfather used as a child. And your faucet eventually will become the scrap from which these and other copper alloy products are made. More than 30 million faucets are produced annually in the United States. Brass and bronze are among the oldest and most valuable metal alloys known, having been employed by people for millennia in a multitude of ways. (Brass is a mixture of copper and zinc and bronze a mixture of copper and tin, both in varying proportions.) 1,774,300 short tons of copper in scrap of all kinds was consumed in 1994, the last year for which complete data is available. This is 3.55 billion pounds, and this is the copper content of all the scrap consumed. The total tonnage of scrap is of course higher. In 1994, scrap supplied 47.3% of the total copper consumed in the United States. Total consumption was 3,754,100 tons. (Copper Development Association, Copper Supply and Consumption in the United States - 1994.) Our copper

alloy and secondary metals recycling industry is a priceless asset. While the art of alloying copper has been utilized for thousands of years, it remained for twentieth-century America to initiate and enjoy the many benefits of large-scale production of high quality, dependable copper-based alloys in ingot form, conforming to exacting specifications and offering substantial economies. The primary reasons for this phenomenon center on the increasing diversity of manufacturing and the increasing need for conserving the Nation's resources. Each and every ton of recycled copper alloys represents: Many tons of pollution not introduced into our atmosphere; Thousands of pounds of valuable metals not sent to already overburdened landfills; Acres of land conserved and not stripped to expose the minerals below; A substantial energy savings; and Several more tons of ore that aren't unnecessarily mined and refined. See also comments of Institute of Scrap Recycling Industries, Inc., Apr. 19, 1996, at n. 1. This reservoir of recycled copper alloy products is indeed an important part of our national treasure. These products are essential to our nation's highly diversified and interdependent economy, as well as to our national defense. Automobile radiators, free-cutting brass rod and other machining turnings, obsolete faucets, and a wide variety of other copper alloy scrap are collected and processed as part of this large U.S. secondary metals industry. Scrap is melted and alloyed to exacting specifications by ingot manufacturers, brass mills and foundries in the manufacturing of thousands of consumer, industrial and military components and products, such as components for everyday use in: elevators, light switches, brass lamps, lawn sprinklers, screws and bolts, door hinges, doorknobs, keys, and golf club heads; Valves, faucets and other plumbing products: these are critical to the construction and housing industry; Fire sprinklers and fire hydrants; Bearings: - these facilitate rotating and sliding parts with minimal friction in engines, gears and transmissions in passenger automobiles; diesel trucks and tractors, mining and other machinery; military aircraft, tanks and aircraft carriers the slide along which the aircraft launching catapult travels); Worm Wheels: they are needed for RPM reduction, which conserves fuel; they enable equipment such as hospital beds, or winches on military vehicles, to be raised and lowered; Impellers: they provide circulation in irrigation pumps, sewage pumps, and pumps critical to paper mills and numerous other industries; Pump

housings, pressure regulators, water meters, and other water utility hardware; Electrical power equipment and transmission line hardware; and Radar wave guidance: here the copper alloy's non-magnetic properties are essential. Further perspective on copper alloy recycling may be helpful. By way of example, we turn to the ingot industry component of our coalition. The production of quality ingot metal alloys is not a simple melting process, but is a fully developed, carefully supervised, and scientifically controlled refining process. When an article of copper or copper alloy, be it an automobile radiator, a faucet, a trolley wire, a valve, a door handle, or a ship's propeller, has served its purpose or is no longer fit for service, it is ready to be converted into something useful. The ingot industry consumes more than 150 million pounds of automobile radiators every year, and one must add to this the fact that the wrought industry consumes more than 300 million pounds of scrap every year in making plumbing fittings alone. Metal value is continually present in this equipment, even though the equipment is no longer of value for its original purpose. Copper has been said to be an everlasting metal. While it does not last forever in any one form, it is continually being recovered, refined, realloyed, reworked, and used again. Indeed, this revolving fund of recyclable metal in industry is a significant item in the total reserves of the United States. It is in this connection that the ingot industry plays its most important role. It converts copper products that have been diverted or removed from the solid waste stream into useful metal so that they again become active in industry. We hope that these comments have provided EPA and others who may review this Docket with a better understanding of recycled copper alloy products' critical importance to manufacturing in the United States. With this background in mind, we again urge EPA to ensure that its final rule continues to exclude these materials from RCRA Subtitle C jurisdiction.

#### RESPONSE:

The Agency thanks the commenter for supporting the exclusion from the definition of solid waste for scrap metal. In today's final rule, the Agency has expanded the scope of the exclusion to include home scrap metal (e.g., turnings, cuttings, punchings, and borings generated by steel mills, foundries, and refineries) and prompt scrap metal (e.g., turnings, cuttings, punchings, and borings generated by the metal working/fabrication industries).

DCN PH4A077

COMMENTS The Aluminum Association

RESPONDER RE

SUBJECT SCRP

SUBJNUM 077

COMMENT The Aluminum Association ("Association"), in conjunction with its member companies, is pleased to submit comments to the above-referenced rule. The Aluminum Association is a trade association founded in 1933 and comprised of seventy-six members of the aluminum industry in the United States. Member companies include producers of primary and secondary aluminum, aluminum alloys, semi-fabricated wrought, cast aluminum, and related products. These comments address two major issues: (1) EPA's decision to exclude processed scrap metal being reclaimed from the definition of a solid waste under RCRA, and (2) the merits of affording a comparable exclusion to cover the aluminum byproducts skims and drosses. 1. The Association supports EPA's decision to exclude processed scrap metal from the RCRA definition of solid waste. The Association commends the Agency for its proposal to amend the definition of solid waste to exclude processed scrap metal being recycled from RCRA jurisdiction. Association members are intent on recovering metal from aluminum products, and treat scrap metal as a valuable commodity, which meets all criteria set by the Agency for avoiding regulation as a waste.

RESPONSE:

The Agency thanks the commenter for supporting the exclusion from the definition of solid waste for scrap metal.

DCN PH4A077

COMMENTS The Aluminum Association

RESPONDER RE

SUBJECT SCRP

SUBJNUM 077

COMMENT Under RCRA's current regulatory

scheme, scrap metal is regulated as a solid waste. Scrap metal is defined as "bits and pieces of metal parts or metal pieces that are combined together with bolts or soldering, which when warm or superfluous can be recycled." 40 CFR 261.1(c)(6).

However, EPA exempted from RCRA Subtitle C regulation all scrap metal being recycled. 40 CFR 261.6(a)(3)(ii).

According to EPA, this was an interim measure taken to allow the Agency to study scrap metal management and determine whether regulation was necessary 50 Fed. Reg. 614, 649 (Jan. 4, 1985).

The proposed regulation would change the method by which processors of scrap metal avoid "waste" management requirements.

Under the proposal, EPA would specifically grant an exclusion, under 40 C.F.R. §261.4(a), from the definition of solid waste for "processed scrap metal" being reclaimed. The proposed rule defines "processed scrap metal" as "scrap metal which has been manually or mechanically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials." 61 Fed. Reg. 2,338, 2,371 (Jan. 25, 1996). While the Association embraces EPA's exclusion of processed scrap from solid waste regulation, it also supports the suggestion of the Institute of Scrap Recycling, Inc. ("ISRI") that EPA should modify its proposal so that all scrap metal diverted or removed from the solid waste stream and destined for recycling is excluded from the definition of solid waste. As detailed in ISRI's comments, unprocessed scrap removed from the solid waste stream for recycling has the same commodity-like nature as processed scrap, and creating an artificial distinction between the two will create unnecessary confusion for individual facility operators.

#### RESPONSE:

In response to information provided by commenters, EPA identified and studied three different types of unprocessed waste to determine whether the scope of the proposed exclusion should be expanded: home scrap metal, prompt scrap metal and obsolete scrap metal. Home scrap is scrap metal generated by steel mill, foundries, and refineries such as turnings, cuttings, punchings, and borings. Prompt scrap, also known as industrial or new scrap metal, is



generated by the metal working/fabrication industries and includes such scrap metal as turnings, cuttings, punchings, and borings. Obsolete scrap metal is composed of worn out metal or a metal product that has outlived its original use, such as automobile hulks, railroad cars, aluminum beverage cans, steel beams from torn down buildings, and household appliances.

The Agency uses five factors when evaluating whether a partially-reclaimed material is "commodity-like" and is not part of the waste management problem and thus is appropriate to exclude the material from RCRA Subtitle C jurisdiction through issuance of a variance (40 CFR §260.31(c)). The five factors are: 1) the degree of processing the material has undergone and the degree of further processing that is required, 2) the value of the material after it has been reclaimed, 3) the degree to which the reclaimed material is like an analogous raw material, 4) the extent to which an end market for the reclaimed material is guaranteed, and 5) the extent to which a material is managed to minimize loss. The Agency applied these five factors to the three categories of unprocessed scrap metal to determine if these categories meet the criteria for "commodity-like" found at 40 CFR §260.31(c).

The Agency evaluated unprocessed home scrap and prompt scrap against each of the five factors and found that these categories of scrap metal are substantially similar to processed scrap metal due to established markets for the material's utilization, the inherent positive economic value of the material, the physical form of the material, and the absence of damage incidents attributable to the material. Based on this analysis, the agency has expanded the scope of the exclusion for scrap metal to include both unprocessed home and unprocessed prompt scrap metal.

The Agency has not found sufficient data for evaluating unprocessed obsolete scrap metal against the set of factors used to determine if a partially reclaimed material qualifies for a variance from the definition of solid waste. Therefore, the Agency is not expanding the scope of the exclusion from the definition of solid waste to include obsolete scrap metal. Providing an exclusion from the definition of solid waste for obsolete scrap metal at this time would be premature and is better addressed in the Definition of Solid Waste rulemaking, due to be proposed in the near future.

DCN PH4A077

COMMENTER The Aluminum Association

RESPONDER RE

SUBJECT SCRP

SUBJNUM 077

COMMENT The Aluminum

Association urges EPA to extend the exclusion for scrap metals to skims and drosses, aluminum processing by-products that have commodity-like characteristics similar to scrap metal. Aluminum skims and drosses are valuable materials and are considered an important metal source by the aluminum industry. Because these by-products contain fully recoverable metal, they are not discarded or landfilled.

Skims and drosses are by-products generated as part of the aluminum melting process. Whenever molten aluminum is exposed to the atmosphere, a thin layer of aluminum oxide forms on its surface. Scrap aluminum being melted is coated with aluminum oxide. This oxide material is the starting point for by-products derived from melting aluminum. The oxide layer increases during stirring, transferring, fluxing or pouring operations, and floats to the surface of the molten aluminum. It builds up in troughs, furnaces, and crucibles during the casting process, and free aluminum becomes mixed and entrapped with the oxide. "Dross," in this context, refers to a solidified material generally consisting of oxides of aluminum and other alloying materials such as magnesium, formed when molten aluminum reacts with the atmosphere or moisture. The term "skim" connotes an accumulation of oxide with entrapped metal, formed on the metal surface after melting from oxide films introduced as surface oxides on all charge components.

Skims and drosses are currently categorized by EPA as "characteristic by-products," along with a variety of by-product materials generated by chemical and manufacturing industries. When reclaimed, all characteristic by-products are exempt from the definition of a solid waste under 40 CFR 261.2. That the current broad "characteristic by-product" category captures skims and drosses evidences the category's failure to recognize the differences in environmental risk and recycling rates that exists for aluminum skims and drosses as opposed to other byproducts. Similar to scrap metal, and unlike many other by-product materials, aluminum skims and drosses are "commodity-like," posing little environmental risk, high intrinsic value, and are recycled at higher rates.

EPA has not proposed to create a similarly favorable exclusion for skims and drosses as it has for scrap metal.

But, skims and drosses would continue to be exempt, as well as all characteristic by-products, from treatment as a solid waste if they were reclaimed. In its decision to amend the definition of solid waste to exclude scrap metal, EPA was properly guided by 40 C.F.R. 260.31(c). This provision states that the Agency may grant requests for a variance from classifying as a solid waste those materials that have been reclaimed but must be reclaimed further before recovery is completed if, after initial reclamation, the resulting material is "commodity-like." This determination must be based on the following factors: (1) the degree of processing the material has undergone and the degree of further processing that is required, (2) the value of the material after it is reclaimed, (3) the degree to which the reclaimed material is like an analogous raw material, (4) the extent to which an end market for the reclaimed material is guaranteed, (5) the extent to which the reclaimed material is handled to minimize loss, and (6) other relevant factors. 40 C. F. R. 260.31(c). As detailed below, because aluminum skims and drosses meet the criteria for recycling listed in 40 C. F. R. 260.31(c), the exclusion should be extended to these by-products as well.

**1. The Degree of Processing Done to Skims and Drosses Supports Their Treatment as Commodity Metals**

EPA has articulated the policy that the more substantial the initial processing, the more likely the resulting material is to be commodity-like. 50 Fed. Reg. at 655. In the preamble to the proposed rule, EPA noted that processed scrap metal is separated, melted or otherwise processed to add value or improve handling qualities. 61 Fed. Reg. at 2,362. Companies that generate skims and drosses may recover the metal content from these byproducts on site or send them off-site to facilities which are specifically designed to process these materials for recovery. Skims and drosses are melted and[ agglomerated, operations that are recognized as suitable processing. 61 Fed. Reg. at. 2362. Indeed, these types of processing helped clear the way for EPA's proposed treatment of scrap metal. *Id.* at 2,371 (proposed 40 C. F. R. 261.1(c)(9)).

**2. Aluminum By-products Are Valuable Commodities**

The more valuable a material is after initial processing, the more likely it is to be commodity-like. 50 Fed. Reg. at 655. Like scrap metal,

skim,,; and drosses are traded nationally and internationally in established markets for positive economic value. These byproducts are traded, as any other commodity, under sale or tolling contracts. The recoverable metallic content is systematically tested and serves as the basis for pricing. As aluminum is sold as a commodity with prices based on the London Metal Exchange, many producers purchase scrap including aluminum by-products as a raw material because it is less expensive than primary aluminum. 3. Aluminum By-products Are Very Similar to - Raw MATERIALS Used in Aluminum Production, and in Fact, Are Often Used as Raw MATERIALS in Aluminum Processes Under EPA policy, if the initially-reclaimed material can substitute for a virgin material,, for instance as feedstock, it is more likely to be commodity-like. 50 Fed. Reg. at 655. Skims and drosses comprise a significant portion of the current aluminum market, and are accepted as raw materials by the secondary aluminum processing or aluminum recycling industry. By-products are used in lieu of virgin metal because of their comparable performance and substantial cost savings. Recycling of aluminum skims and drosses is very common, and economically feasible with metal content as low as 8 percent. Depending on the material and processes employed, recovery rates may range up to 60 percent and higher.

The Aluminum Association urges EPA to extend the exclusion for scrap metals to skims and drosses, aluminum processing by-products that have commodity-like characteristics similar to scrap metal. Aluminum skims and drosses are valuable materials and are , considered an important metal source by the aluminum industry. Because these by-products contain fully recoverable metal, they are not discarded or landfilled.

Skims and drosses are by-products generated as part of the aluminum melting process. Whenever molten aluminum is exposed to the atmosphere, a thin layer of aluminum oxide forms on its surface. Scrap aluminum being melted is coated with aluminum oxide. This oxide material is the starting point for by-products derived from melting aluminum. The oxide layer increases during stirring, transferring, fluxing or pouring operations, and floats to the surface of the molten aluminum. It builds up in troughs, furnaces, and crucibles during the casting process, and free aluminum becomes mixed and entrapped with the oxide. "Dross," in this context, refers to a solidified material generally consisting of oxides of aluminum and other alloying -materials such as magnesium, formed when

molten aluminum reacts with the atmosphere or moisture. The term "skim" connotes an accumulation of oxide with entrapped metal, formed on the metal surface after melting from oxide films introduced as surface oxides on all charge components. Skims and drosses are currently categorized by EPA as "characteristic by-products", along with a variety of by-product materials generated by chemical and manufacturing industries. When reclaimed, all characteristic by-products are exempt from the definition of a solid waste under 40 C. F. R. 261.2. That the current broad "characteristic by-product" category captures skims and drosses evidences the category's failure to recognize the differences in environmental risk and recycling rates that exists for aluminum skims and drosses as opposed to other byproducts. Similar to scrap metal, and unlike many other by-product materials, aluminum skims and drosses are "commodity-like," posing little environmental risk, high intrinsic value, and are recycled at higher rates. Companies that generate skims and drosses may recover the metal content from these byproducts on site or send them off-site to facilities which are specifically designed to process these materials for recovery. Skims and drosses are melted and agglomerated, operations that are recognized as suitable processing. 61 Fed. Reg. at 2362. Recycling of aluminum skims and drosses is very common, and economically feasible with metal content as low as 8 percent. Depending on the material and processes employed, recovery rates may range up to 60 percent and higher. 4.1 Guaranteed End-markets Exist for Skims and Drosses at Domestic and International Smelters, Mills and Foundries Again, skims and drosses are commodity-like because, in fulfillment of EPA criteria, there are existing and guaranteed end-markets for the initially-reclaimed material. 50 Fed. Reg. at 655. In 1994, the US aluminum industry generated approximately 970 million pounds of skims and drosses. Approximately 177 million pounds were reclaimed on site, while an estimated 773 million pounds went off-site for reclamation. On a facility-specific basis, one company processed 170 million pounds of aluminum by-products which it generated, sending other volumes off-site for further processing to companies which toll or specialize in aluminum by-product recovery. One such recovery facility processed 200 million pounds of by-products, at an average recovery rate of 60 percent. The facility then returned the recovered metal to its customers. The commodity-like nature of skims and drosses is also evidenced in

a healthy import/export market. The U.S. exports approximately 10.4 million pounds of aluminum by-products annually, while aluminum companies import 30 million pounds of aluminum byproducts per year. As a result of the lower capital and operating costs of using scrap metal and aluminum by-products, versus virgin material, the import/export market is expected to continue to grow. 5. Aluminum By-products Are Managed To Minimize Loss and Release to the Environment Like scrap metal, skims and drosses are processed to minimize loss and to maximize recoveries of aluminum metal, again satisfying EPA's criteria for characterizing a material as commodity-like because of the care with which it is handled. 50 Fed. Reg. at 655. Because the industry treats these materials as commodities, it strives to recover all the metal content feasibly recovered from aluminum by-products. While economic incentives ensure that the potential for releases to the environment of these materials is low, recyclers also practice responsible and environmentally safe operating procedures. Processors prevent losses to the environment for the most part by keeping the material covered and dry, forestalling any potential losses due to potential reactivity with water. Furthermore, there has been an absence of damage incidents attributable to skims and drosses.

The Aluminum Association recommends that EPA to adopt the Institute for Scrap Recycling's suggested rule language regarding metal-bearing by-products, which states: 261.4 Exclusions (a)(17) Metal-bearing by-products from secondary materials processes that are being reclaimed. The Association cites the discussion above regarding the commodity-like nature of skims and drosses as compelling evidence that, as least regarding these aluminum by-products, the suggested exclusion is justified.

The Aluminum Association supports EPA's decision to exclude processed scrap metal being reclaimed from the definition of a solid waste under RCRA. EPA based this determination on an examination of factors showing the commodity-like nature of processed scrap. Because the aluminum by-products skims and drosses also pass this test, the exclusion should be extended to these by-products as well. For similar reasons, the Association supports ISRI's position that the scrap metal exclusion should also apply to unprocessed scrap that has been removed from the solid waste stream so it may be recycled. For similar reasons, the Association supports ISRI's position that the scrap metal exclusion should also apply to unprocessed scrap that has been

removed from the solid waste stream so it may be recycled.

**RESPONSE:**

Currently, by-products exhibiting a characteristic of hazardous waste are excluded from the definition of solid waste when reclaimed (40 CFR §261.2). Usually, metal-bearing by-product materials generated during secondary materials processing, such as slags, drosses, skimmings, and sludges, retain the current exclusion from the definition of solid waste when reclaimed. The commenter asserts that skims and drosses have low environmental risk, possess high intrinsic value, and are recycled at high rates, therefore appearing to be similar to scrap metal. Therefore, the commenter recommends that these materials be distinguished from other by-products by providing a separate exclusion under 40 CFR Part 261.4(a) for metal bearing by-products when reclaimed. At this time, the Agency is in the process of addressing regulation of by-product materials as part of a separate rulemaking on the Definition of Solid Waste. Finalizing the commenter's recommended revision to the definition of solid waste for metal-bearing by-products is beyond the scope of this rulemaking and is more appropriately addressed in the context of the Definition of Solid Waste rulemaking. The exclusion from the definition of solid waste for metal-bearing by-product materials will remain part of the broader exclusion for by-products exhibiting a characteristic of hazardous waste when reclaimed.

DCN PH4A080

COMMENTER Molten Metal Technology

RESPONDER RE

SUBJECT SCRP

SUBJNUM 080

COMMENT MMT supports both of these

proposed exclusions. In certain applications, MMT's Catalytic Extraction Process (CEP) produces a processed metal product from metal-bearing secondary materials. We have historically been able to sell this product produced at our Fall River Facility to metal brokers at a price of \$50-100 per ton. We expect metal product from our commercial operations to be considerably more valuable. In any event, we believe the Agency's reasoning in developing the proposed exclusion is sound: this material has a relatively high value that minimizes the chance of or incentives for mismanagement, there are well established markets for the product, and it is a benign material not associated with environmental insults. MMT is actively exploring the potential for using CEP to recover valuable products from circuit boards. The State of California's Department of Toxic Substances Control (DISC.) is currently evaluating CEP performance data for processing such material under the auspices of the DISC.'s Technology Certification Program. We agree with the Agency's rationale for proposing to exclude shredded circuit boards from the definition of solid waste. In this case, the Agency has proposed a conditional exclusion for shredded circuit boards destined for metal recovery based on management of the shredded circuit boards in containers. We agree that such materials are managed more like materials in commerce than wastes. MMT also urges EPA to recognize and understand the broad principles underlying these specific proposed exclusions, i.e., that it is possible and desirable to develop exclusions from the definition of solid waste based on the commodity-like nature of certain materials (e.g., processed scrap metal) and/or the management of the material (e.g., shredded circuit boards in containers destined for recycling). We note the Agency has also opted this approach elsewhere in this proposal, and in other recent rulemaking proposals (e.g., contingent management options for recycling in the petroleum rule, conditional exclusion for product-like synthesis gas in the MACT rule for combustors). We believe the opportunities for this kind of creative encouragement of environmentally sound recycling are virtually unlimited, and urge the Agency to work to identify and implement



such opportunities in all its rulemaking activities.

**RESPONSE:**

The Agency thanks the commenter for supporting the exclusions from the definition of solid waste for excluded scrap metal and shredded circuit boards.

DCN PH4A082

COMMENTS Horsehead Resource Development

RESPONDER RE

SUBJECT SCRP

SUBJNUM 082

COMMENT HRD supports the exclusion of processed scrap metal from the definition of solid waste.

RESPONSE:

The Agency thanks the commenter for supporting the exclusion from the definition of solid waste for excluded scrap metal. In today's final rule, the Agency has expanded the scope of the exclusion to include home scrap metal (e.g., turnings, cuttings, punchings, and borings generated by steel mills, foundries, and refineries) and prompt scrap metal (e.g., turnings, cuttings, punchings, and borings generated by the metal working/fabrication industries).

DCN PH4A083

COMMENTS Electronics Industries Assn

RESPONDER RE

SUBJECT SCRP

SUBJNUM 083

COMMENT EIA's comments do not address the entire proposal, but instead are confined to the matters addressed in "Part Two: Other RCRA Issues." Specifically, we express our support for the proposal by the U.S. Environmental Protection Agency ("EPA" or "the Agency") to revise the regulatory definition of "solid waste" to exclude processed scrap metal and shredded circuit boards. We also suggest a number of ways in which the proposal could be improved.

RESPONSE:

The Agency thanks the commenter for supporting the exclusions from the definition of solid waste for excluded scrap metal and shredded circuit boards.

DCN PH4A083

COMMENTER Electronics Industries As

RESPONDER RE

SUBJECT SCRP

SUBJNUM 083

COMMENT EIA Supports the Proposed Revisions to the Definition of "Solid Waste" Our members are interested in the current proposal because of its potentially beneficial impact on the cutting-edge product return, disassembly, and recycling programs developed in the electronics industry. EIA members have devised innovative means of designing products to facilitate their re-use, refurbishment, and recycling. Many of these programs, however, are impeded by the operation of EPA regulations. Some companies are discouraged from recycling electronic products and components because of the regulatory uncertainty surrounding aspects of these programs. For example, the Agency's regulations are unclear concerning whether these products are classified as "waste" and whether product disassembly programs are subject to regulation. As a result, some companies are deterred from implementing and/or expanding these programs because of the uncertainty as to whether they must comply with the burdensome reporting and record keeping, permit, and other requirements associated with the management of solid and hazardous waste. For this reason, we applaud the initiative of the Agency to propose to modify the definition of "solid waste" under the Agency's regulations promulgated pursuant to the Resource Conservation and Recovery Act (RCRA) to exclude processed scrap metal and shredded circuit boards. Metal and circuit boards are common elements of electronic products, and excluding these items from RCRA jurisdiction will likely advance the Agency's and the industry's common goals in encouraging the recycling of electronic products. The proposal will facilitate sound recycling practices, and thus further a key goal of RCRA: to promote the protection of health and the environment and to conserve valuable material and energy resources by ... (6) minimizing the generation of hazardous waste and the land disposal of hazardous waste by encouraging process substitution, materials recovery, properly conducted recycling and reuse, and treatment. " RCRA section 1003 (a)(6), 42 U. S. C. section 6902(a)(6). We fully agree with the Agency that processed scrap metal and shredded circuit boards are more "commodity-like" than "waste-like," and that these items have not contributed to the solid waste disposal problem. Unlike other materials, used

electronic products are not necessarily "waste" when they are removed from service by a particular customer. These items may be re-used in their entirety, or components or parts can be re-used, rebuilt, or recycled, and therefore these products are potentially valuable commodities with a strong market for these materials. Their value results in their handling in a manner that is protective of the environment. The Agency states that it reached this conclusion based on a review of the literature, databases, and consultation with the Bureau of Mines, and therefore it appears that there is ample support in the record to justify this conclusion. EIA would be happy to provide EPA with additional information if the Agency finds it necessary. While we fully support the Agency's proposal, we believe that the final rule should be improved in a number of respects, and we add the following comments.

#### RESPONSE

The Agency thanks the commenter for supporting the exclusions from the definition of solid waste for excluded scrap metal and shredded circuit boards.

DCN PH4A083

COMMENTS Electronics Industries As

RESPONDER RE

SUBJECT SCRP

SUBJNUM 083

COMMENT Processed Scrap Metal EIA supports the Agency's proposal to exclude processed scrap metal from the definition of solid waste. We believe that this approach will provide greater regulatory certainty and remove some regulatory burden, thereby facilitating the recycling of scrap metal. Nonetheless, we suggest the following revisions to the portion of the proposal applicable to scrap metal. A. The Regulatory Exclusion Should Extend to Unprocessed Scrap Metal Being Sent to a Recycling Facility, Not Only Scrap Metal Already Processed by a Recycler. The Agency's proposal "is restricted to scrap metal which has been processed by scrap metal recyclers to be traded on recycling markets for further reprocessing into metal end products." 61 Fed. Reg. at 2361. This restriction unduly narrows the application and benefit of the proposal. The logic of excluding scrap metal processed by a recycler should also extend to scrap metal being sent to a recycler. After all, both materials are defined for recycling and are managed as such. As the court stated in *American Mining Congress, v. EPA*, 824 F.2d 1177, 1190 (D.C. Cir. 1987), "EPA's authority [extends] only to materials that are truly discarded, disposed of, thrown away, or abandoned." Scrap metal from electronic products destined for recycling should be excluded from the definition of solid waste because such materials are potentially valuable commodities that are not "discarded, disposed of, thrown away, or abandoned." This approach also produces anomalous results that make little sense. Under the Agency's approach, material sent to a scrap recycler is a RCRA-exempt solid waste, and the scrap recycler subjects it to processing that transforms it into a material that is not a solid waste. The reasons why such a distinction is necessary or appropriate are unclear, and it is also unclear how this regulatory transformation occurs. The Agency states that "materials generated from the recycling of unprocessed scrap were mismanaged and have historically contributed to the waste management problem," such as batteries, ash, and other residuals. 61 Fed. Reg. at 2362. Simply because materials generated from the recycling of scrap, such as ash and residuals, may be classified as a solid waste does not necessarily mean that the unprocessed scrap itself is also a

solid waste. We suggest that EPA revise the proposal to extend the exclusion to all scrap being recycled, regardless whether it has already been processed by a recycler. Because of its physical form, and the manner in which it is handled, unprocessed scrap from electronic products that is destined for recycling poses no risks to human health and the environment. The Agency should reconsider its approach. B. The Exclusion Should Apply to Scrap Metal Being "Recycled" The Agency needs to revise and clarify the regulatory language concerning the exclusion for scrap metal. The preamble to the proposal refers to the exclusion applying to processed scrap metal being "recycled." See, e.g., 61 Fed. Reg. at 2361 ("The Agency proposes to amend the definition of solid waste by excluding processed scrap metal being reacted from RCRA jurisdictions) (emphasis added). The proposed regulatory language, however, refers to processed scrap metal being "reclaimed." See 61 Fed. Reg. at 23 72 (proposed section 261.4(a)(I 3)). EPA should revise the proposed regulatory language to ensure that the final rule makes it clear that the exclusion for scrap metal applies to materials that are "recycled." As EPA is aware, the regulatory definition of the terms "recycled" and "reclaimed" are distinct, with the term "reclaimed" being a subset of the term "recycled." EPA's regulations state that a material is "recycled" if it is "used, reused, or reclaimed." 40 C.F.R. section 261.2(a)(7). A material is "reclaimed" if it is "processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents." 40 C.F.R. section 261.2(a)(4). Thus, under the proposal it is possible that processed scrap metal being recycled by means other than reclamation might be interpreted as falling within the definition of solid waste. To avoid this unintended result, the Agency should revise proposed section 261.4(a)(I 3) to refer to "processed scrap metal being recycled. 111. Shredded Circuit Boards We support EPA's proposal to exclude shredded circuit boards from the definition of solid waste. Furthermore, it is appropriate that the Agency has provided flexibility to industry in determining the manner in which such shredded circuit boards are handled. We believe that the Agency is correct in setting forth a broad performance standard -- the material must be "stored in containers prior to recovery that are sufficient to prevent a release to the environment" -- rather than mandating compliance with precise, inflexible specifications concerning the handling of shredded

circuit boards. The Agency, however, should go further with regard to used whole circuit boards. Under the proposal, the Agency announces that it will revise the definition of solid waste as applied to shredded circuit boards, but that used whole circuit boards will retain its existing regulatory status as exempt (but not excluded) scrap metal. See 61 Fed. Reg. at 2363. As the basis for this approach, EPA refers to a 1992 guidance memorandum -- an apparent reference to the Memorandum of Sylvia K. Lowrance, Office of Solid Waste, "Regulatory Status of Printed Circuit Boards" (Aug. 26, 1992). EPA should use this opportunity to clarify the regulatory status of used whole circuit boards and thereby promote the sound recycling of these materials. At minimum, the Agency should formalize the current interpretation expressed in the 1992 Lowrance memorandum. EPA guidance memoranda are constantly subject to reinterpretation and possible revision, but a regulation would provide further clarity and certainty concerning this issue. Accordingly, the final rule should include regulatory language specifying that used whole circuit boards are included within the meaning of scrap metal for purposes of the exemption from regulation as hazardous waste. The Agency should also specify that used whole circuit boards destined for recycling are excluded from the definition of solid waste as scrap metal being recycled. As stated above, scrap metal destined for recycling should not be considered as "solid waste," and used whole circuit boards (as a type of scrap metal) should also receive the benefit of that exclusion. It makes little sense to classify shredded circuit boards as an excluded non-waste while subjecting used whole circuit boards to an exempt solid waste status.

#### RESPONSE:

The commenter raised several different issues in this comment: the role of scrap metal recyclers in the exclusion; the possibility of excluding unprocessed scrap metal from the definition of solid waste; the use of the term "recycled" rather than "reclaimed" in the text of the exclusions; and a request for clarification of the regulatory status of whole circuit boards.

In regard to EPA's use of the term "scrap metal recycler" in the proposed rule, the Agency agrees with the commenter that the language in the preamble could lead to the conclusion that scrap metal does not qualify for the exclusion until it is processed by a scrap metal recycler. The language in the proposal was not intended to limit the exclusion in this way. In today's final rule, the Agency clarifies that the exclusion for processed scrap metal being recycled applies to scrap metal that has undergone a processing step (as defined in the preamble to the proposed rule) regardless of who does the processing. In other words, a processing step



may be performed by the generator, an intermediate scrap handler (e.g., broker, scrap processor), or a scrap recycler. Once the scrap metal has undergone a processing step, it may qualify for the exclusion for excluded scrap metal.

The commenter also suggested that the Agency expand the exclusion from the definition of solid waste for scrap metal to include unprocessed scrap metal. The commenter asserts that the five factors that EPA used to evaluate whether processed scrap metal is commodity-like under 40 CFR §260.31 apply equally to unprocessed scrap metal being recycled. In response to information provided by commenters, EPA identified and studied three different types of unprocessed scrap metal to determine whether the scope of the exclusion should be expanded: home scrap metal, prompt scrap metal and obsolete scrap metal. Home scrap is scrap metal generated by steel mills, foundries, and refineries such as turnings, cuttings, punchings, and borings. Prompt scrap, also known as industrial or new scrap metal, is generated by the metal working/fabrication industries and includes such scrap metal as turnings, cuttings, punchings, and borings. Obsolete scrap metal is composed of worn out metal or a metal product that has outlived its original use, such as automobile hulks, railroad cars, aluminum beverage cans, steel beams from torn down buildings, and household appliances.

The Agency uses five factors when evaluating whether a partially-reclaimed material is "commodity-like" and is not part of the waste management problem and thus is appropriate to exclude the material from RCRA Subtitle C jurisdiction through issuance of a variance (40 CFR §260.31(c)). The five factors are: 1) the degree of processing the material has undergone and the degree of further processing that is required, 2) the value of the material after it has been reclaimed, 3) the degree to which the reclaimed material is like an analogous raw material, 4) the extent to which an end market for the reclaimed material is guaranteed, and 5) the extent to which a material is managed to minimize loss. The Agency applied these five factors to the three categories of unprocessed scrap metal to determine if these categories meet the criteria for "commodity-like" found at 40 CFR §260.31(c).

The Agency evaluated unprocessed home scrap and prompt scrap against each of the five factors and found that these categories of scrap metal are substantially similar to processed scrap metal due to established markets for the material's utilization, the inherent positive economic value of the material, the physical form of the material, and the absence of damage incidents attributable to the material. Based on this analysis, the agency has expanded the scope of the exclusion for scrap metal to include both unprocessed home and unprocessed prompt scrap metal.

The Agency has not found sufficient data for evaluating unprocessed obsolete scrap metal against the set of factors used to determine if a partially reclaimed material qualifies for a variance from the definition of solid waste. Therefore, the Agency is not expanding the scope of the exclusion from the definition of solid waste to include obsolete scrap metal. Providing an exclusion from the definition of solid waste for obsolete scrap metal at this time would be premature and is better addressed in the Definition of Solid Waste rulemaking, due to be proposed in the near future.

The commenter also raised the issue of using the term "recycled," instead of "reclaimed" in the language of the excluded scrap metal exclusion. The Agency agrees that the

exclusion should have been written with the term "recycled," and has changed the language in the final rule.

EPA disagrees with the commenter's assertion that it does not make sense to exclude shredded boards from the definition of solid waste while leaving whole boards within the definition of solid waste, even though whole boards are exempt from regulation as a hazardous waste. Whole used circuit boards are less commodity-like than shredded circuit boards because whole used boards are harder to assay, more difficult to handle and may contain proprietary information of generator and manufacturers. In addition, EPA notes that since 1992, used whole boards are currently classified as scrap metal and therefore when recycled are completely exempt from RCRA regulatory requirements. Therefore, no RCRA regulatory requirements such as manifesting, export or storage permit requirements currently operate as disincentives to environmentally sound recycling of these materials. The exclusion from RCRA jurisdiction for used shredded circuit boards is necessary only because they do not qualify for the definition of scrap metal and thus may be subject to RCRA regulatory requirements that may serve as disincentives to their recovery. EPA also believes that because whole used circuit boards are classified as scrap metal, that excluding whole used boards from the definition of solid waste is not necessary to ensure environmentally sound recovery of these materials and would be confusing to the Agency's current definition of scrap metal.

DCN PH4AL05

COMMENTER Association of Battery Recyclers

RESPONDER RE

SUBJECT SCRP

SUBJNUM

COMMENT EPA has proposed to exclude "processed scrap metal"

from the RCRA definition of solid waste. The ABR understands from EPA's preamble discussion of this issue that the proposed term "processed scrap metal" would not include batteries, spent acids, and process secondary materials such as slags and drosses and would not include any "distinct components separated from unprocessed or partially processed scrap metal that would not otherwise meet the current definition of scrap metal.

Historically, the Agency has excluded the foregoing materials from the regulatory definition of "scrap metal." The ABR understands that EPA has defined the term "processed scrap metal" as a subset of scrap metal. In other words, materials that would not be considered "scrap metal," as that term currently is interpreted by EPA, would likewise not be considered "processed scrap metal." Based on the foregoing, the ABR interprets the proposed definition of "processed scrap metal" to specifically exclude spent lead acid batteries, battery components, and any lead bearing materials generated by the separation (e.g., breaking), reclamation and/or recycling of spent or off-speculation lead-acid batteries and other lead-bearing materials. The definition also would exclude any process secondary materials generated by the lead reclamation and/or recycling process. Accordingly, any of the above materials that currently are regulated as "solid waste" under RCRA, would continue to be so regulated. Assuming that the above interpretation of EPA's proposal is accurate, the ABR has no objection to excluding "processed scrap metal" from the definition of solid waste. However, to the extent that the proposal purports to expand the definition of "scrap metal" to include materials not currently encompassed by that definition, such intent is not apparent and the proposed rule does not afford adequate notice or opportunity for comment.

#### RESPONSE:

The commenter requests clarification that scrap metal that contains components such as batteries or mercury switches, which do not meet the current definition of scrap metal, also do not meet the definition of processed scrap metal in the proposal. In the preamble to the

proposal, the Agency discussed materials which are not considered processed scrap metal. The Agency explained that "processed scrap metal does not include any distinct components separated from unprocessed or partially processed scrap metal that would not otherwise meet the current definition of scrap metal." The language in the preamble was intended to clarify that any distinct components that are separated from the scrap metal that would not otherwise meet the current definition of scrap metal would not meet the definition of processed scrap metal. The language was not intended to confuse the existing definition of scrap metal. In the January 4, 1985 preamble (50 FR 614), the Agency defined scrap metal as bits and pieces of metal parts (e.g., bars, turning, rods, sheets, wire) or metal pieces that are combined together with bolts and soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled. The Agency excluded from the definition of scrap metal: secondary materials from smelting and refining operations (e.g., slags, drosses, and sludges), liquid waste containing metals (e.g., spent acid, and caustics), liquid metal wastes (e.g., liquid mercury), and metal-containing wastes with a significant liquid component (e.g., spent lead acid batteries). In order for a material to qualify as processed scrap metal, it must first meet the definition of scrap metal. Under today's exclusion, the existing definition of scrap metal continues to apply. Therefore, secondary materials from smelting and refining operation (e.g., slags, drosses, and sludges), liquid wastes containing metals (e.g., spent acids, and caustics), liquid metal wastes (e.g., liquid mercury), and metal-containing wastes with a significant liquid component (e.g., spent lead acid batteries) do not meet the definition of scrap metal and therefore do not qualify as processed scrap metal.

DCN PH2A003

COMMENTS The Penta Task Force

RESPONDER JLABIOSA

SUBJECT WOOD1

SUBJNUM 003

COMMENT The Penta Task Force strongly supports the proposal to set a technology-based standard for F032 waste as an alternative to a treatment standard based on numerical dioxin/furan limits. As explained in our comments on the August, 1995 Phase IV LDR proposal, numerical limits for dioxin and furan constituents of F032 waste will raise treatment costs to prohibitive levels, will foreclose the only practicable avenue for treatment -- thermal treatment in combustion units that are subject to subtitle C standards, and is inconsistent with EPA's past regulation of other similar chlorinated waste that contain dioxins and furans (i.e., F024 waste). See Comments of the Penta Task Force on EPA's Proposal To Set Treatment Standards Under the Land Disposal Restrictions ("LDR") Program for Chlorophenolic Wastes from Wood Preserving Operations (November 20, 1995) (hereinafter "Penta Task Force November 20, 1995 Comments"). Of the three options offered in the Notice, the Penta Task Force strongly favors Option 1 -- a CMBST standard -- because it provides a substantial number of facilities that could manage F032 waste in an environmentally-sound manner. The Penta Task Force also recognizes that Option 3, which provides for combustion in RCRA-permitted facilities, would provide some increase in the number of combustion facilities that would accept F032 wastes and, thus, is far preferable to the proposed dioxin/furan limits. We do not believe that Option 2, which would require combustion facilities to certify compliance with the proposed Maximum Achievable Control Technologies ("MACT") dioxin/furan emission standard of 0.2 ng/DSCM TEQ in advance of its final promulgation, is practicable. And finally, the Penta Task Force does not believe that any change to the existing F024 treatment standard is warranted. Indeed, selection of Option 1 -- a CMBST standard -- would subject both F032 and F024 waste to the same standard and has the advantage of requiring no revision to the F024 standard. Our specific comments on each of the proposed alternative treatment options for F032 waste are set forth below.

1. TREATMENT OPTIONS A. Option 1 -- CMBST Standard. Option 1 would allow combustion ("CMBST") of F032 waste in high temperature organic destruction technologies, such as combustion in incinerators, boilers, or industrial furnaces operated in

accordance with applicable RCRA requirements. See 40 C.F.R. 268.42 (Table 1). The CMBST standard is listed as a treatment standard for numerous hazardous waste codes, and reflects EPA's recognition that combustion technologies generally are capable of effectively treating complex organic waste streams. The CMBST standard also is permitted for the treatment of a number of chlorinated organic wastes classified as "toxic" under RCRA, and thus is fully appropriate for F032 waste which shares the same classification under RCRA. In short, a CMBST standard for F032 waste would allow the waste to be treated in a variety of combustion practices without compromising health or the environment.

**B. Option 3 -- CMBST In RCRA-Permitted Devices.**

The Penta Task Force recognizes that Option 3, which provides for combustion in RCRA-permitted facilities, would increase the number of combustion facilities that would accept F032 waste and, thus, is by far preferable to the proposed dioxin/furan treatment standard. Option 3 also would fully satisfy the LDR criteria as an appropriate treatment standard. Indeed, EPA's August, 1995 proposal was predicated on the finding that incineration is the best demonstrated available treatment ("BDAT") for dioxins/furans in F032 waste. And EPA has oft-stated that various types of incineration have been demonstrated to treat high and low level dioxin/furan constituents in a variety of organic wastes to levels below detection limits in incineration residues. Option 3 thus would ensure that F032 waste is treated by BDAT technology without the attendant stigma and capacity shortfall problems that would result from setting dioxin/furan numerical limits in the treatment residue. Although Option 3 is preferable to setting dioxin/furan numerical limits, we do not believe there is a regulatory justification for limiting the treatment standard to permitted combustion devices only. As recently as April, 1996, EPA has amended the treatment standards for the various waste codes that were previously subject to an incineration (INCIN) standard to allow combustion in all hazardous waste incinerators, boilers and industrial furnaces under the new treatment code CMBST. See 61 Fed. Reg. 15,566, 15,601-15,653 (April 8, 1996). EPA has offered no justification for retreating from that decision now in the case of F032 (and perhaps F024) wastes. Under either option -- Option 1 or Option 3 -- the number of treatment facilities that would accept F032 wastes would be greatly expanded. The Penta Task Force believes that all options being considered by the Agency are fully protective

of health and safety and, thus, consideration of practicability and cost should drive the selection of the appropriate treatment option.

[Note: Text has been cut and appears in other codes. ]

In sum, the Penta Task Force strongly supports the proposal to set an alternative technology-based standard for F032 waste. We favor Option 1 -- the CMBST standard -- but recognize that Option 3 -- CMBST in RCRA-permitted facilities -- will increase the number of combustion facilities that will accept F032 wastes. We believe that Option 2 -- CMBST with a proposed MACT dioxin/furan emission standard is impracticable. If the Agency is inclined to reject Option 1, then it should adopt a modified standard based on both Options 2 and 3 -- a standard that would allow treatment in combustion units that are either RCRA-permitted or that comply with the final MACT standard as promulgated in order to ensure that combustion units other than those that are RCRA-permitted will be able to accept F032 waste once the final MACT is promulgated.

## RESPONSE

F032 and F024 are toxic wastes listed under the 40 CFR 261, Part D and the combustion of these wastes is currently allowed in combustion devices that meet a four 9's Destruction Removal Efficiency performance. The Penta Task Force has asked EPA to adopt the same compliance treatment standard of combustion currently applicable to F024. Adoption of CMBST would waive the monitoring of D/F constituents in F032 residues resulting from well designed and well operated combustion devices. EPA codified such treatment compliance alternative as incineration or "INCIN" in the 40 CFR 264 Subpart O unit (see Third Third rule see 55 FR 22580-1, June 1, 1990). EPA later amended the standard to a CMBST standard in the Phase 3 rulemaking. EPA believes that the suggestion has merit, provided combustion occurs in devices that can assure destruction of these hazardous constituents. Units subject to standards establishing CO/HC standards, or specific controls for D/F, satisfy these criteria. As explained in the preamble, these are Part 264 incinerators and Part 266 BIFs, plus interim status incinerators that have demonstrated good combustion efficiency. (See also, Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997.) EPA is adding this standard in the final rule, and also is amending the standard for F024 to conform to a CMBST standard that requires operation under Part 264 incineration or Part 266 BIFs.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and

the environment.

The Agency acknowledges that ensuring the combustion device operates under good combustion conditions (i.e., either under a DRE standard or by limiting CO/HC levels in stack gas) may not necessarily ensure control of PCDD and PCDF emissions. However, under existing omnibus permit authority, permit writers can prescribe on a case-by-case basis, operating requirements that can ensure appropriate combustion performance for the treatment of hazardous wastes (See 40 CFR 264.345(a) and 266.102(e)(2)). This authority has been invoked frequently to justify controls on permitted hazardous waste incinerators which controls are more stringent than those explicitly authorized by the regulations in 40 CFR Part 264 Subpart O. EPA believes that these authorities can be used to minimize threats to the human health and the environment that may arise from the combustion of F032 and F024.

EPA agrees with that well designed and well operated interim units operated under 266 qualify for the proposed alternative CMBST compliance standard. Virtually all hazardous waste incinerators have already been issued RCRA permits and thus have demonstrated compliance with the DRE performance standard that ensures destruction of toxic organics in the waste feed. In addition, RCRA regulated boilers and industrial furnaces are subject to substantive interim status combustion controls that limit CO/HC levels in combustion gases, ensuring that the devices operate under good combustion conditions, and can include explicit control of PCDD and PCDF under specified conditions (see section 266.103(c)(1)).

Other commenters to the NODA presented persuasive comments that the combustion "CMBST" compliance treatment alternative is also available for F032 and F024 combusted in combustion units operating under interim standards of 266. EPA is persuaded that such units often meet more stringent standards than those imposed on 264, incinerators. EPA has also determined that ad hoc technological controls can be imposed, if needed, to ensure that the combustion of F032 and F024 in 266 units are conducted in a well designed and well operated combustion device. As a result, EPA has revised suboption 3 to expand the availability of the proposed combustion "CMBST" treatment compliance alternative to include those units regulated under either 266 or 264.

After reviewing public comments, EPA concurs with the commenter that promulgation of regulatory performance requirements for combustion technologies treating D/F constituents in F032 and F024 will ultimately be addressed in the MACT rule and that finalizing the MACT standards at this time may impose an undue burden on the industry. EPA intends to finalize the proposed MACT standards in April 1998. EPA believes further that until MACT standards are promulgated, ad hoc technological controls can be issued to ensure that the treatment of these wastes is conducted in well designed and well operated combustion devices. In the interim, EPA is relying on RCRA Omnibus permit writer authorities to address potential concerns with regard to the implementation of this promulgated combustion compliance treatment alternative. EPA has withdrawn, therefore, the proposed suboption 2. In addition, EPA believes that such Omnibus permit authorities are some how limited to ensure that the



combustion of F032 in combustion devices operated under the provisions of the 40 CFR 265 are conducted routinely in well designed and operated treatment units. EPA has withdrawn, therefore, the proposed suboption 1.

DCN PH2A003

COMMENTER The Penta Task Force

RESPONDER JLABIOSA

SUBJECT WOOD1

SUBJNUM 003

COMMENT The Notice of Data Availability seeks comment on, among other things, three options that are being considered by EPA as alternative treatment standards for pentachlorophenol ("penta") wood preserving waste ("F032 waste"). The three options are: (1) a "CMBST" treatment standard, (2) a CMBST treatment standard for combustion units that achieve dioxin/furan emission limits of 0.20 ng/DSCM TEQ, and (3) a CMBST treatment standard for combustion devices that are permitted under subtitle C of the Resource Conservation and Recovery Act ("RCRA"). The Notice also advises that a change in the proposed treatment standard for F032 waste may dictate changes in the F024 (a group of chlorinated aliphatic wastes) treatment standard.

#### RESPONSE

The commenter expresses concern over EPA's proposal to apply the same regulatory controls on the combustion of F032 to F024 wastes. Specifically, the commenter objects to EPA's proposal that F024 and F032 are subject to the same combustion requirements.

The commenter believes that EPA should not reopen the existing CMBST standard applicable to F024. This is because the commenter believes that F024 is significantly different than F032. EPA acknowledges that these wastes differ on the concentration levels of specific hazardous homologues of D/F constituents and the type of D/F precursors both waste have. EPA believes that the issue is in fact the same: can compliance with a D/F standard be assured without monitoring residues. EPA believes that the answer is yes for a common class of combustion devices. EPA does not see any basis for a finding that an interim status incinerator can assure destruction for either type of waste, absent at least a showing of good combustion conditions by such a unit. The Penta Task Force has asked EPA to adopt the same compliance treatment standard of combustion currently applicable to F024. Adoption of the CMBST would waive the monitoring of D/F constituents in F032 residues resulting from well designed and well operated combustion devices. EPA codified such treatment compliance alternative as incineration or "INCIN" in the 40 CFR 264 Subpart O unit (see Third Third rule (see 55 FR 22580-1, June 1, 1990)). EPA later amended the standard to a CMBST standard in the Phase 3 rulemaking. Today, EPA is adding this standard in the final rule, and also is amending the standard for F024 to conform to a CMBST standard that requires operation under Part 264 incineration or Part 266 BIFs.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed

to set treatment standards that would reduce short- and long-term threats to the human health and the environment. EPA believes that Omnibus permit authorities under RCRA and other available environmental federal/state laws can be used to support the establishment of 3004(m) treatment standards and thus, to prescribe appropriate technological controls on treatment methods prescribed for these wastes. EPA has promulgated specific performance standards for the operation of incinerators combusting certain acutely toxic wastes that contain D/F constituents (see 40 CFR 264.343 (a) (2) and 50 FR 2005, January 14, 1985). EPA has promulgated similar kinds of technology treatment standards for hazardous wastes regulated under §268.42 and hazardous debris §268.46. These specific treatment standards under §§268.42 and 268.46 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective of the human health and the environment.

After reviewing public comments, EPA concurs with the commenter that promulgation of regulatory performance requirements for combustion technologies treating D/F constituents in F032 and F024 will ultimately be addressed in the MACT rule and that finalizing the MACT standards at this time may impose an undue burden on the industry. EPA intends to finalize the proposed MACT standards in April 1998. EPA believes further that until MACT standards are promulgated, ad hoc technological controls can be issued to ensure that the treatment of these wastes is conducted in well designed and well operated combustion devices. In the interim, EPA is relying on RCRA Omnibus permit writer authorities to address potential concerns with regard to the implementation of this promulgated combustion compliance treatment alternative. EPA has withdrawn, therefore, the proposed suboption 2. In addition, EPA believes that such Omnibus permit authorities are some how limited to ensure that the combustion of F032 in combustion devices operated under the provisions of the 40 CFR 265 are conducted routinely in well designed and operated treatment units. EPA has withdrawn, therefore, the proposed suboption 1.

Other commenters to the NODA presented persuasive comments that the combustion "CMBST" compliance treatment alternative is also available for F032 and F024 combusted in combustion units operating under interim standards of 40 CFR 266. EPA is persuaded that such units often meet more stringent standards than those imposed on 40 CFR 264, incinerators. EPA has also determined that ad hoc technological controls can be imposed, if needed, to ensure that the combustion of F032 and F024 in 40 CFR 266 units are conducted in a well designed and well operated combustion device. As a result, EPA has revised suboption 3 to expand the availability of the proposed combustion "CMBST" treatment compliance alternative to include those units regulated under either 40 CFR 266 or 264. EPA believes that since the commenter is burning F024 in 40 CFR 266 units the impact of this promulgated alternative will be minimum on the management of F024. EPA believes that the suggestion has merit, provided combustion occurs in devices that can assure destruction of these hazardous constituents. Units subject to standards establishing CO/HC standards, or specific controls for D/F, satisfy these criteria. As explained in the preamble, these are Part 264 incinerators and Part 266 BIFs, plus interim status incinerators that have demonstrated good combustion efficiency. (See also, Final

BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997.)

DCN PH2A009

COMMENTS Dow Chemical

RESPONDER JLABIOSA

SUBJECT WOOD1

SUBJNUM 009

COMMENT Dow supports EPA's earlier decision regarding BDAT F024 and believes this kind of approach can be adopted for other waste codes such as F032 as proposed in Suboption 1. Dow supports the application of the existing F024 alternative combustion treatment standards to F032 even though these wastes are different. These alternative combustion standards have been established as BDAT for F024 and therefore are protective of human health and the environment under LDR. Dow agrees with EPA's determination that combustion is a robust technology and is capable of handling a wide variety of waste, therefore, if EPA determines that the CMBST standard is protective of human health and the environment when applied to the significantly different F032 wastes, then the alternative combustion standards should be established for F032.

#### RESPONSE

The commenter expresses concern with EPA's proposal to apply the same regulatory controls on the combustion of F032 to F024 wastes. Specifically, the commenter objects to EPA's proposal that F024 and F032 are subject to the same combustion requirements.

The commenter believes that EPA should not reopen the existing CMBST standard applicable to F024. This is because the commenter believes that F024 is significantly different than F032. EPA acknowledges that these wastes differ on the concentration levels of specific hazardous homologues of D/F constituents and the type of D/F precursors both waste have. EPA believes that the suggestion has merit, provided combustion occurs in devices that can assure destruction of these hazardous constituents. Units subject to standards establishing CO/HC standards, or specific controls for D/F, satisfy these criteria. As explained in the preamble, these are Part 264 incinerators and Part 266 BIFs, plus interim status incinerators that have demonstrated good combustion efficiency. (See also, Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997.) Nevertheless, both wastes are toxic wastes listed under the 40 CFR 261 Part D and the combustion these wastes is currently allowed in combustion devices that meet a four 9's Destruction Removal Efficiency performance. The Penta Task Force has asked EPA to adopt the same compliance treatment standard of combustion currently applicable to F024. Adoption of the CMBST would waive the monitoring of D/F constituents in F032 residues resulting from well designed and well operated combustion devices. EPA codified such treatment compliance alternative as incineration or "INCIN" in the 40 CFR 264 Subpart O unit (see Third Third rule (see 55 FR 22580-1, June 1, 1990)). EPA later amended the standard to a CMBST standard in the Phase 3 rulemaking.

EPA is adding this standard in the final rule, and also is amending the standard for F024 to conform to a CMBST standard that requires operation under Part 264 incineration or Part 266 BIFs.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004(m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment. EPA believes that Omnibus permit authorities under RCRA and other available environmental federal/state laws can be used to support the establishment of 3004(m) treatment standards and thus, to prescribed appropriate technological controls on treatment methods prescribed for these wastes. EPA has promulgated specific performance standards for the operation of incinerators combusting certain acutely toxic wastes that contain D/F constituents (see 40 CFR 264.343 (a) (2) and 50 FR 2005, January 14, 1985). EPA has promulgated similar kinds of technology treatment standards for hazardous wastes regulated under 268.42 and hazardous debris 268.46. These specific treatment standards under 268.42 and 268.46 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective of the human health and the environment.

Other commenters to the NODA presented persuasive comments that the combustion "CMBST" compliance treatment alternative is also available for F032 and F024 combusted in combustion units operating under interim standards of 266. EPA is persuaded that such units often meet more stringent standards than those imposed on 264, incinerators. EPA has also determined that ad hoc technological controls can be imposed, if needed, to ensure that the combustion of F032 and F024 in 266 units are conducted in a well designed and well operated combustion device. As a result, EPA has revised suboption 3 to expand the availability of the proposed combustion "CMBST" treatment compliance alternative to include those units regulated under either 266 or 264. EPA believes that since the commenter is burning F024 in 266 units the impact of this promulgated alternative will be minimum on the management of F024.

DCN PH2A011  
COMMENTS Vinyl Institute  
RESPONDER JLABISOA  
SUBJECT WOOD1  
SUBJNUM 011

COMMENT In the May 10 notice, EPA requested comment on a new option for treating F032 under which incineration would be set as the treatment method for dioxin/furan (D/F) concentrations. D/F concentrations would not need to be measured in the treated residues. EPA also outlined three suboptions, summarized as follows: Suboption 1: Apply the existing F024 alternative combustion treatment standard (CMBST) to F032. Suboption 2: Establish F032's and revise F024's CMBST alternative standard to require the combustion unit to achieve a dioxin emission standard. Suboption 3: Revise F024's CMBST alternative standard (and set F032's standard) to limit the combustion of F024 and F032 to combustion devices that have been permitted. For the reasons discussed below, the Vinyl Institute opposes suboptions 2 and 3, but would support suboption 1. In prior rulemakings, in which it applied its criteria for identifying hazardous wastes under RCRA, the Agency listed the F024 and F032 waste streams as different waste streams from non-specific sources. To now apply the same treatment standard to different waste streams, the Agency must more fully develop the rulemaking record. To proceed otherwise would be arbitrary and capricious. F024 and F032 are fundamentally chemically different wastes. As pointed out by the Agency in the notice, although the Agency has not fully reviewed data appearing in a characterization study by Vulcan Chemical, which was attached to the Penta Task Force's comment on the original proposal, the Agency indicated in the notice that the data "do not appear to support a determination that F032 and F024 are exactly alike." The notice further indicates that D/F concentrations in F024 and F032 vary by as much as two orders of magnitude. In short, the listings for F024 and F032 at 40 C.F.R. Part 261 and the data submitted by Vulcan reasonably support the conclusion that these chemically dissimilar streams should be evaluated independently by EPA under RCRA and may not necessarily require the same treatment standards. Even though the wastes are significantly chemically different, the Vinyl Institute would support suboption 1, i.e., applying the existing F024 alternative combustion treatment standards to F032. Over the years, combustion has proven to be effective in protecting human health and the environment. As

EPA indicates, it believes that "well-operated and well-designed combustion units can meet the treatment standard for F024 and F032." In addition, unlike suboptions 2 and 3, with suboption 1, facilities and regulators alike will find that determining compliance is more straightforward and that it provides the widest array of technology to effectively treat hazardous waste streams from different sources.

## RESPONSE

The commenter expresses concern over EPA's proposal to apply the same regulatory controls on the combustion of F032 to F024 wastes. Specifically, the commenter objects to EPA's proposal that F024 and F032 are subject to the same combustion requirements.

The commenter believes that EPA should not reopen the existing CMBST standard applicable to F024. This is because the commenter believes that F024 is significantly different than F032. EPA acknowledges that these wastes differ on the concentration levels of specific hazardous homologues of D/F constituents and the type of D/F precursors both waste have. EPA believes that the suggestion has merit, provided combustion occurs in devices that can assure destruction of these hazardous constituents. Units subject to standards establishing CO/HC standards, or specific controls for D/F, satisfy these criteria. As explained in the preamble, these are Part 264 incinerators and Part 266 BIFs, plus interim status incinerators that have demonstrated good combustion efficiency. (See also, Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997.) EPA is adding this standard in the final rule, and also is amending the standard for F024 to conform to a CMBST standard that requires operation under Part 264 incineration or Part 266 BIFs.

Nevertheless, both wastes are toxic wastes listed under the 40 CFR 261 Part D and the combustion these wastes is currently allowed in combustion devices that meet a four 9's Destruction Removal Efficiency performance. The Penta Task Force has asked EPA to adopt the same compliance treatment standard of combustion currently applicable to F024. Adoption of the CMBST would waive the monitoring of D/F constituents in F032 residues resulting from well designed and well operated combustion devices. EPA codified such treatment compliance alternative as incineration or "INCIN" in the 40 CFR 264 Subpart O unit (see Third Third rule (see 55 FR 22580-1, June 1, 1990)). EPA later amended the standard to a CMBST standard in the Phase 3 rulemaking.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment. EPA believes that Omnibus permit authorities under RCRA and other available environmental federal/state laws can be used to support the establishment of 3004(m) treatment standards and thus, to prescribed appropriate technological controls on treatment



methods prescribed for these wastes. EPA has promulgated specific performance standards for the operation of incinerators combusting certain acutely toxic wastes that contain D/F constituents (see 40 CFR 264.343 (a) (2) and 50 FR 2005, January 14, 1985). EPA has promulgated similar kinds of technology treatment standards for hazardous wastes regulated under 40 CFR 268.42 and hazardous debris 40 CFR 268.46. These specific treatment standards under §§268.42 and 268.46 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective of the human health and the environment.

DCN PH2A012  
COMMENTS Beazer  
RESPONDER JL  
SUBJECT WOOD1  
SUBJNUM 012

COMMENT Although Beazer does not endorse any of the three suboptions proposed, Beaker believes that the first suboption would provide the most flexibility to the regulated community and would best serve to contain costs for such treatment. This option has been successfully used for F024 wastes and should be expanded to include F032 wastes. Beaker believes that adoption of either the second or third suboptions would be inconsistent with the Agency's goals in setting the alternative treatment standard. These suboptions both would require additional control equipment and/or permitting before a facility could accept F032 wastes. As such, we believe that commercial availability will be limited to a smaller universe of incineration and combustion facilities and consequently, there would be a potential for increased costs with no increased environmental benefit. In conclusion, Beaker supports the establishment of the alternative treatment standard, as modified by suboption 1 for F032 wastes. Notwithstanding this position, it is important to note that while the incineration/combustion treatment standard may relieve some of the burden on the regulated community to meet the concentration-based standards, it does not completely solve the waste disposal problem. Although, the use of incineration and combustion for limited volumes of process waste streams may be possible under the proposed rule, incineration will never be cost-effective for large volumes of wastes, especially remediation wastes. As stated in our previous comments, Beaker disagrees with EPA's capacity estimates insofar as those estimates do not account for the approximate 85.3 MM tons of soil impacted by previous wood treating operations which may require treatment under the proposed Phase IV LDRs. Based on the existing incineration capacity to date, it would take over 200 years to treat this quantity of material. Moreover, most incinerators cannot manage large volumes of impacted media. Although, in theory, the combustion alternative may broaden the scope of available facilities, in practice, it remains to be seen whether those facilities will be able to accept the types of wastes generated at remediation sites.

RESPONSE

EPA is promulgating treatment standards that set numerical limits for the regulation of Dioxin and Furan (D/F) hazardous constituents in F032. In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method for D/F constituents in F032.

EPA notes that the adopted approach allows flexibility for complying with the treatment requirements applicable to soils contaminated with F032 wastes. EPA has also identified energy/chemical intensive treatment alternatives in the Final BDAT Background Document that can enable remediation soils/wastes to meet the UTS limits promulgated today. EPA also believes that soils/media contaminated with F032 that are difficult to treat or for which EPA may determine the treatment standards are inappropriate can seek alternative treatment standards pursuant to 40 CFR Part 268.44(h). In addition, other potential waivers or variances are explained in the Final BDAT Background Document for Wood Preserving Wastes (F032, F034, and F035).

DCN PH2A012

COMMENTS Beazer

RESPONDER JLABIOSA

SUBJECT WOOD1

SUBJNUM 012

COMMENT In response to these and other comments asking EPA to consider alternatives to setting dioxin/furan concentration limits in the final rule, EPA is now considering an alternative option that would provide what it believes is additional flexibility to F032 generators. The new option would establish an alternative treatment standard that sets incineration/combustion as a treatment method for dioxin/furan constituents in lieu of meeting the proposed concentration-based standards. The concentration-based standards for other organic constituents in F032, however, would still be required to be achieved. 61 Fed. Reg. 21420.

#### RESPONSE

EPA is promulgating treatment standards that set numerical limits for the regulation of Dioxin and Furan (D/F) hazardous constituents in F032. In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method for D/F constituents in F032.

EPA has promulgated, however, a revised "CMBST" compliance alternative which limits the availability of the "CMBST" to those combustion devices in compliance with applicable combustion standards in the 40 CFR 264, Subpart O, or 266. F032 wastes combusted in combustion devices operating under 266 or 264 do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities must meet UTS numerical limits applicable to each organic and metal constituent regulated in F032 as a prerequisite to land disposal.

It should be emphasized that facilities seeking the combustion of F032 in an incinerator regulated under a 265 Subpart O do not qualify for a "CMBST" treatment standard. F032 residues arising from 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

DCN PH2A015  
COMMENTS CKRC  
RESPONDER JLABIOSA  
SUBJECT WOOD1  
SUBJNUM 015

COMMENT Option 1-- CMBST Treatment Standard This option of the NODA requests comment on applying the existing FO24 alternative combustion treatment standard to FO32. In its April 8, 1996 Land Disposal Restrictions Phase III Final Rule, EPA modified the treatment standard expressed as INCIN, which specified hazardous waste incineration, to CMBST, which allows combustion in incinerators, boilers and industrial furnaces. This modification confirms that, regardless of the technology, a well-operated combustion unit complying with either the BIF interim status or incinerator regulations can manage RCRA hazardous wastes in a manner protective of human health and the environment. This supports EPA's stated belief in the NODA that "well-operated and well-designed combustion units can meet the treatment standard for FO24 and FO32." This is the only option within the proposal that is consistent with Agency policy determinations in promulgated rule makings. Thus, it is the only option which the Agency requests comment that relies upon information which has been subject to full public notice and comment; and it appears to be the only option presented with a sound enough basis to be justified as an alternative combustion treatment standard for FO32 wastes.

## RESPONSE

The commenter has submitted comments on each regulatory suboptions EPA proposed to assure compliance with an alternative treatment standard of combustion --- "CMBST"---. Adoption of the "CMBST" standard will allow the disposal of FO32 without the need for monitoring the concentrations of D/F constituents in the treated FO32 wastes. The commenter urges EPA to withdraw suboptions 2 and 3, and to promulgate, suboption 1. In addition, the commenter submitted extensive comments and studies which the commenter believes may lead EPA to conclude that the proposed suboption 2 (i.e., the proposed MACT air emission limit for D/F) is flawed.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment. EPA believes that Omnibus permit authorities under RCRA and other available environmental federal/state laws can be used to support the establishment of 3004(m)

treatment standards and thus, to prescribed appropriate technological controls on treatment methods prescribed for these wastes. EPA has promulgated specific performance standards for the operation of incinerators combusting certain acutely toxic wastes that contain D/F constituents (see 40 CFR 264.343 (a) (2) and 50 FR 2005, January 14, 1985). EPA has promulgated similar kinds of technology treatment standards for hazardous wastes regulated under 268.42 and hazardous debris 268.46. These specific treatment standards under 268.42 and 268.46 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective of the human health and the environment.

Like other commenters, this commenter has presented persuasive and factual comments that the combustion "CMBST" compliance treatment alternative is also available for F032 and F024 combusted in combustion units operating under interim standards of 40 CFR 266. The EPA is persuaded that such units often meet more stringent standards than those imposed on 40 CFR 264, incinerators. EPA has also determined that ad hoc technological controls can be imposed, if needed, to ensure that the combustion of F032 and F024 in 40 CFR 266 units are conducted in a well designed and well operated combustion device. As a result, EPA has revised suboption 3 to expand the availability of the proposed combustion "CMBST" treatment compliance alternative to include those units regulated under either 40 CFR 266 or 264.

DCN PH2A015

COMMENTS CKRC

RESPONDER JLABIOSA

SUBJECT WOOD1

SUBJNUM 015

COMMENT Option 3 -- CMBST Treatment Standard for Combustion Devices that are Permitted Under Subtitle C of RCRA EPA suggests in suboption 3 that an alternative in which it would limit land ban treatment of F024 and F032 wastes to combustion units that have received a RCRA permit, as opposed to those that are operating under interim status. The Agency appears to unjustly assume that all permitted units -- through use of the RCRA section 3005(a)(3) "omnibus" authority in the permitting process -- have been subjected to dioxin/furan limitations that are sufficiently stringent to address EPA's purported concerns. We submit that this approach is wholly illogical and clearly is unsupported by the record before EPA. First, it assumes that after use of omnibus authority, the standards imposed on commercial incinerators through RCRA permits are uniformly more stringent than interim status standards on BIFs. CKRC's Petition for Rulemaking of January 18, 1994 (attachment 3) most clearly demonstrates just the opposite to be true. Current EPA rules and policies impose more stringent requirements on cement kilns than on incinerators. A cursory comparison of the currently effective Boiler and Industrial Furnace (BIF) rules and the incinerator rules shows that cement kilns are subject to more extensive requirements; most notably, D/F specific regulatory language, and the emission standards for ten toxic metals in the BIF rules that are lacking in the incinerator rules. Virtually all of the BIF rule requirements apply during interim status and are fully enforceable during interim status. EPA has on at least two recent occasions confirmed this fact. In an October 1995 EPA Region VII Fact Sheet (attachment 4) distributed at a public hearing, EPA states that "Federal regulations that apply to air emissions from cement plants burning hazardous waste are newer and more comprehensive than the regulations for hazardous waste incinerators." Also, in the Agency's May 30, 1996 letter to Tom Blank of the Association for Responsible Thermal Treatment (ARTT) (attachment 5) Mike Shapiro, Director of the Office of Solid Waste, writes that "the cement kiln standards provided by the Boiler and Industrial Furnace rule are, in fact, more stringent than the Subpart O, Part 264, incinerator standards in that they establish risk-based emission limits for individual

metals, hydrogen chloride, and chlorine, in addition to the same DRE and particulate matter standards that apply to incinerators." In addition, site-specific risk assessments on BIF-regulated cement kilns confirm the effectiveness of the BIF regulations to limit emissions from these facilities at levels that are protective of human health and the environment. The Texas Natural Resources Conservation Commission (TNRCC) (attachment 6) and EPA Region VI (attachment 7) recently completed risk assessment studies on a cement kiln engaged in energy recovery in compliance with the BIF rule. These studies concluded that the risks posed by operation of the cement kiln burning waste-derived fuel is low. The multi-year TNRCC study was notable in that it focused on not only the health risks, but, more importantly, on the actual health effects of nearby residents. The suboption also assumes that all permitted incinerators have had special provisions imposed through omnibus that more stringently address dioxins and furans than the control levels now being achieved by interim status cement kilns. EPA quite clearly does not have the record to support this assumption and, in fact, the current rulemaking record demonstrating BIF compliance shows that interim status cement kilns are just as likely to control dioxins and furans in a superior manner as compared to permitted incinerators. Furthermore, based upon the omnibus guidance that has been used for incinerator permitting over the last few years and the permit conditions of which we are aware, we believe it is manifestly and wholly illogical for EPA to assume that commercial incinerators operating under RCRA permits would somehow deal more effectively with EPA's concerns than interim status cement kilns. Unless EPA has data and information in the record to support this assumption across the board, such a regulatory distinction would be arbitrary and capricious.

FOOTNOTES /1 In the NODA., EPA reports the HWC MACT proposed limit as 0.20 ng D/F TEQ/dscf. The units are translated incorrectly and should be 0.20 ng D/F TEO/dscm. /2 "Emissions Testing of Ash Grove Cement Company Foreman, Arkansas Waste-Derived Fuel Facility Cement Kiln No. 3, May 19, 1995.

## RESPONSE

The commenter has submitted comments on each regulatory suboptions EPA proposed to assure compliance with an alternative treatment standard of combustion --- "CMBST"---. Adoption of the "CMBST" standard will allow the disposal of F032 without the



need for monitoring the concentrations of D/F constituents in the treated F032 wastes. The commenter urges EPA to withdraw suboptions 2 and 3, and to promulgate, suboption 1. In addition, the commenter submitted extensive comments and studies which the commenter believes may lead EPA to conclude that the proposed suboption 2 ( i.e., the proposed MACT air emission limit for D/F) is flawed.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment. EPA believes that Omnibus permit authorities under RCRA and other available environmental federal/state laws can be used to support the establishment of 3004(m) treatment standards and thus, to prescribe appropriate technological controls on treatment methods prescribed for these wastes. EPA has promulgated specific performance standards for the operation of incinerators combusting certain acutely toxic wastes that contain D/F constituents (see 40 CFR 264.343 (a) (2) and 50 FR 2005, January 14, 1985). EPA has promulgated similar kinds of technology treatment standards for hazardous wastes regulated under 268.42 and hazardous debris 268.46. These specific treatment standards under 268.42 and 268.46 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective of the human health and the environment.

Like other commenters, this commenter has presented persuasive and factual comments that the combustion "CMBST" compliance treatment alternative is also available for F032 and F024 combusted in combustion units operating under interim standards of 40 CFR 266. The EPA is persuaded that such units often meet more stringent standards than those imposed on 40 CFR 264, incinerators. EPA has also determined that ad hoc technological controls can be imposed, if needed, to ensure that the combustion of F032 and F024 in 40 CFR 266 units are conducted in a well designed and well operated combustion device. As a result, EPA has revised suboption 3 to expand the availability of the proposed combustion "CMBST" treatment compliance alternative to include those units regulated under either 40 CFR 266 or 264.

DCN PH2A021  
COMMENTS J. H. Baxter  
RESPONDER JL  
SUBJECT WOOD1  
SUBJNUM 021

COMMENT A. Treatment Standard for F032 Wastes J.H. Baxter is encouraged by the alternative treatment method for F032 wastes described in EPA's suboption 1. 61 Fed. Reg. 21421. This option is based on a review of information submitted in response to EPA's initial proposal, including waste characterization data from Vulcan Chemical and economic information from, inter alia, J.H. Baxter. Suboption 1 would allow F032 wastes to be combusted in devices that meet the "CMBST" standard set forth in the final Phase III rule issued on April 8, 1996, while suboptions 2 and 3 are more restrictive.

#### RESPONSE

EPA is promulgating treatment standards that set numerical limits for the regulation of Dioxin and Furan (D/F) hazardous constituents in F032. In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method for D/F constituents in F032.

EPA has promulgated, however, a revised "CMBST" compliance alternative which limits the availability of the "CMBST" to those combustion devices in compliance with applicable combustion standards in the 40 CFR 264 Subpart O, or 40 CFR 266. F032 wastes combusted in combustion devices operating under 266 or 264 do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities must meet UTS numerical limits applicable to each organic and metal constituent regulated in F032 as a prerequisite to land disposal.

It should be emphasized that facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265 Subpart O do not qualify for a "CMBST" treatment standard. F032 residues arising from 40 CFR 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment. EPA believes that Omnibus permit authorities under RCRA and other available environmental federal/state laws can be used to support the establishment of 3004(m) treatment standards and thus, to prescribe appropriate technological controls on treatment

methods prescribed for these wastes. EPA has promulgated specific performance standards for the operation of incinerators combusting certain acutely toxic wastes that contain D/F constituents (see 40 CFR 264.343 (a) (2) and 50 FR 2005, January 14, 1985). EPA has promulgated similar kinds of technology treatment standards for hazardous wastes regulated under §268.42 and hazardous debris §268.46. These specific treatment standards under §§268.42 and 268.46 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective of the human health and the environment.



DCN PH4P039  
COMMENTS AWPI  
RESPONDER JL  
SUBJECT WOOD2  
SUBJNUM 039

COMMENT LDRs FOR NON-WASTEWATERS SHOULD NOT BE BASED ON TOTAL CONCENTRATIONS In 1986, when the Agency first promulgated LDRs for dioxin and furan wastes (F020-23 and F026-28), the 1 ppb LDRs were promulgated as leachate levels, not as total concentrations. Under the Universal Treatment Standards promulgated in 1994, these LDRs became total concentrations. Now, soils containing constituents in excess of UTSSs must be treated, regardless of leachability. This ignores the effects of geochemistry and the corresponding limited mobility or availability of constituents of concern previously recognized by the Agency. At the Selma Wood Treater CERCLA site, 13,000 cubic yards of arsenic soils were successfully immobilized using conventional stabilization techniques in tests performed by EPA's Office of Research and Development (ORD), Risk Reduction and Engineering Lab (RREL). In the ROD for the Selma site, leachable standards for the metal constituents and for pentachlorophenol were specified in lieu of total concentrations. COMMENT: EPA should either raise the UTSSs to reflect the differences in basing the standards on total concentrations, or base the LDRs for non-wastewaters on leachate concentrations.

#### RESPONSE

The commenter is asking EPA to set UTS limits for dioxin and furan (D/F) hazardous constituents in F032 that are based on leachate concentrations as measured by the TCLP rather than concentrations measured by the total constituent analyses. The commenter believes that TCLP is a better performance indicator for D/F since these constituents are not that mobile.

EPA is not persuaded by this comment. A leaching standard for toxic organics like D/F comports badly with a statutory standard requiring that short and long-term threats to the human health and the environment are "minimized." Congress expected technology-based treatment to be used to satisfy this requirement, in particular, that hazardous organics be destroyed prior to disposal. (125 Congressional Record S 9178 (July 25, 1984) (statement of Sen. Chaffee). Given that dioxins are the most toxic of all of the Appendix 8 hazardous constituents, destruction of these constituents is particularly appropriate. EPA also believes that there are a number of destruction and recovery technologies that can meet the promulgated limits. EPA is thus promulgating UTS limits as proposed.



DCN PH2A009

COMENTER Dow Chemical

RESPONDER JLABIOSA

SUBJECT WOOD2

SUBJNUM 009

COMMENT Dow disagrees with EPA that F024 and F032 are similar enough to necessarily warrant the same LDR treatment standard. EPA has stated that F024 and F032 are different and Dow agrees with statement. These wastes were listed as different waste codes since they are generated in significantly different processes and have fundamentally different scopes. F024 is essentially some of the wastes from the production of chlorinated aliphatic hydrocarbons with one to five carbon atoms by free radical catalyzed processes. F032 is essentially some of the wastewater from wood preservatives associated with chlorophenolic compound formulations. Note that chlorophenolic compounds are not aliphatic and have at least six carbon atoms. This requires that the carbon atom bound to the chlorine atom in the F024 wastes is unsaturated, putting these materials into a completely different class of compounds from the unsaturated carbon atom bound to the chlorine in the F032 waste description. Further, the F032 waste listing only includes wastewater, while no such critical limitation appears in the F024 waste listing. Thus, three of the fundamental aspects of the definitions of these two waste codes differ. These distinctions support EPA's long held view that these two waste codes are fundamentally different. (See 40 CFR 261.31) This distinction is further supported when EPA considers the maximum D/F concentrations, the only data contained in this part of the notice.

#### RESPONSE

EPA acknowledges that these wastes are different with regard to the concentrations and types of D/F homologues and isomers present in these two waste as well as other precursor hazardous constituents to the formation of D/F in combustion devices. EPA also acknowledges that separate listing determinations granted separate RCRA waste code listing classifications for each of these two wastes. EPA emphasizes, however, that both wastes are toxic wastes, listed under the 40 CFR 261 Part D, and the combustion of these wastes is currently allowed in combustion devices that meet a four 9's Destruction Removal Efficiency performance. The Penta Task Force has asked EPA to adopt the same compliance treatment standard of combustion currently applicable to F024. Adoption of the "CMBST" would waive the monitoring of D/F constituents in F032 residues resulting from well designed and well operated combustion devices. EPA codified such treatment compliance alternative as incineration or "INCIN" in the 40 CFR 264 Subpart O unit (see Third Third rule (see 55 FR

22580-1, June 1, 1990)). EPA later amended the standard to a CMBST standard in the Phase 3 rulemaking. EPA believes that such action was inappropriate for F024 and is thus, recalling in this rulemaking such treatment standard to limit the combustion of F024 to those devices which EPA can prescribe operating controls that ensure that they are well designed and operated.

EPA has authority under Section 3004 (m) to address short-term concerns that may result from the combustion of these wastes and in particular, the potential emissions of D/F from combustion devices. In addition, EPA has authority under 264 Subpart O and 266 to impose technological controls that can ensure that the destruction and removal of Priority Hazardous Organic Pollutants such as D/F and other D/F precursors in F032 and F024 is accomplished during combustion. EPA believes that for the purpose of implementing the "CMBST" standard the proposed suboption calling for the adoption of the proposed MACT air emission limit for D/F may impose a regulatory burden on the combustion industry since the merits of such proposed limits still being deliberated under the MACT rule. The MACT rule is scheduled for promulgation in April 1988. EPA believes that in the interim the available RCRA permit Omnibus authorities under 266 and 264 can be used to ensure that compliance with the proposed treatment alternative of "CMBST" is conducted in well designed and operated units and that the "CMBST" practice itself is protective of the human health and the environment. As a result of this determination and authorities, EPA has withdrawn the proposed suboptions 1 and 2. EPA has promulgated, instead, a compliance treatment standard of "CMBST" that is limited to those units operated under 266 and 264 Subpart O.



DCN PH2A011  
COMMENTS Vinyl Institute  
RESPONDER JL  
SUBJECT WOOD2  
SUBJNUM 011

COMMENT On May 10, 1996, EPA requested comments on, inter alia, proposed treatment standards on wood preserving wastes, F032, under Phase IV of the Land Disposal Restrictions (LDR) of the Resource Conservation and Recovery Act (RCRA). EPA announced in the comment request notice that modifications to the proposed treatment standard for F032 wastes might require modifications to the treatment standard for chlorinated aliphatic wastes, F024. F024 wastes may be generated by some Vinyl Institute member companies.

#### RESPONSE

EPA is promulgating a modified treatment combustion alternative of "CMBST" for F032 that limits the combustion of F032 in devices regulated under the 40 CFR 266 and 264 Subpart O. As proposed, EPA is amending the existing "CMBST" compliance treatment alternative for F024 and promulgating instead, the same "CMBST" treatment alternative finalized for F032 in today's rule. EPA notes that F024 combusted in incinerators operated in compliance with the 40 CFR 265 Subpart O do not qualify for these alternative "CMBST" treatment alternative unless the facility can demonstrate that the combustion efficiency of the Part 265 incinerator is similar to or better than those under Part 264 (incinerators) or Part 266 (BIFs). EPA will use 40 CFR 268.42(b) to examine and determine how equivalent Part 265 incinerators are to Part 264 incinerators or Part 266 BIFs. (See Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, April 16, 1997, and the preamble for a discussion of such determination of equivalent treatment pursuant to 268.42(b)). As a result, facilities or generators who elect to combust F032 and F024 in 40 CFR 265 incinerators must monitor the levels of D/F constituents in the treated residues or rely on expert knowledge as a prerequisite to land disposal.

DCN PH2A015  
COMMENTS CKRC  
RESPONDER JLABIOSA  
SUBJECT WOOD2  
SUBJNUM 015

COMMENT Option 2--CMBST Treatment Standard for Combustion

Units that Achieve D/F Emission Limit of 0.20 ng/DSCM, TEO In the NDA Option 2, EPA requests comment on using the proposed HWC MACT 0.20 ng/DSCM (corrected 7% Oxygen)/1 D/F emission standard for RCRA hazardous waste combustion units as a requirement of a CMBST alternative treatment standard. First, CKRC believes it is inappropriate to take proposed limits, which have not been subject to public comment, and use them as a basis to develop regulatory policies in other rulemaking efforts -- particularly a proposal as controversial as the Hazardous Waste Combustion (HWC) MACT rule. Second, CKRC strongly opposes this emission limit as it is based on a faulty assumption that there is a direct correlation between hazardous waste feed and emission rates. CKRC has provided the Agency with significant data contrary to this assumption. For example, CKRC's comments on EPA's Combustion Emissions Technical Resource Document (CETRED) (attachment 2) and a February 6, 1995 study by (attachment 1) Rigo & Rigo Associates, Inc. showed that there is no correlation between chlorine feed and dioxin emissions from cement kilns. Further, the data demonstrates that there is no correlation between emitted hydrocarbon and/or carbon monoxide and dioxin emissions even at levels well in excess of those experienced during upset (COC and trial burn) operating conditions. Consequently, feedrate limitations are inappropriate because they generally are not emission control techniques. This fundamental concern is heightened by the Agency's listing of several "effective controls to inhibit D/F formation" from cement kilns. While some of the general D/F controls raised in the NDA may be appropriate, CKRC has specific concerns about three of the four controls referenced in the notice. APCD Inlet temperatures of less than 400 degF for the flue gas -- CKRC generally agrees that there is a correlation between temperature control and dioxin emissions. However, the Agency's specific reference to 4000F is directly at odds with its reference to 418 degF in its Combustion Emissions Technical Resource Document (CETRED) dated May 1994 and its HWC MACT proposed rule dated April 18, 1996. Further, the BIF rules identify an operating window of APCD temperatures between 450 and 750 degF for cement

kilns with potentially high emissions. These facilities are required to test for D/F during their certification of compliance and trial burn testing and are required to meet a site-specific, risk-based D/F emission limit. This testing as well as numerous other testing data supplied to the Agency, demonstrates that the site-specific element plays an important role in this correlation, calling into question the appropriateness of relying on any one particular temperature number for cement kilns across the board. Further, the Agency's study of D/F emissions during cement kiln trial burns confirms that there is no relation between hazardous waste feed (or POHCs) and emissions./2 Good Combustion Practices -- CKRC has provided the Agency with a tremendous amount of data, such as the Rigo report cited above, that demonstrates there is no correlation between "good combustion" parameters and dioxin emissions. The reference to "good combustion practices " as a dioxin emissions control is particularly troublesome to CKRC as EPA has traditionally relied on knowledge about and data from incinerators to define "good combustion practices." As discussed below, EPA is in possession of data demonstrating the inappropriateness of applying these same incinerator-based principles to cement kilns considering the extraordinary differences between the two devices. Activated Carbon Injection -- CKRC also is concerned with the Agency's implication about the effectiveness of activated carbon injection in cement kilns as a D/F emission control. Simply because carbon injection may be an effective D/F control in a municipal waste combustor (MWC) does not ensure its effectiveness in a cement kiln. A cement kiln is a very different device with different purposes and operating parameters than an incinerator. The Agency's consistent failure to recognize these crucial differences and existing test data to the contrary cause CKRC to question the appropriateness of technology transfer with regard to activated carbon injection from MWCs to cement kilns. CKRC's concern is further justified in the next sentence of the NDA when EPA states that "...studies conducted at various domestic incineration units such as light weight aggregate kilns and cement kilns..." (NDA electronic version, p. 7). As we have commented consistently in every set of comments submitted to the Agency (attachment 2) as well as during numerous meetings with the EPA staff, a cement kiln is not an incinerator. Considering the completeness of the record on this issue, this inaccurate statement clearly reflects that these issues are more complex

and technical than should be dealt with in this notice. CKRC will comment more fully on both of these control issues in its comments on the proposed HWC MACT rule which will be submitted by the August 19, 1996 comment deadline. CKRC has additional concerns regarding the basis of this option. The NDA discussion continues that "EPA's studies show that at least 50% of the facilities tested for the proposed combustion rule meet this MACT limit." CKRC strongly disputes the validity of this statement and notes that the Agency fails, within the context of this NDA, to consider the extraordinary costs associated with implementation of these limits, which currently are subject to public comment and under significant debate. Finally, the Agency states that "any RCRA permitted or interim status combustion device capable of demonstrating achievability in meeting the dioxin (TEQ) air emission discharge limit would be allowed to combust F024 and F032." Because the Agency has not selected such a standard, CKRC is unable to comment on the ability of a combustion device to demonstrate achievability in meeting the D/F limit. Further, the Agency provides no explanation of or criteria on which to base the "capability to demonstrate achievability." Without such criteria and other implementation discussion, we are unable to substantively comment on this option. CKRC strongly opposes codification of the D/F limit as a requirement of the CMBST alternative because it is based on information that has not been subject to full public notice and comment in the more appropriate HWC MACT rulemaking process which is currently underway. It also embraces erroneous technical support to address global issues with far-reaching policy implications. These fundamental flaws demonstrate that there is no sound basis for going forward with such an approach.

## RESPONSE

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment. EPA believes that Omnibus permit authorities under RCRA and other available environmental federal/state laws can be used to support the establishment of 3004(m) treatment standards and thus, to prescribe appropriate technological controls on treatment methods prescribed for these wastes. EPA has promulgated specific performance standards for the operation of incinerators combusting certain acutely toxic wastes that contain D/F constituents (see 40 CFR 264.343 (a) (2) and 50 FR 2005, January 14, 1985). EPA has promulgated similar kinds of technology treatment standards for hazardous wastes regulated

under 268.42 and hazardous debris 268.46. These specific treatment standards under 268.42 and 268.46 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective of the human health and the environment.

After reviewing public comments, EPA concurs with the commenter that promulgation of regulatory performance requirements for combustion technologies treating D/F constituents in F032 and F024 will ultimately be addressed in the MACT rule and that finalizing the MACT standards at this time may impose an undue burden on the industry. EPA intends to finalize the proposed MACT standards in April 1998. Like the commenter, EPA believes that until MACT standards are promulgated, ad hoc technological controls can be issued to ensure that the treatment of these wastes is conducted in well designed and well operated combustion devices. EPA also agrees that units regulated under the current Part 266 standards, which includes cement kilns, may be eligible for the alternative standard for CDD and CDFs in these wastes. See preamble for rationale.

DCN PH2A020  
COMMENTS CONDEA  
RESPONDER JLABIOSA  
SUBJECT WOOD2  
SUBJNUM 020

COMMENT CONDEA Vista Company is an occasional generator of F024 waste from its Vinyl Chloride Monomer manufacturing facility. We are writing in response to the May 10, 1996 Federal Register notice regarding Phase IV Land Disposal Restrictions. In this notice, EPA proposes LDR treatment options for wood preserving waste F032, and potentially, the waste of interest to our company, F024.

RESPONSE

EPA is addressing the commenter's concerns in today's final rule.

DCN PH4P023  
COMMENTS Beazer East  
RESPONDER JLABIOSA  
SUBJECT WOOD3  
SUBJNUM 023

COMMENT B. The Proposed LDR for Hazardous Waste No. F034 Should Not Include Arsenic and Chromium as COCs. The proposed LDR for F034 includes arsenic and chromium as COCs. 60 Fed. Reg. 43682. Beazer believes that EPA's inclusion of these inorganic constituents in the F034 LDR is unnecessary and inappropriate. The F034 listing includes [w]astewaters, process residuals, preservatives, drippage and spent formulations from wood preserving processes generated at plants that used creosote formulations. 40 C.F.R. § 261.31 (emphasis added). In contrast, the hazardous waste listing for F035 includes [w]astewaters, process residuals, preservative drippage and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic and chromium. Although F034 wastes contain no metal COCs, EPA has included the arsenic and chromium constituents under the F034 LDR because creosote and copper chromium arsenate ("CCA") formulations sometimes have been used at the same wood treating sites. This rationale, however, is contrary to the Agency's regulations on waste categorization which provide that [f]or the purposes of compliance with 40 C.F.R. Part 268 . . . the generator must . . . determine whether the waste is identified in Subpart C of 40 C.F.R. Part 261 by either: (1) testing . . . ; or (2) applying knowledge of the hazard characteristic in light of the materials or processes used. 40 C.F.R. § 262.11(c). Regulated parties who actively operate wood treating plants or perform cleanups at wood treating sites are able to tell with substantial certainty whether CCA was used at the site. CCA is a substantially different formulation from either creosote or penta and it is not difficult to determine its presence in the field. When the generator has knowledge that CCA was used at the site, the wastes associated with the CCA process would be characterized as F035 and the LDRs for F035 would apply. 40 C.F.R. § 262.11(b). EPA has stated that the LDR parameters for each waste are to be those constituents proposed for regulation in the waste. 60 Fed. Reg. 43680, Col. 3. EPA followed this rule in proposing LDRs for F032 and F035, but not for F034. Arsenic and chromium were not constituents proposed for regulation in F034. 40 C.F.R. Part 261, Appendix VII. Thus, inclusion of these

materials as COCs for F034 is clearly contrary to EPA's methodology for selecting the LDR parameters and is arbitrary and capricious. RECOMMENDATION: Owners and operators, as well as regulated entities involved in wood treating site remediations, have extensive knowledge regarding the preservatives used at their sites. As such, it makes little sense to expend valuable resources to analyze for constituents that cannot be present as a result of the preserving process.

Beazer believes that generator knowledge of the current or past site operations is sufficient to satisfy Part 262 requirements and that the only result of adding the metal constituents to the F034 LDR will be the unnecessary analytical costs of proving what is already known. Beazer requests that EPA delete arsenic and chromium from the F034 LDR in the final rule.

#### RESPONSE

EPA is not persuaded by these comments. Arsenic and chromium are identified as hazardous constituents under the UTS and BDAT lists. EPA relies on these lists and other information to select hazardous constituents for regulation under the Land Disposal Restrictions (see Final BDAT Background Documents for Universal Standards (Volume A - Nonwastewaters and Volume B - Wastewaters), July 1994, and Final BDAT Background Document for Quality Assurance / Quality Control Procedures and Methodology, October 23, 1991). Further, these constituents are also identified as hazardous constituents of concern supporting the listing of F034 (see 55 FR 50450), Listing Background Document for Wood Preserving Wastes, and Appendix VII, under 40 CFR 261). Simply put, EPA believes that treatment of these toxic metals, which are known to be present in these wastes in concentrations high enough to support listing, is necessary to minimize the threats posed by land disposal of these wastes. EPA is promulgating, therefore, UTS limits for arsenic and chromium (total) -as proposed.



DCN PH4P023  
COMENTER Beazer East  
RESPONDER JLABIOSA  
SUBJECT WOOD3  
SUBJNUM 023

COMMENT C. The Proposed LDR for Hazardous Waste No. F035 Should

Not Include Vitrification. 1. Stabilization should be BDAT for F035. EPA is proposing that F035 be treated using vitrification to meet LDRs. Review of the ROD Summary reveals that slag vitrification has not been specified in any of the 37 wood treating site RODs evaluated by Versar. To Beazer's knowledge, only one facility in the United States -- Marine Shale Processors ("MSP") of Morgan City, Louisiana -- utilizes vitrification in a tested, full-scale process. MSP's future regulatory status, however, remains in question. Currently, MSP is appealing EPA's rejection of MSP's Part B interim status boiler and industrial furnace permit. Due to the uncertain nature of MSP's regulatory status and potential future lack of any other vitrification facility, vitrification is not an "available" or appropriate treatment technology. Vitrification was chosen for immobilization for arsenic presumably because conventional stabilization of arsenic can be somewhat problematic. As presented at the June 1995 AWMA National Meeting, studies by EPA's RREL on stabilization have shown that the variable solubility of arsenic in high and low pH ranges is easily overcome by treatability testing and proper pH control of the cement/lime mixture in the field. In this study, EPA successfully stabilized 13,000 cubic yards of arsenic soils using conventional stabilization techniques. Stabilization of arsenic wastes is much more controllable than thermal processes because arsenic has been shown to volatilize in high temperature atmospheres such as an incinerator or slag furnace. The treatment alternatives specified in the Proposed Rule will transfer arsenic to a vapor stream where it is not accounted for as closely. See Table 3-B, Data Requirements for Thermal Desorption, in EPA's Presumptive Remedies for Soil, Sediments, and Sludges at Wood Treater Sites Quick Fact Sheet (Draft-Nov. 1994) ("[v]olatile metals (As, Cd, Cr, Pb, Zn) vaporize and are difficult to remove from emissions.") The complexity of arsenic volatility is also noted in EPA's Summary of Generation, Disposal, and Treatment Practices for Wood Preserving Wastes F032, F034, and F035 (SAIC, May 1990). The SAIC document notes: "[b]ecause arsenic volatilizes at high temperatures,

incineration may not be an applicable treatment for F032 or F034 wastes contaminated with arsenic." The arsenic volatility process limitation is applicable to both vitrification and incineration and should be addressed by the EPA before the Proposed Rule is finalized. Moreover, vitrification technology is more complicated than portrayed in the Proposed Rule. Vitrification of arsenic wastes may require two additional treatment steps not specifically identified in the Proposed Rule. These additional steps are described in EPA's Vitrification Technologies for Treatment of Hazardous and Radioactive Waste Handbook (May 1992). The Vitrification Handbook notes: "[c]ertain waste feeds may require chemical or thermal pre-treatment to convert arsenic oxide to less volatile forms before vitrification..." Vitrification Handbook, p. 4-7. The Handbook explains that the process required is to convert the arsenic to a calcium oxide in another thermal process and then re-introduce the thermally treated mixture into the slag furnace. Id. This process is notably more complex than indicated in the Proposed Rule and further supports the use of the much less complex, conventional cementitious stabilization methods for arsenic wastes. Finally, EPA's Presumptive Remedy document does not acknowledge the use of vitrification as a candidate immobilization technique. Rather, it specifically identifies "cementitious materials, including Portland cement, fly ash/lime, and fly ash/kiln dust" as the solidification methods. RECOMMENDATION:

EPA should propose stabilization as the BDAT for arsenic based on a lack of "demonstrated and available" full-scale vitrification facilities". Stabilization of arsenic in wood treating wastes has been proven by EPA to be effective and has been previously selected by EPA as a presumptive technology for treating arsenic in F035 wastes. EPA should avoid the inevitable confusion that will arise in the field as a result of the conflicting programs and promulgate stabilization as BDAT for the F035 LDRs.

## RESPONSE

EPA has stated in the preamble that vitrification represents BDAT for arsenic since the proposed UTS is based on the performance of slag vitrification on arsenic in mineral processing copper smelting dust. Also, EPA has indicated in the Phase 4 proposal that stabilization can also meet the proposed UTS limits for arsenic. (60 FR 43681 and 61 FR 2359) Because EPA is establishing a numerical limit under the 40 CFR 268.40, other treatment technologies capable of achieving the arsenic UTS limits, other treatment technologies capable of

achieving the numerical limits are not prohibited except for those that may constitute impermissible dilution or land disposal.

DCN PH4P023

COMMENTS Beazer East

RESPONDER JLABIOSA

SUBJECT WOOD3

SUBJNUM 023

COMMENT 2. The UTS for F035 nonwastewaters

should be based on leachate concentration. EPA has established vitrification as BDAT for arsenic and stabilization as BDAT for chromium. 60 Fed. Reg. 43681. EPA has proposed that each constituent proposed for regulation in F035 (arsenic and chromium) comply with its applicable UTS in the treatment standard table at 40 C.F.R. § 268.40 as a prerequisite for land disposal. 60 Fed. Reg. 43680. However, the UTSs for chromium and arsenic at 40 C.F.R. § 268.40 are designated as leachate levels, whereas, the UTS for chromium and arsenic in F035 as proposed are total concentrations. 60 Fed. Reg. 43682. Beazer's experience indicates that the proposed UTSs for chromium and arsenic cannot be achieved with the specified immobilization technologies. Immobilization technologies are not designed to reduce total concentrations of metals in the waste, so the F035 LDR as drafted, cannot be met. In studies by EPA's RREL/ORD, 13,000 cubic yards of arsenic soils at the Selma Wood Treater CERCLA site were successfully immobilized using conventional stabilization techniques. In the Selma site full scale stabilization study performed by EPA's RREL/ORD, leachable standards for the metal constituents were specified in the ROD in lieu of total concentration standards. Further, the study addressed the use of leach tests other than TCLP, such as Synthetic Precipitation Leachate Procedure ("SPLP") (pending SW846 Method 1312) and distilled water leach. Beazer supports the use of these more appropriate leach tests. EPA's RREL/ORD researchers have shown that the variable solubility of arsenic in high and low pH ranges is easily overcome by treatability testing and proper pH control of the cement/lime mixture in the field. The alternate leach tests noted above reduce the incentive of remediation contractors to create a less environmentally-sound stabilized mixture. The misguided incentive created by the TCLP test method is that by deliberately raising the pH of the stabilized waste, the contractor ensures that when the acid is added in the TCLP test, the resultant pH of the test material falls into the mid pH range where the arsenic is not water soluble. Thus, the stabilized waste passes the TCLP at the deliberately elevated pH

level. However, because the pH of the stabilized waste is elevated, it is now in the range of higher solubility in water. This pH management for stabilized arsenic wastes actually results in a waste that leaches more in a natural water environment than it does in the TCLP acid leach test. The alternate leach procedures discussed above would mitigate the incentive to manipulate the treatability testing and result in a more environmentally protective means of managing the waste.

#### RECOMMENDATION:

EPA must revise the UTSs for the metal constituents to a leachable standard for all metals. Further, Beazer recommends EPA consider the use of the SPLP or distilled water leach procedure in lieu of the TCLP method to ensure the stabilized material is truly not leachable in its final environment.

#### RESPONSE

The commenter is presumably referring to the proposed UTS for metal constituents in nonwastewater forms of F032, F034, and F035. EPA is promulgating UTS for these metals as proposed. As indicated in the preamble of this final rule and the Final BDAT Background document for F032, F034, and F035, compliance with the concentration of metals in nonwastewater forms shall be measured in leachate extracts of grab samples, as measured by the TCLP analyses. Since EPA is promulgating treatment limits, other treatment technologies are not prohibited except for those that may constitute impermissible dilution.

For wastewater forms of F032, F034, and F035, EPA is promulgating as proposed. Compliance is determined by measuring the prescribed concentrations for chromium and arsenic constituents in composite waste samples, as measured by total constituent analyses.

The commenter has also asked EPA to consider the use of the SPLP or distilled water leach procedure in lieu of the TCLP to ensure that the stabilized material is truly not leachable in its final disposal environment. This commenter's proposal is beyond the scope of the UTS promulgated today. In addition, EPA lacks data describing how equivalent or superior SPLP methods are over TCLP in identifying stabilized metals. As a result, the commenter should consider a rulemaking petition to the Administrator regarding such test method performance and its applicability to hazardous wastes ban from land disposal practices pursuant to the provisions in §§260.20 and 260.21.

DCN PH4P113

COMMENTER Chemical Manufacturers Association

RESPONDER JL

SUBJECT WOOD3

SUBJNUM 113

COMMENT

B. EPA should allow concentration-based as well as technology-based criteria to satisfy BDAT for metals in nonwastewater forms of F032, F034, and F035.

In the preamble, EPA indicates that for metal in nonwastewater forms of F032, F034, and F030, stabilization is BDAT for chromium (total), and that vitrification is BDAT for arsenic. Use of the word "is" and not the phrase standards "... are based on" implies that the Agency intends to allow only the use of these specific technologies to treat these constituents to levels below which these wastes may be land disposed. However, the regulatory language in the table at 268.40 indicates that the nonwastewater standards for arsenic and chromium are numerical standards. CMA has commented in the past that it generally favors concentration-based treatment standards for BDAT and that it supports the allowance of technology-based standards as an alternative to, and not as a replacement for, concentration-based standards. We maintain this position. Although the Agency and CMA may not currently be aware of technologies other than stabilization and vitrification that could be used to treat for chromium and arsenic in the wastes described above, we favor the flexibility afforded by a concentration-based standard which would allow any technology that can meet these levels as an alternative. CMA requests that the preamble language be modified to clarify that any technology that can meet the levels indicated in the table may be used.

In addition, EPA is proposing F032 wastewater and nonwastewater standards that would require meeting a concentration that does not exceed 1 ppb (or 1 ug/kg) for all the PCDD and PCDF homologue and isomer constituents proposed for regulation for F032 wastes. Even if a 1 ug/kg level is achievable for PCDD and for PCDF, analytical limitations may preclude UTS levels this low.

Normally when EPA sets treatment standards for a waste constituent, a procedure is followed in which both an "accuracy correction factor" and a "variability factor" are applied to the concentration of the constituent observed in the treatment data that supports the standard. See, Final Best Demonstrated Available Technology (BDAT) Background Document for Universal Treatment

Standards Volume A: Universal Treatment Standards for Wastewater Forms of Wastes, 52 (July 1994). The accuracy correction factor is used to account for analytical limitations in the available treatment performance data, and the variability factor is used to correct for variations in waste treatment, sampling, analytical techniques and procedures, and other factors that affect treatment performance.

However, we are not sure if EPA accounted for variability and accuracy in setting the universal treatment standards for nonwastewater forms of these organic wastes. We urge EPA to do so. As CMA has previously written in its July 9, 1993 comments on the May 24, 1993 Interim final rule on land disposal restrictions for ignitable and corrosive characteristic wastes whose treatment standards were vacated, organic wastestreams are not easily analyzed for constituents at very low concentrations. CMA reiterates its previous recommendation that EPA explicitly states that, given approved test methods, nondetectable levels of constituents are equivalent to zero concentration and should also be applied in the setting of UTS levels.

## RESPONSE

The commenter raised four issues and EPA's responses to such comments follow below:

1. Clarification that EPA is setting numerical limits for the regulation of Arsenic and Chromium (total) in wastewater and nonwastewater forms of F032.

EPA is clarifying in today's final rule that EPA is promulgating UTS limits for the regulation of Arsenic and Chromium (total) in F032, F034, and F035. Since EPA is establishing UTS limits that are expressed as maximum concentrations of these metals allowed for land disposal, the use of any treatment technologies capable of meeting the UTS limits is not prohibited except for those that may constitute impermissible dilution.

2. "Analytical Difficulties" may preclude the establishment of UTS limits for F032.

EPA lacks data from the commenter to assess what kind of technical difficulties will be encountered during the analysis of F032 wastes.

After reviewing the characterization data of the Penta Group, the reported

analytical difficulties, and F032 Characterization studies; EPA has concluded that the reported "difficulties" appear to represent more the unfamiliarity of chemists performing the chemical analyses with D/F recommended test methods rather than real flaws in the test method. EPA believes further that the alleged "difficulties" can easily be overcome by routine laboratory clean-up procedures and the use of appropriate solvents and other laboratory calibration techniques. EPA has enhanced, therefore, the discussion of these recommended procedures and calibration techniques in the BDAT Background Document. *Also, see the Administrative Record supporting today's Phase 4 final rule for the technical document titled: Background Paper Addressing Technical Issues Related to Analysis of F032 Wood Preserving Wastes for Dioxins and Furans, dated June 19, 1996.*

3. EPA should correct the D/F limits for accuracy and variability.

Several commenters were correct in pointing it out that EPA did not correct the proposed UTS limits for D/F in F032 with accuracy and variability factors, as typically done in the calculation of treatment standards of other hazardous constituents prohibited from land disposal. EPA did not adjust the proposed UTS limits for D/F constituents, nor EPA is doing so in today's final rule, as explained below.

The UTS treatment limits are based on combustion technologies that EPA believes will meet the proposed UTS limits for D/F in F032 as long as the combustion of F032 is conducted in a device that is well designed and well operated. EPA concluded in the Solvents and Dioxins rule that a six-nines Destruction and Removal Efficiency (DRE) combustion device can routinely achieve the promulgated limit (see January 18, 1986, 51 FR (1733-1735)). Based on the performance of a four-nines DRE rotary kiln incinerator burning F024, EPA believes that a four-nines DRE unit that is well designed and operated can also meet the promulgated UTS limits for D/F (see June 1, 1990, 55 FR (22580-22581)). Although none of the submitted comments or data appear to support the revisions to D/F limits proposed by the commenters, EPA may revisit this issue in a separate rulemaking if new data become available.

However, EPA points out to the commenter that EPA generally allows deviations from the promulgated treatment limits to concentration of up to one order of magnitude above the applicable treatment standard (i.e. the numerical UTS limit) prescribed in the 40 CFR 268.40, for the ashes arising from combustion devices. EPA refers to such treatment limits allowances as the analytical detection limit (compliance) alternative. Facilities seeking the disposal of such combustion ashes must satisfy the provisions in the 40 CFR 268.40 (d) (1) through (3) and 268.7 (b) (5) (iii). (Also, see June 1, 1990, 55 FR (22541-22542).)

EPA is promulgating treatment standards that set numerical limits for the regulation of Dioxin and Furan (D/F) hazardous constituents in F032. In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method for D/F constituents in F032.



The revised "CMBST" compliance alternative limits the availability of "CMBST" to those combustion devices in compliance with applicable combustion standards in the 40 CFR 264, Subpart O, or 40 CFR 266, Subpart H. F032 wastes combusted in combustion devices operating under 266 or 264 do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities must meet UTS numerical limits applicable to each organic and metal constituent regulated in F032 as a prerequisite to land disposal.

It should be emphasized that facilities seeking the combustion of F032 in an incinerator regulated under a 265 Subpart O do not qualify for a "CMBST" treatment standard. F032 residues arising from 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

4. Proposal that "nondetection limits" are equivalent to zero detection.

EPA believes the commenter is concerned that a detection limit in a treated waste above a UTS numerical limit may fail to meet the applicable treatment standard even if the targeted analyte is below the detection limit. EPA believes that a "nondetection limit" is not a feasible way to address this concern. EPA believes that a constituent shown below a particular targeted detection limit means that the constituent is either destroyed by the employed technology, masked in the waste residue due to matrix interferences, or it could be measured in concentrations below the targeted detection limit. As a result, it could be possible that the constituent of LDR concern is still above the applicable UTS limit should the targeted selection limit be above the UTS promulgated limit. Therefore, EPA believes that a facility could still be deemed in violation of the applicable limit if EPA detects such constituent above its UTS limit.

However, EPA points out to the commenter that EPA generally allows deviations from the promulgated treatment limits to concentration of up to one order of magnitude above the applicable treatment standard (i.e. the numerical UTS limit) prescribed in the 40 CFR 268.40, for the ashes arising from combustion devices. EPA refers to such treatment limits allowances as the analytical detection limit (compliance) alternative. Facilities seeking the disposal of such combustion ashes must satisfy the provisions in the 40 CFR 268.40 (d) (1) through (3) and 268.7 (b) (5) (iii). (Also, see June 1, 1990, 55 FR (22541-22542).) Another option available to the commenter is to verify if the waste of concern is different from the one supporting the UTS limit and seek from EPA a treatability variance pursuant to provisions in the 40 CFR 268.44.

DCN PH4P039  
COMMENTS AWPI  
RESPONDER JL  
SUBJECT WOOD3  
SUBJNUM 039

COMMENT EPA is proposing to apply Universal Treatment Standards (UTSs) to wood preserving wastes (F032, F034, and F035). AWPI submits the following comments with respect to the proposed treatment standards: PROPOSED LDR FOR F034 Each constituent that EPA is proposing for regulation in F032, F034, and F035 must comply with its applicable UTS in the treatment standard table at 40 CFR 268.40, as a prerequisite for land disposal. Arsenic and chromium were not constituents proposed for regulation in F034. Testing for arsenic and chromium would be justified only if CCA was used at a facility. COMMENT: The proposed LDR for F034 should not include arsenic and chromium as constituents of concern.

#### RESPONSE

The commenter is asking EPA to withdraw the proposed UTS limits for D/F in F032 or to promulgate "incineration" as an alternative compliance treatment standard for D/F constituents in F032. Based on F032 characterization data from the Penta Group, EPA has determined that it is technically feasible to co-promulgate an alternative treatment standard of combustion ("CMBST") and EPA has done so in today's final rule. (see EPA's preamble in today's final rule, and the Final BDAT Background Document for F032, F034, and F035). Also, EPA is promulgating UTS limits for D/F in F032, as proposed. The commenter also raised several comments seeking EPA's withdrawal of the proposed UTS limits for D/F in F032 and for metal constituents in F034. EPA is addressing each of these comments below.

The commenter believes that EPA's proposed limits for chromium and arsenic in F034 are in error. The commenter points out that EPA has not proposed the regulation of chromium and arsenic in F034. EPA is unclear what exactly this statement means since the proposed preamble and the BDAT Background Document clearly identifies these two metal constituents as proposed hazardous constituents for regulation in nonwastewater and wastewater forms of F034. The commenter also adds that these constituents should only be regulated if F034 is generated from a vessel that also generates F035.

EPA is not persuaded by these comments. Arsenic and chromium are identified as hazardous constituents under the UTS and BDAT lists. EPA relies on these lists and other information to select hazardous constituents for regulation under the Land Disposal Restrictions (see Final BDAT Background Documents for Universal Standards (Volume A - Nonwastewaters

and Volume B-- Wastewaters), July 1994, and Final BDAT Background Document for Quality Assurance / Quality Control Procedures and Methodology, October 23, 1991). Further, these constituents are also identified as hazardous constituents of concern supporting the listing of F034 (see Listing Background Document for Wood Preserving Wastes, and Appendix 7 under 40 CFR 261). It is necessary to treat these toxic metals in order to adequately minimize the threats posed by land disposal of these wastes. EPA is promulgating, therefore, UTS limits for arsenic and chromium (total) as proposed.

DCN PH4P039  
COMMENTS AWPI  
RESPONDER JL  
SUBJECT WOOD3  
SUBJNUM 039

COMMENT PROPOSED LDRs FOR F035 AWPI is puzzled at EPA's selection of vitrification as BDAT for arsenic. The Agency has recognized the potential for arsenic to volatilize at high temperatures. COMMENT: EPA should explain why it disregards this potential problem before recommending vitrification for arsenic wastes. The Agency should also explain why it disregards stabilization when EPA has successfully used this technology for arsenic at a wood treating site. AWPI is unaware of a single full-scale vitrification facility and requests that the EPA identify the source for commercial vitrification.

#### RESPONSE

The commenter is "puzzled" at "EPA's selection of vitrification as BDAT for arsenic." The EPA is not recommending the use of vitrification of arsenic to meet the promulgated UTS limits. EPA has stated in the preamble that vitrification represents BDAT for arsenic since the proposed UTS is based on the performance of slag vitrification on arsenic in mineral processing copper smelting dust. EPA also notes that the potential for air emission from such slag vitrification studies were minimized by first converting arsenite to arsenate trioxide (see BDAT Background Document for Arsenic/ Selenium Wastes, 1990). In addition, EPA has indicated in the Phase 4 proposal that stabilization can also meet the proposed UTS limits for arsenic constituents (see Final BDAT Background Document and final rule's preamble discussion). Since EPA is establishing a concentration based number for the regulation of arsenic in F034, other treatment technologies are not prohibited.

DCN PH4P027  
COMMENTS Rollins Environmental  
RESPONDER JL  
SUBJECT WOOD4  
SUBJNUM 027  
COMMENT

RES fully supports the treatment standards as proposed for F032, 34, & 35. These standards reflect the use of the demonstratedly achievable Universal Treatment Standards (UTS), and are protective of human health and the environment.

The Agency indicated that some commenters to the ANPRM of April, 1991 were concerned about the proposed Dioxin/Furan treatment standard for nonwastewater F032 wastes. The commenters expressed concern about the need to monitor Dioxin/Furan's in the treatment residue, and about the available capacity to treat these wastes. We contend the inclusion of a Dioxin/Furan treatment standard for F032 is necessary to assure proper treatment of these wastes and there is more than sufficient capacity available to provide this treatment.

Dioxins and Furans are present in Chlorophenolic formulations which are used in the process generating this waste. In addition, if the treatment process for these wastes is not properly operated and fully monitored, treatment of Chlorophenolics could actually result in some Dioxin/Furan formation (a properly run and monitored treatment process will not allow this reformation and can routinely meet the proposed Dioxin/Furan standards). A treatment standard for Dioxin/Furan's will assure that F032 wastes are treated correctly with proper treatment practices to destroy all organic constituents. Proper treatment includes destroying the Dioxin/Furan's in the waste and preventing their reformation in the treatment process. Therefore, the Dioxin/Furan treatment standard is needed to require treatment of all hazardous constituents in F032 wastes and thereby meet the "minimize threat" level required by RCRA.

#### RESPONSE

EPA is promulgating treatment standards that set numerical limits for the regulation of Dioxin and Furan (D/F) hazardous constituents in F032. In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method solely for D/F constituents in F032.

This alternative limits the availability of the "CMBST" to those combustion devices subject to combustion standards in 40 CFR 264 Subpart O, or 40 CFR 266 Subpart H. F032 wastes combusted in combustion devices operating under these standards do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities must meet UTS numerical limits applicable to every other organic and metal constituent regulated in F032 as a prerequisite to land disposal.

It should be emphasized that facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265 Subpart O do not qualify for a "CMBST" treatment standard. F032 residues arising from 40 CFR 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

EPA also believes that facilities operating a Part 265 incinerator that can demonstrate to EPA that their combustion device operates in a manner that conforms to the combustion controls achieved by Part 264 incinerators or Part 265 BIFs may qualify for the CMBST treatment standard pursuant to a treatability variance under 268.42(b). (See Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997, and today's preamble discussion.)

EPA disagrees somewhat with the commenter's assertion that numerical standards are needed for D/F. EPA is persuaded that permitted incinerators and BIFs need not monitor these constituents. As set out in the preamble, these units are subject to controls on combustion efficiency (BIFs directly, and incinerators through omnibus determinations) as well as controls on D/F emissions when operated in a manner conducive for D/F formation (under the same authority). EPA believes these units will fully destroy D/F in the wastes. The Agency believes it is justified, to assure the availability of capacity, to provide this modest compliance accommodation.

DCN PH4P032  
COMENTER Penta Task Force  
RESPONDER JL  
SUBJECT WOOD4  
SUBJNUM 032  
COMMENT

F. The Levels Of Dioxins/Furans In F032 Wastes Do Not Warrant Separate Dioxin/Furan treatment Standards.

To the extent EPA has concluded that the concentrations of dioxins/furans in F032 wastes are sufficiently high to warrant the extraordinary measure of incineration in a six 9s unit, that conclusion is unwarranted. Only acutely hazardous dioxin containing wastes (i.e., F020-F023, F026, F027, and F028) are required to be incinerated in a six 9s unit. But, as EPA's analysis clearly shows, the concentrations of dioxins/furans in F032 wastes are some three to four orders of magnitude lower than the corresponding dioxin/furan concentrations in wastes designated as acutely hazardous. - See Tables attached to Labiosa Memorandum Re: "Regulations of Dioxins in F032, and U242" (undated) (Dkt. No. PH4P-S0128).

Moreover, there is a substantial likelihood that EPA has overstated the levels of dioxins and furans in F032 wastes.

According to data in the Agency's possession, the average dioxin/furan concentrations in F032 process sludges and residuals are 3.0 ppb for TCDDs, 1.0 ppb for PeCDDs, 2,000 ppb for HxCDD, 20 ppb for TCDFs, 500 ppb for PeCDFs, and 3,000 ppb for HxCDFs. See F032 BDAT Background Document, Table 3-8 at 3-56. But, these data were culled from sampling of wood preserving sites during the mid-1980s. See Background Document Supporting the Proposed Listing of Waste from Wood Preservation and Surface Protection Processes, Vol. I, Table I-2 at I-4 (Dec. 19, 1988). A number of significant event shave occurred since that time that bring into issue whether these older data reflect the dioxin/furan concentrations in F032 wastes currently generated at wood processing facilities:

The concentration of dioxins/furans in commercial pentachlorophenol formulations have decreased substantially since the mid-1980s. In 1986, U.S. manufacture of pentachlorophenol became subject to comprehensive regulation under the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") which sets stringent limits on the levels of hexachlorodibenzo-p-dioxin ("HxCDD") in the pentachlorophenol that is marketed in the U.S.A Settlement Agreement entered into between EPA and the U.S. manufacturers of penta limits the HxCDD

content of each batch of pentachlorophenol released for shipment to no more than 4 parts-per-million ("ppm"), and 2 ppm HxCDD for the average of all batches released for shipment in any calendar month. This limit in HxCDD content must be met without causing the formation of any detectable amounts of 2,3,7,8-TCDD at a limit of detection limit of no higher than 1 ppb.

U.S. manufacturers are also required to sample and analyze every batch of pentachlorophenol released for shipment for HxCDD content.

An additional sampling and analysis for other dioxin/furan contaminants are conducted once a month, or after 120 batches of pentachlorophenol has been produced. The results of the analyses are submitted to EPA's Office of Pesticide Programs in monthly reports.

As a result of these U.S. requirements, U.S. manufacturers have applied substantial resources to the investigation of penta manufacture in relation to the formation of HxCDD in the product. The HxCDD content of individual batches consistently meets U.S. requirements with the average monthly HxCDD levels of all batches between 1.5 and 1.8 ppm. These reductions have been accomplished by carefully optimizing the reaction parameters used in penta manufacture so as to minimize to the extent practicable the formation of HxCDD. As shown below, not only has the HxCDD content of penta been minimized, but the concentrations of a number of other dioxins/furans have been substantially reduced.

These are summarized below:

**TCDD Content.** The F032 BDAT Background Document reports that the concentration of TCDD in technical grade pentachlorophenol ranges from < 0.03 ppm to 18 ppm. F032 BDAT Background Document, Table 3-2 at 3-49. The attached table (Tab 2) set forth analyses of penta produced by Vulcan during the period January 1989 through August 1994.<sup>8</sup> As shown in the table, TCDD has not been detected in Vulcan produced penta at the detection limit of 0.001 ppm. (Analysis of KMG-Bernuth's product gives comparable results.)

**TCDF Content.** The F032 BDAT Background Document reports that the concentration of TCDF in technical grade pentachlorophenol ranges from 0.01 ppm to 10 ppm. Id., Table 3-2 at 3-49. Vulcan's analysis of its penta product produced during the period January 1989 through August 1994 shows the absence of TCDF at the detection limit of 0.001 ppm. See Table at Tab 3. (Analysis of KMG-Bernuth's product gives comparable results.)

<sup>8</sup> The data discussed above was collected in connection with comments prepared on EPA's draft dioxin reassessment document in the fall of 1994. The comments covered the period January



1989 through August 1994 and these data are attached as exhibit to these comments. The composition of penta produced since August of 1994 are consistent with these data.

**PeCDD/PeCDF Content.** The F032 BDAT Background Document reports that the concentrations of PeCDD in pentachlorophenol range from < 0.03 ppm to 100 ppm, and the concentrations of PeCDF range from 0.03 ppm to 40 ppm. Analysis of penta produced during the period January 1989 through August 1994 has not indicated the presence of either PeCDD or PeCDF at approximately the 0.005 ppm detection limits. See Tables at Tab 4. (Analysis of KMG-Bernuth's product gives comparable results.)

**HxCDD Content.** The F032 BDAT Background Document reports that the concentration of HxCDD in pentachlorophenol ranges from < 0.03 ppm to 1,000 ppm. As discussed above, and as shown in the attached tables (Tab 5), the HxCDD content of each batch of Vulcan-produced penta is consistently below 4.0 ppm with the average monthly HxCDD levels between 1.5 ppm and 1.8 ppm. (Analysis of KMG-Bernuth's product gives comparable results.)

**HxCDF Content.** The F032 BDAT Background Document reports that the concentration of HxCDF in pentachlorophenol ranges from < 0.03 ppm to 90 ppm. Id.

The analysis of Vulcan-produced penta for the period January 1989 through August 1994 is set forth in the attached table (Tab 6).

That analysis shows that the concentration of HxCDF in Vulcan-produced penta ranges from "Not Detected" (approximately 0.1 ppm detection limit) to 13.4 ppm with the average HxCDF content of product produced during the period at 1.7 ppm. (Analysis of KMG-Bernuth's product gives comparable results.)

In sum, because the concentrations of dioxin and furan congeners in pentachlorophenol formulation used at wood preserving sites has sharply decreased over the years, the concentrations of these constituents in the waste streams also would be expected to have declined.

Perhaps of even greater importance, the dioxin concentration in the F032 wastes is expected to be only a fraction of that found in the commercial product. Typical penta wood treatment solutions contain roughly 5-7% penta by weight, or 50,000-70,000 ppm. With respect to HxCDD, for example, commercial penta contains an average HxCDD content of 2 ppm, or 0.0002%. As such, the HxCDD content of a typical penta wood treatment solution is roughly 100 to 140 ppb.

Because process residuals generally may contain only about one-tenth of the pentachlorophenol levels in the treating solutions, it is highly likely that the HxCDD content in F032

process wastes would be no more than 10 to 14 ppb. and not the 2,000 ppb estimated by EPA.

Moreover, operating practices within the wood preserving industry have changed since the data supporting the F032 listing rule were collected. In the past, most of the facilities used high temperatures in the treating process. These temperatures could have led to the formation of dioxins and furans from chlorophenols and other dioxin and furan precursors in the treating solutions and may have accounted for the elevated dioxin/furan levels in the EPA data. By contrast, many wood preserving facilities now operate their processes at ambient temperatures. (For those facilities that currently operate at higher than ambient temperatures, the facilities control their process parameters to a far greater degree than in the past.) In addition, many of the wastes that were analyzed by EPA in the mid-1980s -- i.e. drip track samples and contaminated soils and sludges from tank farm areas and around process areas -- were reflective of operating practices that are no longer used at wood preserving sites.

In short, there is a firm basis for concluding that the dioxin concentrations in F032 wastes are significantly lower than that estimated by EPA. The Penta Task Force has recently commissioned a sampling and analysis of some two dozen process waste streams from six different wood preserving sites. The results of that analysis will be presented to the Agency shortly. We urge EPA to defer a decision on the proposal until it has had an opportunity to review these new data.

## RESPONSE

The commenter believes that the concentrations of dioxin and furan (D/F) constituents in F032 may not warrant regulation under the land disposal restrictions. The commenter points out that EPA's characterization data on untreated F032 describes the concentrations of D/F of past formulation practices and that current practices generate F032 wastes with far lower concentrations than those originally reported by EPA during the listing of F032 as a hazardous waste in 1988. The commenter also submitted data on the characterization of Pentachlorophenol (PCP) formulations as well as estimates of what concentrations D/F may reach in F032. In a separate report, the commenter submitted characterization data describing several waste streams that the commenter described as F032 wastes (see BDAT Background Document for this information.)

In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method for D/F

constituents in F032. EPA is also promulgating treatment limits for D/F as proposed.

EPA has promulgated, however, a revised "CMBST" compliance alternative which limits the availability of the "CMBST" to those combustion devices in compliance with applicable combustion standards in the 40 CFR 264 Subpart O, or 40 CFR 266. F032 wastes combusted in combustion devices operating under 40 CFR 264 or 266 do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities must meet UTS numerical limits applicable to each organic and metal constituent regulated in F032 as a prerequisite to land disposal.

The data submitted by the Penta Group consist of characterization data describing PCP commercial grades (see monthly averages of PCP commercial grade from vats in Tables 1 through 6 (attached to the original comment), a characterization study of several F032 waste streams at six wood preserving facilities, and a bench-scale combustion study on several F032 wastes. All these data are summarized in Appendix K of the Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997, and they are not repeated here.

After reviewing these data, EPA was persuaded by the commenters that the steps taken by the manufacturers for formulating the commercial grades of PCP do appear to have diminished the loadings of PCDD and PCDF in F032 wastes to levels far below the one characterized by EPA during the sampling data collected by EPA during the early 70's. EPA was not persuaded, however, by the submitted data that all the constituents proposed for regulation in F032 are present in concentrations below the 1 ppb proposed for the regulated PCDD and PCDF in F032 wastes. The characterization data from six plants suggest that Hx-CDD and Hx-CDF, Te-CDD, and Pe-CDF can be found at levels well above the 1 ppb. The commenter believes, however, that the reported values for Te-CDD and Pe-CDF (some samples) may have been false positives from the analytical instrument employed. Another peculiarity of the data is that all the sampled facilities but one did not characterize for each one of the proposed PCDD and PCDF constituents proposed for regulation in F032 filter press cake wastes. The one facility who tested for PDDD and PCDF did report up to 2 ppb for Te-CDD (according to the commenter - a false positive result), 190 ppb for Hx-CDD, and 560 ppb for Hx-CDF.

It has been EPA experience through out the land disposal program that hazardous constituents of concern that are within the same or up to one order of magnitude as the detection limit of an analytical test method are most sensible to masking by other constituents in percent levels unless appropriate corrective and clean up measures are followed to remove the constituents of analytical concerns from the other interfering constituents. EPA has provided guidance in today's BDAT Background Document on two EPA SW 846 Test Methods (namely, SW-846 Method 8280A (proposed in the Update III, July 1995) and Method 8290 (Update II to the Third Edition of SW -846, December 1994) that EPA believes will enable wood preserving facilities to overcome the potential interferences that the Penta Group may have encountered.

Other point made by the Penta Group is that another commercial manufacturer of PCP is believed to have similar trends for the concentrations of PCDD and PCDF in PCP oils and in F032 wastes to the one shown by the Penta Group's F032 characterization study. However, no characterization data on such other wastes were made available to EPA. Another point made by the Penta Group is that it is believed that past listing data showing high concentrations of all the PCDD and PCDF proposed for regulation may have been the result from past practices for treating wood products at high temperatures. The commenter felt such practices have been abandoned by the industry and that most wood treaters have switched to formulation processes that emphasize ambient temperatures. However, the commenter cannot assure with certainty whether this is standard practice at all wood treater facilities in the market.

Because of the uncertainties found with the Penta Group characterization data with regard to Te-CDD, Te-CDF and Pe-PCDD, EPA cannot support a determination that these constituents are not present in F032. Based on the available data from the listing of F032, EPA has decided to retain the list of constituents proposed for regulation and to promulgate treatment standards as proposed.

DCN PH4P039  
COMMENTS AWPI  
RESPONDER JL  
SUBJECT WOOD4  
SUBJNUM 039

COMMENT EPA's F032 TREATMENT STANDARDS DO NOT  
REFLECT CURRENT DATA. EPA's

treatment standard for F032 is based on data that do not reflect the current formulation of pentachlorophenol. The levels of dioxins and furans in commercial pentachlorophenol formulations have been reduced significantly since the mid-1980s. In 1986, EPA set limits on concentrations of impurities in pentachlorophenol and required that manufacturers submit reports on a monthly basis. The results of over five years of reporting for one manufacturer are enlightening: DATA ARE NOT REPRODUCED HERE

Clearly, the data on technical grade pentachlorophenol used by the EPA in support of the F032 listing are not representative of the current formulation of pentachlorophenol. With the decrease in the concentrations of dioxin and furan congeners in the preservative treating formulation, it is logical to expect a corresponding decrease in dioxin and furan constituents in the waste streams. Vulcan Chemicals, an AWPI member company and a manufacturer of pentachlorophenol for the treating industry, will be submitting analytical data from six different wood preserving sites in an effort to provide contemporary dioxin and furan data in F032 wastes. COMMENT: AWPI urges the Agency to defer its decision on this proposed rule until it has reviewed the new data.

#### RESPONSE

1. Does EPA's Proposed F032 Treatment Standard fail to reflect current data on the treatment of F032?

The commenter feels EPA has disregarded available data on the treatment of F032. Presumably the commenter is referring to the treatment of F032 contaminated soils since wood preserving wastes have been land disposed without treatment.

EPA has reviewed existing practices for the treatment of hazardous wastes believed as difficult to treat as F032. EPA has also examined available 1992 data on the treatment of soil contaminated with F032. Based on these information, EPA has determined that the treatment data supporting UTS represent the performance of treatment technologies that are Best Demonstrated and Available for wood preserving wastes. EPA does not believe that the 1992 data regarding the treatment of F032 soils support revision of the proposed UTS limits

since on most instances the technologies show inferior performance to the one achieved by UTS based technologies. Further, EPA does not have to set treatment standards that can be met by other or all available treatment technologies. (See Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035.) As a result, EPA is promulgating UTS limits for F032 as proposed.

2. EPA's characterization data on F032 do not reflect existing waste generation practices.

EPA has received new data on the characterization of F032 wastes and has incorporated in the Final BDAT Background Document for Wood Preserving wastes this new information. However, EPA has not been persuaded by these new data that the proposal for setting treatment standards for D/F in F032 should be withdrawn. This is because the D/F constituents proposed for regulation are still present in F032 at concentrations well above the UTS limits proposed for regulation. These constituents also resist environmental degradation mechanisms and thus, long-term threats to the human health and the environment will not necessarily be minimized if allowed to be disposed of untreated. EPA has thus concluded that these constituents are still of regulatory concern. As a result, EPA is promulgating the proposed UTS limits for D/F. EPA is also promulgating an alternative compliance treatment standard of CMBST for D/F.

The data submitted by the Penta Group consist of characterization data describing PCP commercial grades (see monthly averages of PCP commercial grade from vats in Tables 1 through 6 (attached to the original comment)), a characterization study of several F032 waste streams at six wood preserving facilities, and a bench-scale combustion study on several F032 wastes. All these data are summarized in Appendix K of the Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997, and they are not repeated here.

After reviewing these data, EPA was persuaded by the commenters that the steps taken by the manufacturers for formulating the commercial grades of PCP do appear to have diminished the loadings of PCDD and PCDF in F032 wastes to levels far below the one characterized by EPA during the sampling data collected by EPA during the early 70's. EPA was not persuaded, however, by the submitted data that all the constituents proposed for regulation in F032 are present in concentrations below the 1 ppb proposed for the regulated PCDD and PCDF in F032 wastes. The characterization data from six plants suggest that Hx-CDD and Hx-CDF, Te-CDD, and Pe-CDF can be found at levels well above the 1 ppb. The commenter believes, however, that the reported values for Te-CDD and Pe-CDF (some samples) may have been false positives from the analytical instrument employed. Another peculiarity of the data is that all the sampled facilities but one did not characterize for each one of the proposed PCDD and PCDF constituents proposed for regulation in F032 filter press cake wastes. The one facility who tested for PCDD and PCDF did report up to 2 ppb for Te-CDD (according to the commenter - a false positive result), 190 ppb for Hx-CDD, and 560 ppb for Hx-CDF.

It has been EPA experience through out the land disposal program that hazardous constituents of concern that are within the same or up to one order of magnitude as the detection limit of an analytical test method are most sensible to masking by other constituents in percent levels unless appropriate corrective and clean up measures are followed to remove the constituents of analytical concerns from the other interfering constituents. EPA has provided guidance in today's BDAT Background Document on two EPA SW 846 Test Methods (namely, SW-846 Method 8280A (proposed in the Update III, July 1995) and Method 8290 (Update II to the Third Edition of SW -846, December 1994) that EPA believes will enable wood preserving facilities to overcome the potential interferences that the Penta Group may have encountered.

Other point made by the Penta Group is that another commercial manufacturer of PCP is believed to have similar trends for the concentrations of PCDD and PCDF in PCP oils and in F032 wastes to the one shown by the Penta Group's F032 characterization study. However, no characterization data on such other wastes were made available to EPA. Another point made by the Penta Group is that it is believed that past listing data showing high concentrations of all the PCDD and PCDF proposed for regulation may have been the result from past practices for treating wood products at high temperatures. The commenter felt such practices have been abandoned by the industry and that most wood treaters have switched to formulation processes that emphasize ambient temperatures. However, the commenter cannot assure with certainty whether this is standard practice at all wood treater facilities in the market.

Because of the uncertainties found with the Penta Group characterization data with regard to Te-CDD, Te-CDF and Pe- PCDD, EPA cannot support a determination that these constituents are not present in F032. Based on the available data from the listing of F032, EPA has decided to retain the list of constituents proposed for regulation and to promulgate treatment standards as proposed.

DCN PH4P048  
COMMENTER Chemical Waste Management  
RESPONDER PSB  
SUBJECT WOOD4  
SUBJNUM 048  
COMMENT

The EPA is proposing to apply Universal Treatment Standards (UTS) to wood preserving wastes F032, F034, and F035.

CWM has several comments on the proposal as it presently exists.

The first comment is a clarification with regard to the specific BDAT standards that apply to F032, F034, and F035 waste streams.

Currently, there are differences in the preamble table (See 60 Fed.

Reg. at 43,682) and the BDAT standards reflected in proposed 268.40

(See 60 Fed. Reg. at 43,696). The Agency's October 25, 1995,

correction to this proposed rule(60 Fed. Reg. at 54,645) indicates

that the table contained in the preamble contains the correct list

of proposed regulated constituents, while the 268.40 table is

incorrect. CWM understands this to mean that F032 is the only waste

stream to have dioxins and furans proposed as BDAT, and that F035

has no organic constituents proposed as BDAT. The Agency needs to

ensure that this is accurately reflected in the final rule so as

to avoid the confusion caused by these errors in the proposal.

CWM's second comment on this proposal involves the Agency's

proposal to regulate dioxins and furans in F032. CWM is concerned

by the Agency's statement that "EPA has identified one commercial

facility currently permitted to combust wastes that may have PCDD

and PCDF constituents with concentrations one to two of magnitude

higher than those levels found in F032" (See 60 Fed. Reg. at

43,682). The statement indicates to CWM that the Agency is intent

on regulating F032 wastes as an acute dioxin waste. If this is the

case CWM believes that this contradicts the Agency's capacity

analysis which indicates that there is sufficient

incineration capacity for wood preserving waste streams. CWM

believes that F032 wastes should not be regulated as an acute

dioxin waste. If it is not regulated as an acute dioxin waste then

CWM agrees that there is existing incineration capacity available.

CWM requests that the Agency clarify this in the final rule.

Furthermore, it is not clear to CWM how the Agency's

Combustion Strategy will alleviate this problem as the Agency

states it will. The establishment of stricter dioxin and furan

requirements on combustion facilities will still not alleviate the

dioxin myth in the eyes of the public that has been perpetuated by

the Agency.



DCN PH4P048  
COMMENTS Chemical Waste Management  
RESPONDER PSB  
SUBJECT WOOD4  
SUBJNUM 048

#### RESPONSE

EPA identified several discrepancies in the list of and the limits of specific hazardous constituents proposed for regulation in several pages of the 60 FR (43680-43682 and 43694-43697). EPA later issued a Correction Notice to clarify what portions of the preamble were incorrect and what portions were correct (see 60 FR 546451, October 25, 1995). Also, several commenters and two technical journals pointed out to these discrepancies. EPA is promulgating pursuant to the Correction Notice unless otherwise noticed in this preamble and in the Final BDAT Background Document for these Newly Listed Wood Preserving Wastes (F032, F034, and F035).

Also, it appears that the commentor was concerned that since the BDAT model supporting numerical limits for D/F constituents was based on six 9's Destruction and Removal Efficiency (DRE) incinerators, facilities seeking compliance with the numerical limits in RCRA incinerators, cement kilns, or other industrial furnaces achieving a four 9's DRE were likely to fail the proposed UTS limits. It also appears that EPA's discussions in the preamble and the BDAT Background Document for F032, F034, and F035 that at least one facility was permitted to treat D/F containing wastes as difficult to treat as F032 led the commentor to believe that EPA was considering to limit the combustion of F032 to a six 9's DRE -RCRA combustion device. EPA is clarifying, therefore, that in today's rule EPA is not amending §§264.343 (a) (2) or 266.104 (a) (3).

It should be noted that although the BDAT combustion technologies supporting the development of UTS limits for D/F regulated in nonwastewater forms of F032 and F024 met a RCRA incineration performance of six 9's DRE performance, the modeled compliance treatment alternative of "CMBST" was based on the performance a four 9's DRE - RCRA 264 Subpart O, rotary kiln incinerator combusting F024. Data from the F024 incineration study shows that a well designed and well operated four 9's DRE incinerator can also meet the proposed limits of 1 ppb for nonwastewater forms of F024.

DCN PH4P062  
COMMENTS RETEC  
RESPONDER JL  
SUBJECT WOOD4  
SUBJNUM 062  
COMMENT

Treatment Standards for Wood Preserving Wastes

We do not support the proposed regulation of dioxin and furan constituents in F032. Use of other surrogate compounds such as pentachlorophenol or polycyclic aromatic hydrocarbons (PAH) constituents may be appropriate. Specifically, these compounds can be used as a surrogates for treatment of wastewater by carbon absorption. Water at two wood treating sites is treated through activated carbon and subsequently discharged under an National Pollutant Discharge Elimination System permit. The facilities conducted effluent monitoring for dioxins and furans (Table 1). Data from the sampling events show that effluent concentrations for pentachlorophenol, PAH constituents as well as dioxins and furans are well below the universal treatment standards (UTS). Hence, PCP or PAH constituents can be used as surrogate compounds to demonstrate dioxin and furan concentrations are below UTS levels. We request that EPA consider such an approach for F032.

RESPONSE

Retec asked EPA to withdraw its proposal for the regulation of D/F constituents in F032 wastewaters. The commenter believes that the regulation of PCP and Polycyclic Aromatic Hydrocarbons (PAHs) can ensure the reduction of D/F in F032 wastewaters. The commenter also submitted data with regard to concentrations of D/F, PCP, and PAHs analytes in two effluent F032 wastewaters treated by activated carbon adsorption. These data appear to support the commenter's statement that monitoring of PCP and PAHs may serve as a surrogate candidates for the reduction of D/F levels in these particular effluent wastewaters. However, EPA lacks data to determine if the alternative surrogate constituents proposed for regulation can also serve as surrogates for monitoring the treatment of D/F in wastewater treatment effluents resulting from other treatment technology trains that may achieve the proposed UTS. Furthermore, the choice of when to use surrogate pollutants is within EPA's expert discretion, and here, the Agency believes it best to analyze for CDD/CDF given the toxicity of these hazardous constituent. (In the case of nonwastewater being combusted, there is the competing consideration of assuring sufficient treatment capacity and the fact that CMBST is not ordinarily a matrix-dependent technology, that persuaded EPA to adopt a standard allowing compliance without monitoring for CDD's and CDF's.) Although EPA is not adopting this proposed

alternative treatment standard for D/F regulated in F032 wastewaters, EPA points out that treaters of F032 wastewaters can address this kind of alternative compliance monitoring scheme in their permits' Waste Analysis Plans (WAP).

EPA is thus promulgating UTS limits for D/F constituents as proposed.

DCN PH4P097  
COMMENTER Hazardous Waste Management  
RESPONDER JL  
SUBJECT WOOD4  
SUBJNUM 097  
COMMENT

Treatment Standards for Wood Preserving Wastes (60 FR 43680)  
EPA proposes to apply Universal Treatment Standards (UTS) to wood preserving wastes F032, F034, and F035. Currently, there are differences in the preamble table (60 FR 43682) and the BDAT standards reflected in proposed §268.40 (60 FR 43696). The Agency's October 25, 1995 correction to this proposed rule (60 FR 54645) indicates that the table in the preamble contains the correct list of proposed regulated constituents, while the §268.40 table is incorrect. Does this mean that F032 is the only waste stream to have dioxins and furans proposed as BDAT, and that F035 has no organic constituents proposed as BDAT? The Agency needs to ensure that this conclusion is accurately reflected in the final rule so as to avoid confusion.

#### RESPONSE

EPA identified several discrepancies in the list of and the limits of specific hazardous constituents proposed for regulation in several pages of the 60 FR (43680-43682 and 43694-43697). EPA later issued a Correction Notice to clarify what portions of the preamble were incorrect and what portions were correct (see 60 FR (54645), October 25, 1995). Also, several commenters and two technical journals pointed out to these discrepancies. EPA is promulgating pursuant to the Correction Notice unless otherwise noticed in this preamble and in the Final BDAT Background Document for these Newly Listed Wood Preserving Wastes (F032, F034, and F035).

DCN PH2A003

COMMENTER The Penta Task Force

RESPONDER JLABIOSA

SUBJECT WOOD4

SUBJNUM 003

COMMENT II. REVISION TO THE

F024 TREATMENT STANDARD By proposing to link the treatment standards for F032 waste with that for F024 waste, EPA has apparently concluded that both wastes should be subject to the same treatment standard. The Penta Task Force agrees, but believes that both wastes are appropriately regulated under a CMBST standard and thus no revision of the F024 treatment standard is necessary. Both wastes are classified as "toxic" under RCRA and neither falls within the acutely hazardous waste category. Moreover, we doubt that EPA would have proposed stringent dioxin/furan limits for F032 waste had the Agency had before it the current data on the dioxin/furan levels in commercial penta formulations and the resultant wood processing waste. We believe the Agency's prior experience with the stigma and resultant treatment capacity shortages that occurred in the case of the F024 rulemaking would have counseled against the selection of dioxin/furan limits in this rulemaking. As explained in our November 20, 1995 comments, the dioxin/furan content of F032 waste has declined substantially over the past decade. Penta Task Force November 20, 1995 Comments, at 21-26. Not only have the levels of dioxins/furans in commercial grade pentachlorophenol declined significantly, the levels in penta wood preserving wastes have also fallen. This is reflected in the data submitted by the Penta Task Force on waste samples collected from six (6) wood treating plants. See Chemical Analysis of F032 Wastes for Polychlorinated Dibenzo-p-dioxins, Polychlorinated Dibenzofurans, and Pentachlorophenols, (March 28, 1996). These data clearly demonstrate that EPA has significantly overestimated the levels of dioxins and furans in

F032 waste. Put in context, the data show that F032 and F024 are indeed similar because the levels of dioxins or furans in either case is not sufficiently high to warrant special treatment standards. In either case, a CMBST standard is fully protective of health and safety and is a fully appropriate treatment method.

RESPONSE

F032 and F024 are toxic wastes listed under the 40 CFR 261, Part D and the combustion of these wastes is currently allowed in combustion devices that meet a four 9's Destruction-Removal Efficiency performance. The Penta Task Force has asked EPA to adopt the same compliance treatment standard of combustion currently applicable to F024. Adoption of CMBST would waive the monitoring of D/F constituents in F032 residues resulting from well designed and well operated combustion devices. EPA codified such treatment compliance alternative as incineration or "INCIN" in the 40 CFR 264 Subpart O unit (see Third Third rule (see 55 FR 22580-1, June 1, 1990)). EPA later amended the standard to a CMBST standard in the Phase 3 rulemaking. EPA generally agrees with the comment, but is amending the treatment standard for F024 (so that it is the same as the comparable F032 wastes). The revised standard limits the CMBST compliance alternative to those units with Part 264 incineration permits or Part 266 BIF controls and combustion efficiency.

EPA also believes that facilities operating a Part 265 incinerator that can demonstrate to EPA that their combustion device operates in a manner that conforms to the combustion controls achieved by Part 264 incinerators or Part 265 BIFs may qualify for the CMBST treatment standard pursuant to a treatability variance under 268.42(b). (See Final Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997, and today's preamble discussion.)

DCN PH4P023

COMMENTS Beazer East, Inc.

RESPONDER JLABIOSA

SUBJECT WOOD4

COMMENT II. EPA HAS FAILED TO CONSIDER THE TECHNICAL, ECONOMICAL AND PRACTICAL IMPACTS OF THE PROPOSED LDRs ON REMEDIATION EPA's

Proposed Rule fails to consider a number of critical issues related to the remediation of wood treating sites. These issues involve LDRs for F032, F034 and F035 as discussed below. A. The Proposed LDRs for Hazardous Waste No. F032 Will Create Insurmountable Disposal Problems. 1. Dioxin/Furan should not be regulated constituents under the F032 LDR. Regulation of dioxin/furan as constituents under the F032 LDR is scientifically unwarranted. One of the first LDRs for dioxin/furan-containing wastes was established by EPA for F027. EPA established the F027 LDR at 1 ppb (in leachate) and is now arbitrarily applying the 1 ppb standard to F032. EPA's characterization of F027 as acutely hazardous was based on trace levels of hexachlorodioxins. See Toxicological Profile for Pentachlorophenol, May 1994, Agency for Toxic Substances and Disease Registry (ATSDR). EPA considers hexachlorodioxins as potent animal carcinogens. Id. This characterization of hexachlorodioxins is not technically founded and is even refuted by the results of a bioassay performed by the National Toxicity Program ("NTP") in 1989, the results of which were reported in NTP-TR-349 and in NIH Publication 89-2804 (the "NTP cancer bioassay"). As noted in a November 27, 1991 letter from Vulcan Chemicals to EPA (the "Vulcan Letter") (obtained from the RCRA docket), the NTP cancer bioassay on penta conclusively demonstrated that any cancer response observed in exposed laboratory animals was due to the toxic overexposure of the test animals to penta and not to the trace amounts of hexachlorodioxin present. See the Vulcan Letter, p.3. Moreover, the EPA's Science Advisory Board's ("SAB's") recent evaluation of EPA's draft dioxin risk reassessment documents has sharply criticized EPA's reliance on the standard default assumption of a linear non-threshold model for carcinogenic risk and has called for a substantial rewrite of the assessment. The SAB concluded that one major weakness of the assessment was that the presentation of scientific findings portrayed in the draft conclusions was not balanced and exhibited a tendency to overstate the evidence of danger. Accordingly, Beazer believes that EPA currently is without sufficient scientific bases for

regulating dioxin/furan as a constituent of F032.

RECOMMENDATION: Given that EPA has yet to scientifically demonstrate and support the risk from low level exposure to dioxin/furan, Beazer recommends that EPA exclude dioxin/furan from regulation as part of the F032 LDRs until agreement on the scientific underpinnings of this regulatory action is achieved.

#### RESPONSE

EPA agrees with the commenter that the proposed treatment standards can have a chilling effect on ongoing remedial activities under RCRA, offsite remedial activities under CERCLA, and new or modified onsite Record of Decisions under CERCLA. EPA agrees, further, that in many instances, the cost to comply with such treatment standards may be prohibitive. EPA emphasizes, however, that HSWA prohibits EPA from taking into account cost considerations when setting treatment standards that implement RCRA 3004(m) provisions. EPA points out, however, that although HWIR media and HWIR regulatory efforts are still on the horizon and such regulatory frameworks are more appropriate, generally, for remedial activities; EPA cannot adopt the commenter's proposed option that media contaminated with wood preserving wastes are exempted from the LDRs. EPA's promulgation of such suggested option will be illegal since F032, F034, and F035 are newly listed wastes and EPA is mandated by HSWA to ban all and newly listed RCRA hazardous wastes from land disposal practices. As a result, treatment standards are needed to implement such restrictions. (See HSWA Section 3004(m) and 3004 (g)(4); Chemical Waste Management v. EPA, 869 F. 2d, D.C. Cir. 1989).)

The commenter believes that EPA lacks a "scientific base(s)" for regulating the proposed list of PCDD and PCDF as regulated UTS constituents in F032 because of the ongoing debate on how toxic PCDD and PCDF are. The commenter pointed out to EPA's Science Advisory Board's (SAB) comments on EPA's draft dioxin risk reassessment documents to support their argument. The commenter also believes that PCDD and PCDF are better suited for risk based approaches and that the proposed (technology based) treatment standard for each regulated PCDD and PCDF should be adjusted to reflect risks to the human health and the environment.<sup>1</sup> The commenter points out, further, that EPA has already acknowledged that "dioxin/furan" are immobile and thus, presumably, treatment standards for these constituents may not be warranted.

The commenter is correct to point out that the Agency is currently re-evaluating the available "scientific literature" in an effort to address the SAB comments on EPA's draft dioxin reassessment documents. However, all the concerns expressed by the SAB and others have been related to the precise degree of toxicity of dioxins. In fact, concerns have been raised that the Agency has underestimated the toxicity of dioxin with respect to effects other than

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<sup>1</sup> See, generally, 50 FR at 47986-7 (September 19, 1994) for EPA responses regarding Risk vs. Technology based treatment limits. This issue is not being reopened in today's rulemaking.



cancer. There has been no serious argument that dioxins are not all toxic and should therefore not be regulated. Moreover, the issue of what "scientific bases" justifies EPA to identify and to treat PCDD and PCDF in F032 as toxic hazardous constituents of concern in F032 was determined in the final rule listing F032 as a hazardous waste under Subtitle C of RCRA. (See 55 FR 50465-67, December 6, 1990.) EPA is not reopening this EPA determination for public review under this rule. [emphasis added]

In the final rule listing F032 as a hazardous waste, EPA classified all the congeners of PCDD and PCDF constituents regulated today in F032 as toxic constituents that warranted the imposition of regulatory controls under Subtitle C of RCRA. PCDD and PCDF constituents are also listed in Appendix VIII of the 40 CFR Part 261 and in the UTS/BDAT lists of hazardous constituents. As a result, EPA believes that the regulation of PCDD and PCDF is legal. However, the commenter specific comment, suggesting that EPA rescinds its final determination that finds PCDD and PCDF as hazardous constituents warranting controls under the 40 CFR Part 261-268, can be addressed by the EPA if the commenter submits data to EPA that may warrant changes to the 40 CFR 261 through 268, pursuant to the rulemaking petition procedures established in the 40 CFR Part 260.20.

The commenter is also correct observing that EPA has stated in the Solvent and Dioxin rule that PCDD and PCDF are immobile (i.e. generally within the context of being insoluble in water). (51 FR 1602 (January 14, 1996)). The commenter is also correct to point out that based on toxicity equivalents (TEQs) --the toxicity of several isomers and congeners of PCDD and PCDF in F032 may be less than the one associated with 2,3,7,8- TCDD. However, the commenter cannot have it both ways. First, the commenter expressed strong reservations on EPA's scientific approaches to dioxin risk assessment and stated that it is questionable whether EPA should be regulating or not dioxins and furans as toxic constituents presumably under RCRA. Second, the commenter believes that the same scientific rationale to estimate the potential toxicity potency of different congeners and isomers is also used to adjust upward the technology based treatment standards promulgated today for PCDD and PCDF constituents. Likewise, EPA was not persuaded by the same suggestion of other commenters urging EPA to set treatment standards for PCDD/PCDF that are adjusted upward with TEQs. [emphasis added].

There is still a heated debate on the precise toxicity that may arise from individual or admixtures of PCDD and PCDF congeners and isomers. No one has suggested or convinced EPA that the regulated PCDD and PCDF constituents are not toxic. EPA is also under a Congressional mandate to set treatment standards that substantially reduce the short- and long-term toxicity or mobility of hazardous constituents prior to disposal. Although EPA believes that technology, risk, or health based treatment standards can satisfy, generally, the provisions of 3004 (m), EPA does not routinely adjust treatment standards promulgated under the 40 CFR Part 268 to correct or adjust with health or risk based quantifiers or factors any of the treatment

standards promulgated for each UTS/BDAT constituent regulated by EPA.<sup>2</sup> For example, like PCDD/PCDF, PNA's are other toxic hazardous constituents found in F032 that are also relatively insoluble in water and thus, presumably less likely to migrate from a Subtitle C hazardous landfill. And EPA have selected specific constituents within the PNA's for regulation without relying on toxicity ranking factors for arriving to such list of regulated constituents. (See Final BDAT Background Document for Wood Preserving Wastes). However, under the land disposal restrictions, treatment levels are based on technologies that substantially reduce the loadings or concentrations of such constituents prior to disposal. Further, no one is suggesting that EPA is setting, today, treatment standards that force the treatment of PCDD and PCDF below levels where the concentrations of these constituents cease to be hazardous. To the contrary, EPA believes that the treatment standards promulgated today are within a range of treatment levels that will reduce, generally, short- and long-term threats to the human health and the environment. EPA is thus promulgating as proposed.

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<sup>2</sup> Nor is EPA precluded from doing so, if EPA determines that a treatment standard promulgated today is inappropriate for a contaminated media pursuant to a treatability variance granted under the 40 CFR Part 268.44 (h).

DCN PH2A003

COMMENTS The Penta Task Force

RESPONDER JLABIOSA

SUBJECT WOODS

SUBJNUM 003

COMMENT C. Option 2 -- CMBST With a 0.20 ng/DSCM MACT

Limit. The Penta Task Force believes that Option 2-- CMBST with a 0.20 ng/DSCM TEQ MACT limit for dioxin/furan emissions -- is an impracticable treatment option. To the extent EPA has proposed Option 2 because of concerns that dioxins/furans can be reformed in the post-combustion zone as products of incomplete combustion ("PICs"), it is important to recognize that the problem of PIC formation is not limited to F032 (or even F024 waste) but rather is endemic to the combustion of all chlorinated organic waste. Combustion of F032 (or even F024) waste would contribute only marginally to the total volume of dioxins/furans emitted by all combustion sources. There thus would be little, if any, environmental benefit achieved by requiring combustion facilities to meet the proposed dioxin/furan emission limits as a prerequisite for treating F032 (or even F024) waste but not other chlorinated waste. The volumes of F032 (or even F024) waste, although sizeable, are unlikely to provide sufficient market incentives for combustion facility operators to agree to meet the proposed MACT standard in advance of their promulgation. Indeed, our discussions with various combustion facility operators indicate that they are unlikely to accept F032 waste under the terms offered by Option 2. The problem is not so much that many combustion units do not currently meet the limits; EPA's own analysis suggests that 50 percent of facilities for which the Agency has data currently meet the 20 ng/DSCM TEQ standard. 61 Fed. Reg. 17,358, 17,382 (Apr. 19, 1996). Rather the combustion facilities are unlikely to be willing to perform the analyses, maintain the records, and satisfy the other administrative requirements that would be necessary to certify compliance with the proposed MACT standard. Moreover, these facilities would not be expected to be willing to commit resources now to comply with a proposed standard that may change upon final promulgation. And given the cost of meeting the MACT standard for the remaining 50 percentile of facilities, which EPA has estimated at \$26.2 million (61 Fed. Reg. 17,382), there is no reasonable likelihood that these facilities will modify their operations now simply in order to be able to treat F032 (and perhaps F024) waste. In short, Option

2 does not address the principle problem with the proposed dioxin/furan treatment standard -- the lack of available treatment capacity for such waste and the exorbitant cost of treatment in those limited circumstances where the capacity does exist. Requiring advance compliance with the proposed MACT standard is unnecessary. For F032 waste, EPA has indicated that it will retain Universal Treatment Standard ("UTS") levels for all of the regulated non-dioxin/furan constituents as part of the overall treatment standard under either of the three options. 61 Fed. Reg. 21,420. These non-dioxin/furan concentration limits will provide sufficient assurance that combustion devices that treat F032 waste are well-operated and that the waste is appropriately treated. Moreover, the real difference between a CMBST standard, as provided by Option 1, and a CMBST plus a proposed MACT standard, as provided under Option 2, is essentially one of timing. The EPA rulemaking on the MACT standard has already reached the proposal stage and the public comment period is scheduled to close in August, 1996. See 61 Fed. Reg. 27,038 (May 30, 1996). The additional period of time needed to allow the MACT rulemaking to reach the final promulgation stage will be only a fraction of the six years that have lapsed since the Agency's listing of F032 waste as hazardous. There is thus no basis for believing that the public would be at risk if EPA were to permit F032 waste to be treated in CMBST units now and allow those units to meet a MACT standard in the normal course of that standard's promulgation. To the extent, however, that EPA is inclined to select Option 3 -- CMBST in a RCRA-permitted facility -- rather than a CMBST standard, we urge that EPA provide for treatment in combustion units that are either RCRA permitted or meet the MACT limit as ultimately promulgated. Once the MACT standard becomes final there would be no conceivable justification of depriving non-permitted combustion facilities of the opportunity of treating F032 waste, and providing that opportunity now as part of this rulemaking will obviate the need to modify the F032 standard once the final MACT is promulgated.

#### RESPONSE

After reviewing public comments, EPA concurs with the commenter that promulgation of regulatory performance requirements for combustion technologies treating D/F constituents in F032 and F024 will ultimately be addressed in the MACT rule and that finalizing the MACT standards at this time may impose an undue burden on the industry. EPA intends to

finalize the proposed MACT standards in April 1998. EPA believes further that until MACT standards are promulgated, existing standards will generally assure that the treatment of these wastes is conducted in well designed and well operated combustion devices.

DCN PH2A009

COMMENTER Dow Chemical

RESPONDER JLABIOSA

SUBJECT WOODS

SUBJNUM 009

COMMENT Dow encourages EPA to consider continued improvement and refinement of the RCRA LDR program and also agrees with EPA's assessment that combustion technologies generally can treat a broad range of wastes and residues. Dow is further supportive of adopting technology standards where this makes sense, thus avoiding unneeded sampling and analytical work. However, Dow is extremely concerned with EPA's suggestion of imposing restrictions under LDR (Suboptions 2 and 3, 61 FR 21421) that deal with issues other than land disposal and which are currently regulated by other provisions of RCRA and/or equivalent authorized state programs. Dow strongly believes this is unprecedented within the LDR program and beyond its scope. Imposing air emissions limits or constraints based on permit status under LDR would establish tremendous new precedence for the remainder of the LDR standards which are based on some form of combustion. Ultimately by proposing Suboptions 2 or 3, EPA raises the question regarding the safety and effectiveness of treatment systems which are regulated under EPA's own programs and form the basis for much of its LDR program.

## RESPONSE

The commenter is unclear about EPA's authority for setting additional regulatory controls that could establish how a treatment method technology standard ought to be implemented. Also, EPA is unclear on the comments emphasizing that EPA is setting a precedent with this rulemaking. The commenter is particularly concerned with EPA's proposal that the same regulatory controls proposed for F032 are also promulgated for F024.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment. Such standards cannot allow cross-media transfer of hazardous constituents in excessive levels. *Chemical Waste Management v. EPA*, 976 F. 2d 2, 17 (D.C. Cir. 1992). EPA believes that the regulatory standards for combustion units satisfy this test (although the Agency is in the process of reevaluating those standards and amending them to reflect performance of MACT).

After reviewing public comments, EPA concurs with the commenter that promulgation of regulatory performance requirements for combustion technologies treating D/F constituents in F032 and F024 will ultimately be addressed in the MACT rule and that finalizing the MACT standards at this time may impose an undue burden on the industry. EPA intends to finalize the proposed MACT standards in April 1998. EPA believes further that until MACT standards are promulgated, existing standards will generally assure that the treatment of these wastes is conducted in well designed and well operated combustion devices.

Other commenters to the NODA presented persuasive comments that the combustion "CMBST" compliance treatment alternative is also available for F032 and F024 combusted in combustion units operating under interim standards of 40 CFR 266. EPA is persuaded that such units often meet more stringent standards than those imposed on 40 CFR 264 incinerators. EPA has also determined that ad hoc technological controls can be imposed, if needed, to ensure that the combustion of F032 and F024 in 40 CFR 266 units are conducted in a well designed and well operated combustion device. As a result, EPA has revised suboption 3 to expand the availability of the proposed combustion "CMBST" treatment compliance alternative to include those units regulated under either 40 CFR 266 or 264.

DCN PH2A009

COMMENTS DOW Chemical

RESPONDER JLABIOSA

SUBJECT WOODS

SUBJNUM 009

COMMENT EPA does not address the apparent lack of any tetra-PCDF data related to F032. Additionally, the detection level is unreported for the F032 penta-PCDD, so the public has no meaningful information regarding the relative maximum concentrations of these two classes of compounds. Every class of compounds for which meaningful data was provided shows that the F032 contains higher concentrations of the compounds of concern. EPA's presentation of data seems slanted towards the conclusion to treat these wastes in an identical manner. However, the listings themselves and the data seem to support the conclusion that these are two very different waste streams that should be evaluated on an individual basis. Regardless of what is done with F032's LDR standards, EPA should not revisit its recent promulgation of F024 LDR standards. EPA's proposal to require combustion units burning certain LDR wastes to also meet specified stack emissions limits or permit constraints goes beyond the scope of LDR and is duplicative to other programs already well developed in RCRA. Both Suboptions two and three (61 FR 21421) propose conditions on treating either F032 and/or F024 that seek to address issues having nothing to do with the goals of LDR as described in the plain construction of the text of Section 3004(d), (e), (g) or (k) of RCRA and 40 CFR 268.1. Dow is unaware of this approach being used for any other BDAT determination in the LDR program and should EPA continue to pursue this approach, it calls into question all of its previous decision-making under LDR regarding BDAT determinations. Plainly, the goal of LDR is to address issues having to deal with the land disposal of RCRA wastes. Neither the ability of a unit to meet a certain stack emissions limit, nor that unit's permit status have anything to do with the unit's ability to meet LDR standards. ANY treatment unit managing RCRA wastes for which LDR standards have been issued, must assure that its residues meet applicable standards. EPA must maintain the focus of LDR on land disposal and avoid duplicating requirements under other provisions of RCRA or equivalent programs in authorized states and/or federal and state air programs. The emissions controls program for the hazardous waste combustion industry is



a mature program which has been operating in many states and regions for as many as 15 years. Almost all commercial and

captive operations in the U.S. have either been permitted under RCRA or an equivalent state authorized program or are operating under the self-implementing BIF regulations. These programs require important waste handling provisions, combustion unit operations controls and emissions limits. In addition, some units today already have dioxin emission limits and with the upcoming MACT regulations for all forms of hazardous waste burning devices, EPA's efforts to further improve the performance of this industry will be accomplished. Therefore, EPA does not need to establish a brand new component of the LDR program as suggested in Suboptions 2 and 3.

## RESPONSE

The commenter expresses concern over EPA's proposal to apply the same regulatory controls on the combustion of F032 to F024 wastes. Specifically, the commenter objects to EPA's proposal that F024 and F032 are subject to the same combustion requirements.

The commenter believes that EPA should not reopen the existing CMBST standard applicable to F024. This is because the commenter believes that F024 is significantly different than F032. EPA acknowledges that these wastes differ on the concentration levels of specific hazardous homologues of D/F constituents and the type of D/F precursors both waste have. Nevertheless, both wastes are toxic wastes listed as hazardous wastes under the 40 CFR 261 and the combustion of these wastes is currently allowed in combustion devices that meet a four 9's Destruction Removal Efficiency performance. The Penta Task Force has asked EPA to adopt the same compliance treatment standard of combustion currently applicable to F024. Adoption of the CMBST would waive the monitoring of D/F constituents in F032 residues resulting from well designed and well operated combustion devices. EPA codified such treatment compliance alternative as incineration or "INCIN" in the 40 CFR 264 Subpart O unit (see Third Third rule (see 55 FR 22580-1, June 1, 1990)). EPA later amended the standard to a CMBST standard in the Phase 3 rulemaking.

EPA believes that the suggestion has merit, provided combustion occurs in devices that can assure destruction of these hazardous constituents. Units subject to standards establishing CO/HC standards, or specific controls for D/F, satisfy these criteria. As explained in the preamble, these are Part 264 incinerators and Part 266 BIFs, plus interim status incinerators that have demonstrated good combustion efficiency. [See, also, Final BDAT Background Document Wood Preserving Wastes for F032, F034, and F035 (April 15, 1997).] EPA is adding this standard in the final rule, and also amending the standard for F024 to conform to a CMBST standard that requires operation under Part 264 incinerators or Part 266 BIFs.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment. In today's rule, EPA allows F032 to comply with either a numerical limit or with the use of a combustion device operated in accordance with Part 264, incinerators, or Part 266, Boilers and Industrial Furnaces (BIFs). EPA believes that by limiting the promulgated method of treatment, i.e., availability of the combustion ("CMBST") standard, to a Part 264 incinerator or 266 BIF, EPA can ensure that the combustion of D/F in F032 is conducted in a manner that is protective to the human health and the environment. EPA has promulgated similar kinds of technology standards for hazardous wastes regulated under Part 268.43 and hazardous debris under Part 268.45. These specific treatment standards under Parts 268.42 and 268.45 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective to the human health and the environment, and in particular do not result in the type of impermissible cross-media transfer of hazardous constituents referred to by the Chemical Waste Management court.

After reviewing public comments, EPA concurs with the commenter that promulgation of regulatory performance requirements for combustion technologies treating D/F constituents in F032 and F024 will ultimately be addressed in the MACT rule and that finalizing the MACT standards at this time may impose an undue burden on the industry. EPA intends to finalize the proposed MACT standards in April 1998. EPA believes further that until MACT standards are promulgated, existing standards will generally assure that the treatment of these wastes is conducted in well designed and well operated combustion devices.

Other commenters to the NODA presented persuasive comments that the combustion "CMBST" compliance treatment alternative is also available for F032 and F024 combusted in combustion units operating under interim standards of 40 CFR 266. EPA is persuaded that such units often meet more stringent standards than those imposed on 40 CFR 264, incinerators. EPA has also determined that combustion controls can be imposed, if needed, to ensure that the combustion of F032 and F024 in 40 CFR 266 units are conducted in a well designed and well operated combustion device. As a result, EPA has revised suboption 3 to expand the availability of the proposed combustion "CMBST" treatment compliance alternative to include those units regulated under either 40 CFR 266 or 264.

DCN PH2A009

COMMENTS DOW Chemical

RESPONDER JLABIOSA

SUBJECT WOODS

SUBJNUM 009

COMMENT EPA's assumption that dioxin emissions and levels in combustion wastes will increase unless additional requirements are imposed (such as Suboptions 2 and 3) is flawed. EPA is concerned that by retaining the CMBST standard for F024 wastes there will be a sudden increase in D/F emissions and increased concentrations adsorbed onto combustion wastes. This assumption is flawed. F024 wastes have been incinerated in combustion units for many years. F032 must also be incinerated since the Penta Task Force is requesting CMBST as an alternative treatment method. (If this is not the case, then EPA should review F032 wastes separately from F024 with respect to Suboption #2.) Dow does not agree that a simple CMBST standard could lead to increased air emissions of D/F when these wastes have been incinerated all along. If a facility decides to increase flow to these units or build a new combustion unit, as always, appropriate permits or modifications will have to be acquired. Dow is concerned that the database used for evaluating compliance with the D/F emission standard is not representative of all combustion units. Issue # 3 - EPA refers to a number of background documents for the claim that at least 50% of the facilities tested for the proposed combustion rule meet this MACT limit. This statement is very questionable considering the database upon which this assumption is based. This database will be commented on during the comment period for the proposed MACT combustion standard. Dow doubts that there is adequate representation of captive incinerators in this database since D/F data is not required to be generated. It is also very doubtful whether 50% of combustion units would meet the D/F limits set by the MACT standard without first installing control equipment. EPA must not revise F024's CMBST alternative standard to limit the combustion of F024 to combustion devices that have been permitted. Dow disagrees with EPA that combustion of F024 wastes should be limited to combustion units that have been issued a RCRA permit. Many commercial and non-commercial BIF in Texas and Louisiana are currently operating under interim status. The EPA Region 6 Combustion Strategy states that 55 commercial and non-commercial BIFs are currently operating under RCRA interim status, in fact no BIF unit in Region 6 has a RCRA permit at

this time. Some of these BIF units may manage F024 waste. If EPA were to require F024 wastes to be burned in permitted units, facilities may be forced to send this material to a limited number of permitted commercial incinerators (in some cases out-of-state). Incineration at a commercial unit would be very costly and wasteful of existing incineration capacity, and it is doubtful whether there would be enough capacity at the commercial facilities to handle this additional amount of material. Although many BIF units operate under interim status, these units are more stringently regulated than permitted RCRA incinerators. BIF facilities are required to meet very stringent emission limits and are required to conduct compliance burns every three years. In addition, monitoring and recordkeeping is more extensive than that required for permitted units. In addition to the interim status requirements, BIF units are required to have Clean Air Act permits which must take into account impacts on the surrounding community. Many hazardous waste incinerators have RCRA permits, however, very few have undergone the omnibus risk review that EPA is using as the rationale for limiting F024 wastes to permitted units. Given this fact, EPA's rationale for requiring F024 wastes to be incinerated at permitted units is seriously undermined. Realistically, permitted units that have not undergone the omnibus site-specific evaluation or risk assessment are no different than an interim status unit in evaluating of the necessity for more stringent permit conditions in order to protect human health and the environment. Dow believes that the current RCRA interim status BIF regulations and emission requirements are sufficient at this time to eliminate the need to require additional limitations to combustion of F024 wastes. In summary, EPA should neither change the F024 standard nor impose an interim D/F emission standard.

## RESPONSE

EPA agrees with the commenter that all BIFs should be eligible for the alternative treatment standard, and further agrees that imposition of proposed MACT requirements for D/F is premature. However, EPA disagrees that interim status incinerators should automatically be eligible for the CMBST compliance alternative. These units are not subject to standards that assure good combustion efficiency, and it is EPA's view that eligibility for this alternative should be limited to combustion units at least capable of demonstrating such efficiency. Thus, the issue is not whether combustion units have gone through a site-specific risk assessment for D/F, but whether, if combustion facilities are not going to monitor ash to

document compliance, whether they are at least able to demonstrate operation with good combustion efficiency, either through compliance with regulatory standards like CO/HC, or through a specific demonstration.

The commenter expresses concern over EPA's proposal to apply the same regulatory controls on the combustion of F032 to F024 wastes. Specifically, the commenter objects to EPA's proposal that F024 and F032 are subject to the same combustion requirements.

The commenter believes that EPA should not reopen the existing CMBST standard applicable to F024. This is because the commenter believes that F024 is significantly different to F032. EPA acknowledges that these wastes differ on the concentration levels of specific hazardous homologues of D/F constituents and the type of D/F precursors both waste have. Nevertheless, both wastes are toxic wastes listed under the 40 CFR 261 Part D and the combustion of these wastes is currently allowed in combustion devices that meet a four 9's Destruction Removal Efficiency performance. The Penta Task Force has asked EPA to adopt the same compliance treatment standard of combustion currently applicable to F024. Adoption of the CMBST would waive the monitoring of D/F constituents in F032 residues resulting from well designed and well operated combustion devices. EPA codified such treatment compliance alternative as incineration or "INCIN" in the 40 CFR 264 Subpart O unit (see Third Third rule (see 55 FR 22580-1, June 1, 1990)). EPA later amended the standard to a CMBST standard in the Phase 3 rulemaking.

EPA believes that the suggestion has merit, provided combustion occurs in devices that can assure destruction of these hazardous constituents. Units subject to standards establishing CO/HC standards, or specific controls for D/F, satisfy these criteria. As explained in the preamble, these are Part 264 incinerators and Part 266 BIFs, plus interim status incinerators that have demonstrated good combustion efficiency. [See, also, Final BDAT Background Document Wood Preserving Wastes for F032, F034, and F035 (April 15, 1997).] EPA is adding this standard in the final rule, and also amending the standard for F024 to conform to a CMBST standard that requires operation under Part 264 incinerators or Part 266 BIFs.

In today's rule, EPA allows F032 to comply with either a numerical limit or with the use of a combustion device operated in accordance with Part 264, incinerators, or Part 266, Boilers and Industrial Furnaces (BIFs). EPA believes that by limiting the promulgated method of treatment, i.e., availability of the combustion ("CMBST") standard, to a Part 264 incinerator or 266 BIF, EPA can ensure that the combustion of D/F in F032 is conducted in a manner that is protective to the human health and the environment.

EPA has promulgated similar kinds of technology standards for hazardous wastes regulated under Part 268.43 and hazardous debris under Part 268.45. These specific treatment standards under Parts 268.42 and 268.45 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are

protective to the human health and the environment, and in particular do not result in the type of impermissible cross-media transfer of hazardous constituents referred to by the Chemical Waste Management court.

After reviewing public comments, EPA concurs with the commenter that promulgation of regulatory performance requirements for combustion technologies treating D/F constituents in F032 and F024 will ultimately be addressed in the MACT rule and that finalizing the MACT standards at this time may be premature. EPA intends to finalize the proposed MACT standards in April 1998. EPA believes further that until MACT standards are promulgated, the promulgated CMBST treatment standard can assure that the treatment of these wastes is conducted in well designed and well operated combustion devices. In the interim, EPA is relying on Omnibus permit writer authorities to address potential concerns with regard to the implementation of this promulgated combustion compliance treatment alternative. EPA has withdrawn, therefore, the proposed suboption 2.

Contrary to the commenter's belief that a simple "CMBST" alternative treatment standard (i.e. this is adoption of suboption 1) is protective of the human health and the environment, EPA believes that some controls shall be imposed on the combustion of F032 and F024 if the facility wishes to avoid monitoring ash for compliance with D/F treatment standards. This is because these two waste in addition to containing some levels of D/F constituents in the untreated wastes, they contain precursors to the formation of D/F constituents (e.g. chlorinated organics). D/F can be formed as products of incomplete combustion, in the post-reaction flame zone of combustion devices, and under some predetermined air pollution control devices operating conditions (e.g. off gas reaction temperatures ranging from 400° F to 750° F or when keeping the inlet temperature of gases to fiber filters, electrostatic precipitators, or scrubbers below 400° F in order to prevent D/F formation). Unlike the commenter, EPA believes that these kind of treatment performance uncertainties shall be minimized for combustion devices seeking compliance with the proposed treatment standard alternative of "CMBST" for these wastes. (EPA also notes that F024 and now F032 are the only treatment standards where the Agency is essentially allowing compliance with a numerical standard without a monitoring requirement, and so does not accept the implication of the comment (possibly unintended) that limitations on unit eligibility being promulgated in this treatment standard are inconsistent with other standards adopted by EPA.) EPA believes, further, that such uncertainties can be minimized by requiring combustion units seeking compliance with the combustion alternative to adopt good combustion practices, temperature controls, risk analyses, or other applicable operating conditions. EPA believes that current RCRA Omnibus permit authorities under the 40 CFR 264 Subpart O and the regulatory standards in 40 CFR 266 can be used to address these concerns and thus, to minimize such uncertainties. EPA believes, however, that such Omnibus permit authorities are some how limited to ensure that the combustion of F032 in combustion devices operated under the provisions of the 40 CFR 265 are conducted routinely in well designed and operated treatment units. EPA has withdrawn, therefore, the proposed suboption 1 and abolished the existing "CMBST" for F024.

Other commenters to the NODA presented persuasive comments regarding the merits for allowing the availability of the F032 and F024 combustion treatment alternative to those units operating under 40 CFR 266. EPA is persuaded that such units often meet more stringent standards than those imposed on 40 CFR 264, incinerators. EPA has also determined that combustion controls can be imposed, if needed, to ensure that the combustion of F032 and F024 in 40 CFR 266 units are conducted in a well designed and well operated combustion device. As a result, EPA has revised suboption 3 to expand the availability of the proposed combustion "CMBST" treatment compliance alternative to include those units regulated under either 40 CFR 266 or 264. EPA is thus promulgating this revised suboption 3 - "CMBST" standard for F024 and F032.

DCN PH2A010  
COMMENTS EDF  
RESPONDER JLABIOSA  
SUBJECT WOODS  
SUBJNUM 010

COMMENT The remaining discussion in this portion of the comments addresses the alternative three options assuming arguendo the numeric dioxin limits are not finalized. Under the first option, the F024 "combustion" standard would apply to F032 as well. This option does not ensure protection of human health and the environment since EPA's data indicate many combustion devices are not designed and/or operated to minimize dioxin emissions at the present time. New combustion standards intended to correct this problem are not scheduled to become effective for four or five years. Under option 2, EPA would require the combustion device receiving F032 and F024 to meet the recently proposed dioxin emission standards of 0.20 ng/DSCF, and demonstrate compliance every 18 months. Under option 3, the facility must be permitted so that EPA could employ the RCRA Section 3005(c)(3) omnibus authority and consider additional emission limits necessary to protect human health and the environment. EDF urges the selection of both options 2 and 3. Both options are needed to ensure the dioxin emission limits are met, since compliance demonstrations during interim status are self-implementing. In addition, the omnibus authority remains an important vehicle for controlling PICs at a combustion facility, an essential consideration for chlorinated wastes. Finally, option 3 will provide an important incentive for combustion devices to obtain RCRA permits. The continued operation of combustion facilities in interim status is one of the longstanding embarrassments of the RCRA program.

#### RESPONSE

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. In today's rule, EPA allows F032 to comply with either a numerical limit or with the use of a combustion device operated in accordance with Part 264, incinerators, or Part 266, Boilers and Industrial Furnaces (BIFs). EPA believes that by limiting the promulgated method of treatment, i.e., availability of the combustion ("CMBST") standard, to a Part 264 incinerator or 266 BIF, EPA can ensure that the combustion of D/F in F032 is conducted in a manner that is protective to the human health and the environment.

EPA has promulgated similar kinds of technology standards for hazardous



wastes regulated under Part 268.43 and hazardous debris under Part 268.45. These specific treatment standards under Parts 268.42 and 268.45 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective to the human health and the environment, and in particular do not result in the type of impermissible cross-media transfer of hazardous constituents referred to by the Chemical Waste Management court.

EPA believes that the combination of meeting numerical standards for all other constituents plus controls on good combustion (either through Part 264 incinerators or actually in the Part 266 standards) are adequate to assure destruction of D/F sufficient to meet the numerical treatment requirements under 3004(m). These standards are also sufficient to assure that the types of impermissible cross-media transfers referred to by the Chemical Waste Management case (976 F.2d at 17) will not occur.

After reviewing public comments, EPA was persuaded by an outgrowth of comments that emphasized that promulgation of MACT controls on combustion devices treating F032 and F024 will be premature and that EPA shall make such determination within the scheduled final MACT rule for incinerators and BIFs. EPA was persuaded further by comments that Part 264 incinerator and Part 266 BIF controls can assure the destruction of D/F in these wastes. (See Phase IV's Preamble on Wood Preserving Wastes and the Final BDAT Background Document for F032, F034, and F035 (April 15, 1997).

DCN PH2A011

COMMENTS Vinyl Institute

RESPONDER JLABISOA

SUBJECT WOODS

SUBJNUM 011

COMMENT The Vinyl Institute does not

support suboption 2, as it is unnecessary, duplicative and inappropriate. In particular, EPA's recently proposed Hazardous Waste Combustion Maximum Achievable Control Technology (MACT) standard will effectively address EPA's concerns related to the reformation of D/F in F024 wastes. Requiring facilities currently treating F024 wastes to meet D/F emission standards would be duplicative or potentially inconsistent with the MACT standard, potentially requiring facilities to install additional pollution control equipment or to discontinue incineration of F024 wastes, which could result in capacity problems given that it is unclear how many units will be able to meet this standard. Likewise, the Vinyl Institute does not support suboption 3 because limiting combustion of F024 and F032 wastes to RCRA-permitted incineration units could also cause many manufacturers to be required to cease incinerating F024 wastes and to ship these wastes off-site, which would also significantly increase the load to commercial RCRA-permitted incineration units, leading to severe capacity problems and increased risk to human health and the environment due to additional handling and transportation requirements. The Vinyl Institute urges EPA to adopt suboption 1, as it is the only suboption supported by the record. It also achieves regulatory and statutory goals and provides the necessary technological flexibility. We thank you in advance for your consideration of these comments.

## RESPONSE

After reviewing public comments, EPA concurs with the commenter that promulgation of regulatory performance requirements for combustion technologies treating D/F constituents in F032 and F024 will ultimately be addressed in the MACT rule and that finalizing the MACT standards at this time may impose an undue burden on the industry. EPA intends to finalize the proposed MACT standards in April 1998. EPA believes further that until MACT standards are promulgated, combustion controls under Part 264, incinerators, and Part 266, BFIs, can be issued to assure that the treatment of these wastes is conducted in well designed and well operated combustion devices. existing standards will generally assure that the treatment of these wastes is conducted in well designed and well operated combustion devices.

Other commenters to the NODA presented persuasive comments that the combustion "CMBST" compliance treatment alternative is also available for F032 and F024 combusted in combustion units operating under interim standards of 266. EPA is persuaded that such units often meet more stringent standards than those imposed on 264, incinerators. EPA has also determined that combustion controls can be imposed, if needed, to ensure that the combustion of F032 and F024 in Part 266, BIFs are conducted in a well designed and well operated combustion device. As a result, EPA has revised suboption 3 to expand the availability of the proposed combustion "CMBST" treatment compliance alternative to include those units regulated under either 266 or 264. EPA believes that since the commenter was advocating for retaining the option that F024 wastes can be combusted in 266 units, the impact of this promulgated alternative may be minimum on the current management of F024.

DCN PH2A015  
COMMENTS CKRC  
RESPONDER JLABIOSA  
SUBJECT WOODS  
SUBJNUM 015

COMMENT The Cement Kiln Recycling Coalition (CKRC) is a national trade association representing virtually all those cement companies involved in the use of waste-derived fuel in the cement manufacturing process as well as those companies involved in the collection, processing, managing, and marketing of such fuel. CKRC has twenty member companies representing over 100 facilities throughout the U.S. CKRC's members are regulated by the Resource Conservation and Recovery Act (RCRA) for burning such fuels in boilers and industrial furnaces (BIF rules), codified at 40 CFR part 266, Subpart H. While CKRC has several concerns regarding issues raised in the "Land Disposal Restrictions Phase IV Rule Notice of Data Availability (Issues Associated with Clean Water Act Treatment Equivalency, and Treatment Standards for Wood Preserving Wastes and Toxicity Characteristic metal Wastes)" (NDA), CKRC is most concerned with the Agency's overall effort to attach global combustion issues (currently in the proposal stage of another rulemaking process) which have broad policy implications to a notice of data availability specific to wood preserving wastes. CKRC is strongly opposed to this approach as it effectively circumvents the rulemaking process which enables affected parties to be informed clearly about the Agency's regulatory intentions, to adequately consider their impacts, and provide appropriate comment. Thus, CKRC urges the Agency to delete the broad policy issues from this very specific notice of data availability.

#### RESPONSE

EPA agrees with the commenter that the proposal to impose MACT standards on combustion devices treating F032 and F024 was premature and EPA has thus withdrawn such regulatory options in today's rulemaking. See preamble.

DCN PH2A015  
COMMENTS CKRC  
RESPONDER JLABIOSA  
SUBJECT WOODS  
SUBJNUM 015

COMMENT Closing CKRC is strongly opposed to the Agency's effort to attach broad-reaching, global combustion issues to a notice of data availability specific to treatment of wood preserving wastes. Based on the inappropriate policy-development precedent such activity could set, and in the face of data to the contrary, CKRC urges the Agency to strike these global issues from the NDA.

#### RESPONSE

EPA agrees with much of the comment. It would be premature to base a regulatory standard in this rule on the proposed MACT standards. However, EPA does not view the narrow issue of whether a combustion device should be able to waive monitoring of combustion ash as 'global'. Rather, it is a narrow issue related to LDR compliance. The Agency's view is that eligibility should hinge on demonstrated ability to combust efficiently--a reasonable, and limited approach. Such demonstration can come from having received a permit, being subject to the BIF standards, or made a specific demonstration of such ability. See preamble.

DCN PH2A016

COMMENTER Dupont

RESPONDER JLABIOSA

SUBJECT WOOD5

SUBJNUM 016

COMMENT DuPont supports limiting the scope of the proposed treatment standard for F032 Wood Preserving Waste to treatment standards for F032 Wood Preserving Waste. EPA's proposed suboptions 2 and 3 for establishing F032 treatment standards would also revise F024's CMBST alternative standard and would effectively redefine the CMBST standard. Specifically, proposed suboptions 2 and 3 would impose dioxin stack controls and permitted status to limit which hazardous waste treatment units could combust F032 and F024 wastes, apparently due to concerns about emissions of chlorinated dioxins and furans. EPA's proposed Revised Standards for Hazardous Waste Combustors (61 FR 17358, April 19, 1996) address controls on dioxin and furan emissions from hazardous waste incinerators, cement kilns, and light-weight aggregate kilns. Regions and States are proceeding with permitting for interim status incinerators, boilers, and furnaces. Consideration of the appropriate stack controls on dioxins and furans is best left to the Agency and commenters in the context of the Revised Standards for Hazardous Waste Combustors rather than in a rule to set LDR treatment standards for wood preserving wastes. Imposition of stack controls or permitted status as a possible part of the CMBST treatment standard would be premature and could interfere with ongoing rulemaking and permitting efforts. Instead, the Agency should limit the scope of development of a treatment standard for F032 waste to only F032 wastes and should not revise the CMBST standard for other wastes.

#### RESPONSE

The commenter expresses concern over EPA's proposal to apply the same regulatory controls on the combustion of F032 to F024 wastes. Specifically, the commenter objects to EPA's proposal that F024 and F032 are subject to the same combustion requirements.

The commenter believes that EPA should not reopen the existing CMBST standard applicable to F024. This is because the commenter believes that F024 is significantly different to F032. EPA acknowledges that these wastes differ on the concentration levels of specific hazardous homologues of D/F constituents and the type of D/F precursors both waste have. Nevertheless, both wastes are toxic wastes listed under the 40 CFR 261 and the

combustion of these wastes is currently allowed in combustion devices that meet a four 9's Destruction Removal Efficiency performance. The Penta Task Force has asked EPA to adopt the same compliance treatment standard of combustion currently applicable to F024. Adoption of the CMBST would waive the monitoring of D/F constituents in F032 residues resulting from well designed and well operated combustion devices. EPA codified such treatment compliance alternative as incineration or "INCIN" in the 40 CFR 264 Subpart O unit (see Third Third rule (see 55 FR 22580-1, June 1, 1990)). EPA later amended the standard to a CMBST standard in the Phase 3 rulemaking.

EPA believes that the suggestion has merit, provided combustion occurs in devices that can assure destruction of these hazardous constituents. Units subject to standards establishing CO/HC standards, or specific controls for D/F, satisfy these criteria. As explained in the preamble, these are Part 264 incinerators and Part 266 BIFs, plus interim status incinerators that have demonstrated good combustion efficiency. [See, also, Final BDAT Background Document Wood Preserving Wastes for F032, F034, and F035 (April 15, 1997).] EPA is adding this standard in the final rule, and also amending the standard for F024 to conform to a CMBST standard that requires operation under Part 264 incinerators or Part 266 BIFs.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment. In today's rule, EPA allows F032 to comply with either a numerical limit or with the use of a combustion device operated in accordance with Part 264, incinerators, or Part 266, Boilers and Industrial Furnaces (BIFs). EPA believes that by limiting the promulgated method of treatment, i.e., availability of the combustion ("CMBST") standard, to a Part 264 incinerator or 266 BIF, EPA can ensure that the combustion of D/F in F032 is conducted in a manner that is protective to the human health and the environment.

EPA has promulgated similar kinds of technology standards for hazardous wastes regulated under Part 268.43 and hazardous debris under Part 268.45. These specific treatment standards under Parts 268.42 and 268.45 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective to the human health and the environment, and in particular do not result in the type of impermissible cross-media transfer of hazardous constituents referred to by the Chemical Waste Management court.

After reviewing public comments, EPA concurs with the commenter that promulgation of regulatory performance requirements for combustion technologies treating D/F constituents in F032 and F024 will ultimately be addressed in the MACT rule and that finalizing the MACT standards at this time may be premature. EPA intends to finalize the proposed MACT standards in April 1998. EPA believes further that until MACT standards are promulgated, Part 264 incinerators and Part 266 BIF can assure that the treatment of these wastes

is conducted in well designed and well operated combustion devices. EPA has withdrawn, therefore, the proposed suboption 2.

Contrary to the commenter's belief that a simple "CMBST" alternative treatment standard (i.e. this is adoption of suboption 1) is protective of the human health and the environment, EPA believes that some controls shall be imposed on the combustion of F032 and F024 if the facility wishes to avoid monitoring ash for compliance with D/F treatment standards. This is because these two waste in addition to containing some levels of D/F constituents in the untreated wastes, they contain precursors to the formation of D/F constituents (e.g. chlorinated organics). D/F can be formed as products of incomplete combustion, in the post-reaction flame zone of combustion devices, and under some predetermined air pollution control devices operating conditions (e.g. off gas reaction temperatures ranging from 400°F to 750°F or when keeping the inlet temperature of gases to fiber filters, electrostatic precipitators, or scrubbers below 400°F in order to prevent D/F formation). Unlike the commenter, EPA believes that these kind of treatment performance uncertainties shall be minimized for combustion devices seeking compliance with the proposed treatment standard alternative of "CMBST" for these wastes. (EPA also notes that F024 and now F032 are the only treatment standards where the Agency is essentially allowing compliance with a numerical standard without a monitoring requirement, and so does not accept the implication of the comment (possibly unintended) that limitations on unit eligibility being promulgated in this treatment standard are inconsistent with other standards adopted by EPA.) EPA believes, further, that such uncertainties can be minimized by requiring combustion units seeking compliance with the combustion alternative to adopt good combustion practices, temperature controls, risk analyses, or other applicable operating conditions. EPA believes that current RCRA Omnibus permit authorities under the 40 CFR 264 Subpart O and the regulatory standards in 40 CFR 266 can be used to address these concerns and thus, to minimize such uncertainties. EPA believes, however, that such Omnibus permit authorities are some how limited to ensure that the combustion of F032 in combustion devices operated under the provisions of the 40 CFR 265 are conducted routinely in well designed and operated treatment units. EPA has withdrawn, therefore, the proposed suboption 1 and abolished the existing "CMBST" for F024.

Other commenters to the NODA presented persuasive comments regarding the merits for allowing the availability of the F032 and F024 combustion treatment alternative to those units operating under 40 CFR 266. EPA is persuaded that such units often meet more stringent standards than those imposed on 40 CFR 264, incinerators. EPA has also determined that combustion controls can be imposed, if needed, to ensure that the combustion of F032 and F024 in 40 CFR 266 units are conducted in a well designed and well operated combustion device. As a result, EPA has revised suboption 3 to expand the availability of the proposed combustion "CMBST" treatment compliance alternative to include those units regulated under either 40 CFR 266 or 264. EPA believes that since the commenter was advocating for retaining the option that F024 wastes can be combusted in 266 units, the impact of this promulgated alternative may be minimum on the management of F024.



DCN PH2A018

COMMENTS Chemical Waste Management

RESPONDER JLABIOSA

SUBJECT WOODS

SUBJNUM 018

COMMENT III. TREATMENT STANDARDS FOR F032 WOOD PRESERVING WASTES

The Agency requests comment on the establishment of treatment standards for F032. Specifically the Agency proposes an alternative treatment standard with three suboptions. The alternative treatment standard option would be based on INCIN as a specified technology. The suboptions would 1) allow CMBST as well as INCIN; 2) establish CMBST as a specified technology and require dioxin/furan (D/F) air emission limits as proposed by the incineration MACT; 3) allow F024 and F032 treatment in only permitted combustion units. CWM believes that the easiest approach to implement would be to establish INCIN or CMBST as the treatment standard for the D/F constituents in the F032 wastes. If F032 dioxins and furans are regulated in this manner then CWM incineration facilities will be much more likely to accept F032 waste streams than if specific D/F constituents are regulated individually. CWM does not believe that Suboption 2 should be adopted at this time. The Agency should address D/F air emissions under the proposed MACT rule for hazardous waste combustion devices. See 61 Fed. Reg. at 17,358 (April 19, 1996).

#### RESPONSE

EPA essentially agrees with the commenter, except that interim status incinerators should not be automatically eligible for this alternative unless they can demonstrate good combustion efficiency equivalent to what a permitted incinerator or a regulated BIF must achieve. See Phase IV's preamble or Wood Preserving Waste and Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035 (April 18, 1997).

DCN PH2A020  
COMMENTS CONDEA  
RESPONDER JLABIOSA  
SUBJECT WOODS  
SUBJNUM 020

COMMENT CONDEA Vista Company urges EPA to adopt sub-option 1 for F032 wastes. This option maintains the current treatment standard of combustion (CMBST) for F024 waste. We are concerned that imposing a dioxin/furan emission standard on facilities otherwise capable of F024 waste destruction could limit or eliminate the disposal options in the immediate future. Long term, EPA has proposed a MACT standard for incinerators, boilers and industrial furnaces that will limit dioxins and furans. The implementation of that MACT standard should be sufficient to assure minimal dioxin and furan emissions from facilities treating F024 waste.

#### RESPONSE

The commenter expresses concern over EPA's proposal to apply the same regulatory controls on the combustion of F032 to F024 wastes. Specifically, the commenter objects to EPA's proposal that F024 and F032 are subject to the same combustion requirements.

The commenter believes that EPA should not reopen the existing CMBST standard applicable to F024. This is because the commenter believes that F024 is significantly different to F032. EPA acknowledges that these wastes differ on the concentration levels of specific hazardous homologues of D/F constituents and the type of D/F precursors both waste have. Nevertheless, both wastes are toxic wastes listed under the 40 CFR 261 Part D and the combustion of these wastes is currently allowed in combustion devices that meet a four 9's Destruction Removal Efficiency performance. The Penta Task Force has asked EPA to adopt the same compliance treatment standard of combustion currently applicable to F024. Adoption of the CMBST would waive the monitoring of D/F constituents in F032 residues resulting from well designed and well operated combustion devices. EPA codified such treatment compliance alternative as incineration or "INCIN" in the 40 CFR 264 Subpart O unit (see Third Third rule (see 55 FR 22580-1, June 1, 1990)). EPA later amended the standard to a CMBST standard in the Phase 3 rulemaking.

EPA believes that the suggestion has merit, provided combustion occurs in devices that can assure destruction of these hazardous constituents. Units subject to standards establishing CO/HC standards, or specific controls for D/F, satisfy these criteria. As explained in the preamble, these are Part 264 incinerators and Part 266 BIFs, plus interim status incinerators that have demonstrated good combustion efficiency. [See, also, Final BDAT Background Document Wood Preserving Wastes for F032, F034, and F035 (April 15, 1997).] EPA is adding this standard in the final rule, and also amending the standard for F024 to conform to a CMBST

standard that requires operation under Part 264 incinerators or Part 266 BIFs.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment.

In today's rule, EPA allows F032 to comply with either a numerical limit or with the use of a combustion device operated in accordance with Part 264, incinerators, or Part 266, Boilers and Industrial Furnaces (BIFs). EPA believes that by limiting the promulgated method of treatment, i.e. availability of the combustion ("CMBST") standard, to a Part 264 incinerator or 266 BIF, EPA can ensure that the combustion of D/F in F032 is conducted in a manner that is protective to the human health and the environment.

EPA has promulgated similar kinds of technology standards for hazardous wastes regulated under Part 268.43 and hazardous debris under Part 268.45. These specific treatment standards under Parts 268.42 and 268.45 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective to the human health and the environment, and in particular do not result in the type of impermissible cross-media transfer of hazardous constituents referred to by the Chemical Waste Management court.

EPA recognizes that some facilities that operate Part 265 incinerators may attain equivalent combustion controls to those achieved by Part 264 incinerators or Part 266 BIFs and thus, should be allowed to comply with the CMBST treatment standard promulgated for F032. But EPA believes such determination should be made on site-specific cases pursuant to EPA's authorities under the 40 CFR Part 268.42 (b). EPA has provided guidance in today's rule preamble discussion for wood preserving wastes and the Final BDAT Background Document for Wood Preserving Wastes on how determinations for equivalent treatment under 268.42 (b) will be administered for facilities who believe their Part 265 incinerators meet the combustion performance and controls attained by Part 264 incinerator or a Part 266 BIFs devices.

After reviewing public comments, EPA concurs with the commenter that promulgation of regulatory performance requirements for combustion technologies treating D/F constituents in F032 and F024 will ultimately be addressed in the MACT rule and that finalizing the MACT standards at this time may impose an undue burden on the industry. EPA intends to finalize the proposed MACT standards in April 1998. EPA believes further that until MACT standards are promulgated, combustion controls can be imposed, if needed, to ensure that the treatment of these wastes is conducted in well designed and well operated combustion devices.

Contrary to the commenter's belief that a simple "CMBST" alternative treatment

standard (i.e. this is adoption of suboption 1) is protective of the human health and the environment, EPA believes that some controls shall be imposed on the combustion of F032 and F024 if the facility wishes to avoid monitoring ash for compliance with D/F treatment standards. This is because these two waste in addition to containing some levels of D/F constituents in the untreated wastes, they contain precursors to the formation of D/F constituents (e.g. chlorinated organics). D/F can be formed as products of incomplete combustion, in the post-reaction flame zone of combustion devices, and under some predetermined air pollution control devices operating conditions (e.g. off gas reaction temperatures ranging from 400° F to 750° F or when keeping the inlet temperature of gases to fiber filters, electrostatic precipitators, or scrubbers below 400° F in order to prevent D/F formation). Unlike the commenter, EPA believes that these kind of treatment performance uncertainties shall be minimized for combustion devices seeking compliance with the proposed treatment standard alternative of "CMBST" for these wastes. (EPA also notes that F024 and now F032 are the only treatment standards where the Agency is essentially allowing compliance with a numerical standard without a monitoring requirement, and so does not accept the implication of the comment (possibly unintended) that limitations on unit eligibility being promulgated in this treatment standard are inconsistent with other standards adopted by EPA.) EPA believes, further, that such uncertainties can be minimized by requiring combustion units seeking compliance with the combustion alternative to adopt good combustion practices, temperature controls, risk analyses, or other applicable operating conditions. EPA believes that current RCRA Omnibus permit authorities under the 40 CFR 264 Subpart O and the regulatory standards in 40 CFR 266 can be used to address these concerns and thus, to minimize such uncertainties. EPA believes, however, that such Omnibus permit authorities are some how limited to ensure that the combustion of F032 in combustion devices operated under the provisions of the 40 CFR 265 are conducted routinely in well designed and operated treatment units. EPA has withdrawn, therefore, the proposed suboption 1 and abolished the existing "CMBST" for F024.

Other commenters to the NODA presented persuasive comments regarding the merits for allowing the availability of the F032 and F024 combustion treatment alternative to those units operating under 266. EPA is persuaded that such units often meet more stringent standards than those imposed on 264, incinerators. EPA has also determined that combustion controls can be imposed, if needed, to ensure that the combustion of F032 and F024 in 40 CFR 266 units are conducted in a well designed and well operated combustion device. As a result, EPA has revised suboption 3 to expand the availability of the proposed combustion "CMBST" treatment compliance alternative to include those units regulated under either 40 CFR 266 or 264. EPA believes that since the commenter was advocating for retaining the option that F024 wastes can be combusted in 266 units, the impact of this promulgated alternative may be minimum on the management of F024.

DCN PH4P023

COMMENTER Beazer East, Inc.

RESPONDER JL

SUBJECT WOOD6

COMMENT 2. The analytical method for detecting dioxin/furan is problematic. Since the inception of EPA's efforts to regulate dioxin, serious questions have been raised by the regulated community regarding its detection and analysis. Beazer believes the inclusion of dioxin/furan as a parameter for the F032 LDR, particularly at the low levels specified in the Proposed Rule, is problematic due to analytical interferences and elevated detection limits clouding performance verification. Beazer is especially concerned about the potential for false positives. EPA's BDAT Background Document for Wood Preserving Wastes (July, 1995) supports this concern. The document explains: [a] number of analytical chemistry difficulties are associated with the analysis of F032 Wood Preserving Waste samples for PCDDs and PCDFs. The most significant problems are due to interferences resulting from the high concentrations of pentachlorophenol, chlorophenols, creosote, and inorganics. The effects of these interferences may result in elevated detection limits, insufficient method sensitivity, and biased false positive results. Moreover, the analytical problems associated with measurement of very low levels of the dioxins/furans described above are exacerbated by the substantial complexities of a non-homogeneous sample matrix, such as soil, sediment and sludge.

#### RESPONSE

Several comments emphasized that there are "analytical difficulties associated with the characterization of Dioxin and Furan constituents in F032". These commentors have urged EPA to withdraw the proposed limits for D/F in F032 in light of such "analytical difficulties". This commentor lacks detailed information that may enable EPA to further evaluate the alleged "analytical difficulties" encountered for the routine characterization of D/F in F032.

Based on other comments that provided information on the kind of "analytical difficulties" presumably encountered during the analyses of F032, EPA has concluded that the alleged "analytical difficulties" may be a direct result of inappropriate analytical test method procedures and perhaps, limited experience of the laboratory chemists rather than the potential short-comings with the recommended EPA's SW 846 Test Methods. Based on these findings, EPA believes that it is technically feasible to promulgate the proposed numerical limits.

Also, EPA has revised the Final BDAT Background Document for Wood

Preserving Wastes to recommend the use of SW 846 - Test Methods 8280 A or 8290, as the methods of compliance for the characterization D/F analytes in F032. EPA also points out that there are laboratories in the country that routinely utilize Methods 8280 A and 8290 to analyse D/F in complex waste streams, soils, sediments, and debris. The BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, provides a discussion of the recommended test methods and guidance on protocols and laboratory techniques that can minimize "potential analytical difficulties" inherent to the analysis of D/F analytes in F032 waste streams. EPA is thus promulgating numerical limits for D/F constituents in F032, as proposed.

DCN PH4P023  
COMMENTS Beazer East  
RESPONDER SB  
SUBJECT WOOD6  
SUBJNUM 023  
COMMENT

EPA should delete dioxin/furan from the F032 LDR because of the difficulties in verifying the concentrations of the materials in media.

#### RESPONSE

Several comments emphasized that there are "analytical difficulties associated with the characterization of Dioxin and Furan constituents in F032". These commentors have urged EPA to withdraw the proposed limits for D/F in F032 in light of such "analytical difficulties". This commentor lacks detailed information that may enable EPA to further evaluate the alleged "analytical difficulties" encountered for the routine characterization of D/F in F032.

Based on other comments that provided information on the kind of "analytical difficulties" presumably encountered during the analyses of F032, EPA has concluded that the alleged "analytical difficulties" may be a direct result of inappropriate analytical test method procedures and perhaps, limited experience of the laboratory chemists rather than the potential short-comings with the recommended EPA's SW 846 Test Methods. Based on these findings, EPA believes that it is technically feasible to promulgate the proposed numerical limits.

Also, EPA has revised the Final BDAT Background Document for Wood Preserving Wastes to recommend the use of SW 846 - Test Methods 8280 A or 8290, as the methods of compliance for the characterization D/F analytes in F032. EPA also points out that there are laboratories in the country that routinely utilize Methods 8280 A and 8290 to analyze D/F in complex waste streams, soils, sediments, and debris. The BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, provides a discussion of the recommended test methods and guidance on protocols and laboratory techniques that can minimize "potential analytical difficulties" inherent to the analysis of D/F analytes in F032 waste streams. EPA is thus promulgating numerical limits for D/F constituents in F032, as proposed.

DCN PH4P032  
COMMENTS THE PENTA TASK FORCE  
RESPONDER JL  
SUBJECT WOOD6  
SUBJNUM 032  
COMMENT

**B. The BDAT Standard Must Be Adjusted To Reflect Accuracy Correction and Variability Factors.**

If EPA now questions the ability of incineration to completely destroy dioxins and furans in F032 wastes and therefore is inclined not to establish an alternate incineration standard, we urge EPA to review the data and set dioxin/furan limits which fully account for analytical and treatment variability. EPA normal procedure in setting treatment standards for a waste constituent is to apply both an "accuracy correction factor" and a "variability factor" to the concentration of the constituent observed in the treatment data that support the standard. See, Final Best Demonstrated Available Technology (BDAT) Background Document for Universal Standards -- Volume A: Universal Standards for Wastewater Forms of Wastes, 5-2 (July 1994) (hereinafter "UTS BDAT Background Document"). The accuracy correction factor is used to account for analytical limitations in the available treatment performance data and the variability factor is used to correct for variations in waste treatment, sampling, analytical techniques and procedures, and other factors that affect treatment performance. *Id.* Where, as here, the incineration performance data show that the concentration of the constituent in the ash is below the detection limit, EPA normally applies a default variability factor of 2.8, and a default accuracy correction factor of 5.0. *Id.*, Vol. B, at 5-5, 6-4.

But in establishing the universal treatment standards for nonwastewater forms of organic waste, EPA departed from its normal practice and set the UTS at the 1 ppb detection limit without accounting for variability. If EPA were to apply the normal variability and accuracy correction factors to the 1 ppb detection limit for dioxins/furans in F032 nonwastewaters, the adjusted treatment standard would be  $1 \text{ ppb} \times 2.8 \times 5.0$ , or 14 ppb.<sup>9</sup>

**RESPONSE**

Several comments emphasized that there are "analytical difficulties associated with the characterization of Dioxin and Furan constituents in F032". These commentors have urged EPA to withdraw the proposed limits for D/F in F032 in light of such "analytical difficulties". This commentor lacks detailed information that may enable EPA to further evaluate the alleged "analytical difficulties" encountered for the routine characterization of D/F in F032.

Based on other comments that provided information on the kind of "analytical



difficulties" presumably encountered during the analyses of F032, EPA has concluded that the alledged "analytical difficulties" may be a direct result of inappropriate analytical test method procedures and perhaps, limited experience of the laboratory chemists rather than the potential short-comings with the recommended EPA's SW 846 Test Methods. Based on these findings, EPA believes that it is technically feasible to promulgate the proposed numerical limits:

Also, EPA has revised the Final BDAT Background Document for Wood Preserving Wastes to recommend the use of SW 846 - Test Methods 8280 A or 8290, as the methods of compliance for the characterization D/F analytes in F032. EPA also points out that there are laboratories in the country that routinely utilize Methods 8280 A and 8290 to analyse D/F in complex waste streams, soils, sediments, and debris. The BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, provides a discussion of the recommended test methods and guidance on protocols and laboratory techniques that can minimize "potential analytical difficulties" inherent to the analysis of D/F analytes in F032 waste streams. EPA is thus promulgating numerical limits for D/F constituents in F032, as proposed.

DCN PH4P039  
COMMENTS AWPI  
RESPONDER JL  
SUBJECT WOOD6  
SUBJNUM 039

COMMENT ANALYTICAL PROBLEMS ASSOCIATED WITH DIOXIN AND FURAN WASTES EPA acknowledges the existence of several analytical problems associated with dioxin wastes. EPA notes: [a] number of analytical chemistry difficulties are associated with the analysis of F032 Wood Preserving Waste samples for [polychlorinated-dibenzo-dioxins] PCDDs and [polychlorinated-dibenzo-furans] PCDFs. The most significant problems are due to interference's resulting from the high concentrations of pentachlorophenol, chlorophenols, creosote, and inorganics. The effects of these interference's may result in elevated detection limits, insufficient method sensitivity, and biased false positive results. Non-homogenous sample matrices (e.g., soils, sludges, sediments) intensify the analytical problems cited above. COMMENT: AWPI believes EPA's treatment level of 1 ppb for dioxin and furan in F032 wastes is unreasonable and places the generator in an impossible situation when attempting to verify performance. EPA should delete the dioxin and furan limits for F032 or accept incineration in a four-9s incinerator as an alternative treatment technology.

## RESPONSE

After reviewing the characterization data of the commenter and the reported analytical difficulties, EPA has concluded that the reported "difficulties" appear to represent more the unfamiliarity of chemists performing the chemical analyses with D/F recommended test methods rather than real flaws in the test method. EPA believes further that the alleged "difficulties" can easily be overcome by routine laboratory clean-up procedures and the use of appropriate solvents and other laboratory calibration techniques. EPA has enhanced, therefore, the discussion of these recommended procedures and calibration techniques in the BDAT Background Document. Also, see the document titled: Background Paper Addressing Technical Issues Related to Analysis of F032 Wood Preserving Wastes for Dioxins and Furans, dated June 19, 1996, in the Administrative Record for today's rulemaking.

In addition, the commenter felt that the high concentrations of PCP will interfere with the analyses of D/F. EPA believes that aggressive oxidation or reduction technologies must be used to reduce the concentrations of halogenated organics in F032. EPA also expects incineration to be the technology of choice since as of today it has been proven the best technology available to destroy organics including D/F constituents. EPA also believes

that incineration can significantly reduce the levels of PCP below detection and thus, eliminating most of the potential interferences anticipated by the commenter.

DCN PH4P065

COMMENTS Safety-Kleen Corp.

RESPONDER JL

SUBJECT WOOD6

COMMENT 14. Even if a 1 (g/kg (1 ppb) level for PCDD and for PCDF can be achieved through treatment, it may be impossible to confirm compliance with such a low UTS level. The Agency has proposed to set the F032 wastewater and nonwastewater treatment standards at 1 ppb (or 1 (g/kg) for all the PCDD and PCDF homologue and isomer constituents proposed for regulation for F032 wastes. Even if a 1 (g/kg level is achievable for PCDD and for PCDF, analytical limitations may make it impossible to confirm that such a low UTS level has been met. As has been pointed out to the Agency in industry comments on several LDR rulemakings in recent years, organic waste streams are not easily analyzed for certain constituents at very low concentrations. The Chemical Manufacturer's Association (CMA) comments on the Phase IV LDR proposed regulation include a report that discusses why the Agency should not establish concentration limits without considering analytical limitations. The report recommends that EPA explicitly state that, given approved test methods, nondetectable levels of constituents are equivalent to zero concentration. Rather than repeat all the various issues raised in the CMA document, Safety-Kleen incorporates by reference CMA's comments on this issue.

#### RESPONSE

EPA lacks data from the commenter to assess what kind of technical difficulties will be encountered during the analysis of F032 wastes. EPA contacted the commenter for a copy of the attachment cited. Since the document was never received, EPA cannot respond to the commenters statements regarding that report.

After reviewing the characterization data of the Penta Group, the reported analytical difficulties, and F032 Characterization studies; EPA has concluded that the reported "difficulties" appear to represent more the unfamiliarity of chemists performing the chemical analyses with D/F recommended test methods rather than real flaws in the test method. EPA believes further that the alleged "difficulties" can easily be overcome by routine laboratory clean-up procedures and the use of appropriate solvents and other laboratory calibration techniques. EPA has enhanced, therefore, the discussion of these recommended procedures and calibration techniques in the BDAT Background Document. Also, see the Administrative Record supporting today's Phase 4 final rule for the technical document titled: Background Paper Addressing Technical Issues Related to Analysis of F032 Wood Preserving Wastes for Dioxins and Furans, dated June 19, 1996.



DCN PH4P113

COMMENTER Chemical Manufacturers Association

RESPONDER JLABIOSA

SUBJECT WOOD6

SUBJNUM 113

COMMENT

B. EPA should allow concentration-based as well as technology-based criteria to satisfy BDAT for metals in nonwastewater forms of F032, F034, and F035.

In the preamble, EPA indicates that for metal in nonwastewater forms of F032, F034, and F030, stabilization is BDAT for chromium (total), and that vitrification is BDAT for arsenic. Use of the word "is" and not the phrase standards "... are based on" implies that the Agency intends to allow only the use of these specific technologies to treat these constituents to levels below which these wastes may be land disposed. However, the regulatory language in the table at 268.40 indicates that the nonwastewater standards for arsenic and chromium are numerical standards. CMA has commented in the past that it generally favors concentration-based treatment standards for BDAT and that it supports the allowance of technology-based standards as an alternative to, and not as a replacement for, concentration-based standards. We maintain this position. Although the Agency and CMA may not currently be aware of technologies other than stabilization and vitrification that could be used to treat for chromium and arsenic in the wastes described above, we favor the flexibility afforded by a concentration-based standard which would allow any technology that can meet these levels as an alternative. CMA requests that the preamble language be modified to clarify that any technology that can meet the levels indicated in the table may be used.

In addition, EPA is proposing F032 wastewater and nonwastewater standards that would require meeting a concentration that does not exceed 1 ppb (or 1 ug/kg) for all the PCDD and PCDF homologue and isomer constituents proposed for regulation for F032 wastes. Even if a 1 ug/kg level is achievable for PCDD and for PCDF, analytical limitations may preclude UTS levels this low.

Normally when EPA sets treatment standards for a waste constituent, a procedure is followed in which both an "accuracy correction factor" and a "variability factor" are applied to the concentration of the constituent observed in the treatment data that supports the standard. See, Final Best Demonstrated Available Technology (BDAT) Background Document for Universal Treatment

Standards Volume A: Universal Treatment Standards for Wastewater Forms of Wastes, 52 (July 1994). The accuracy correction factor is used to account for analytical limitations in the available treatment performance data, and the variability factor is used to correct for variations in waste treatment, sampling, analytical techniques and procedures, and other factors that affect treatment performance.

However, we are not sure if EPA accounted for variability and accuracy in setting the universal treatment standards for nonwastewater forms of these organic wastes. We urge EPA to do so. As CMA has previously written in its July 9, 1993 comments on the May 24, 1993 Interim final rule on land disposal restrictions for ignitable and corrosive characteristic wastes whose treatment standards were vacated, organic wastestreams are not easily analyzed for constituents at very low concentrations. CMA reiterates its previous recommendation that EPA explicitly states that, given approved test methods, nondetectable levels of constituents are equivalent to zero concentration and should also be applied in the setting of UTS levels.

## RESPONSE

follow  
below:

The commenter raised four issues and EPA's responses to such comments

1. Clarification that EPA is setting numerical limits for the regulation of Arsenic and Chromium (total) in wastewater and nonwastewater forms of F032.

EPA is clarifying in today's final rule that EPA is promulgating UTS limits for the regulation of Arsenic and Chromium (total) in F032, F034, and F035. Since EPA is establishing UTS limits that are expressed as maximum concentrations of these metals allowed for land disposal, the use of any treatment technologies capable of meeting the UTS limits is not prohibited except for those that may constitute impermissible dilution.

2. "Analytical Difficulties" may preclude the establishment of UTS limits for F032.

EPA lacks data from the commenter to assess what kind of technical difficulties will be encountered during the analysis of F032 wastes.

After reviewing the characterization data of the Penta Group, the reported

analytical difficulties, and F032 Characterization studies: EPA has concluded that the reported "difficulties" appear to represent more the unfamiliarity of chemists performing the chemical analyses with D/F recommended test methods rather than real flaws in the test method. EPA believes further that the alleged "difficulties" can easily be overcome by routine laboratory clean-up procedures and the use of appropriate solvents and other laboratory calibration techniques. EPA has enhanced, therefore, the discussion of these recommended procedures and calibration techniques in the BDAT Background Document. Also, see the Administrative Record supporting today's Phase 4 final rule for the technical document titled: Background Paper Addressing Technical Issues Related to Analysis of F032 Wood Preserving Wastes for Dioxins and Furans, dated June 19, 1996.

3. EPA should correct the D/F limits for accuracy and variability.

Several commenters were correct in pointing it out that EPA did not correct the proposed UTS limits for D/F in F032 with accuracy and variability factors, as typically done in the calculation of treatment standards of other hazardous constituents prohibited from land disposal. EPA did not adjust the proposed UTS limits for D/F constituents, nor EPA is doing so in today's final rule, as explained below.

The UTS treatment limits are based on combustion technologies that EPA believes will meet the proposed UTS limits for D/F in F032 as long as the combustion of F032 is conducted in a device that is well designed and well operated. EPA concluded in the Solvents and Dioxins rule that a six-nines Destruction and Removal Efficiency (DRE) combustion device can routinely achieve the promulgated limit (see January 18, 1986, 51 FR (1733-1735)). Based on the performance of a four-nines DRE rotary kiln incinerator burning F024, EPA believes that a four-nines DRE unit that is well designed and operated can also meet the promulgated UTS limits for D/F (see June 1, 1990, 55 FR (22580-22581)). Although none of the submitted comments or data appear to support the revisions to D/F limits proposed by the commenters, EPA may revisit this issue in a separate rulemaking if new data become available.

However, EPA points out to the commenter that EPA generally allows deviations from the promulgated treatment limits to concentration of up to one order of magnitude above the applicable treatment standard (i.e. the numerical UTS limit) prescribed in the 40 CFR 268.40, for the ashes arising from combustion devices. EPA refers to such treatment limits allowances as the analytical detection limit (compliance) alternative. Facilities seeking the disposal of such combustion ashes must satisfy the provisions in the 40 CFR 268.40 (d) (1) through (3) and 268.7 (b) (5) (iii). (Also, see June 1, 1990, 55 FR (22541-22542).)

In addition, EPA has set an alternative compliance treatment standard that sets combustion "CMBST" as a treatment standard for D/F for nonwastewater forms of F032. To qualify for a "CMBST" treatment standard, the combustion device should be operated



under a 40 CFR 264 Subpart O or under a 266 operating permit and the Permit writer will use his/her Omnibus power authorities to determine if a combustion device seeking to treat F032 can be deemed well operated and well designed combustion devices. If deemed a well operated and designed combustion device, the facility will not have to monitor the concentrations of D/F constituents in wastewater and nonwastewater forms arising from the combustion of F032. EPA feels therefore that such alternative compliance treatment standard fully addresses the concerns raised by the commenters.

4. Proposal that "nondetection limits" are equivalent to zero detection.

EPA believes the commenter is concerned that a detection limit in a treated waste above a UTS numerical limit may fail to meet the applicable treatment standard even if the targeted analyte is below the detection limit. EPA believes that a "nondetection limit" is not a feasible way to address this concern. EPA believes that a constituent shown below a particular targeted detection limit means that the constituent is either destroyed by the employed technology, masked in the waste residue due to matrix interferences, or it could be measured in concentrations below the targeted detection limit. As a result, it could be possible that the constituent of LDR concern is still above the applicable UTS limit should the targeted selection limit be above the UTS promulgated limit. Therefore, EPA believes that a facility could still be deemed in violation of the applicable limit if EPA detects such constituent above its UTS limit.

However, EPA points out to the commenter that EPA generally allows deviations from the promulgated treatment limits to concentrations of up to one order of magnitude above the applicable treatment standard (i.e., the numerical UTS limit) prescribed in the 40 CFR 268.40, for the ashes arising from combustion devices. EPA refers to such treatment limits allowances as the analytical detection limit (compliance) alternative. Facilities seeking the disposal of such combustion ashes must satisfy the provisions in the 40 CFR 268.40 (d) (1) through (3) and 268.7 (b) (5) (iii). (Also, see June 1, 1990, 55 FR (22541-22542).) Another option available to the commenter is to verify if the waste of concern is different from the one supporting the UTS limit and seek from EPA a treatability variance pursuant to provisions in the 40 CFR 268.44.



DCN PH4P023

COMMENTS Beazer East, Inc.

RESPONDER JL

SUBJECT WOOD7

COMMENT a. BCD Technology EPA has asked for comment on the use of BCD technology and other technologies to treat dioxin/furan. 60 Fed. Reg. 43681, Col. 3. Beazer does not believe that the BCD technology has been sufficiently demonstrated to warrant its inclusion in the list of candidate nonwastewater treatment technologies. Our information suggests that EPA researchers, at its Risk Reduction and Engineering Lab ("RREL/ORD"), advised that demonstration tests at two sites have resulted in evidence that the dechlorination process in the "liquid reactor" is not successfully performing, specifically for dechlorinating dioxin/furan. A test in 1993 indicated that dioxin/furan could be removed from soils, but the off-gas stream treatment could not be evaluated due to analytical interferences. A recent 1995 test in Region X was terminated due to the inability of the process to meet the air emissions standards for dioxins/furans. Id. b. Shirco Infrared Thermal Process The Agency has suggested in the Proposed Rule that the Shirco infrared thermal process can be used to treat dioxin/furan. 60 Fed. Reg. 43681. This process was tested by EPA in 1987 for destruction of PCBs. Id. However, Beazer found no data in EPA's Superfund Innovative Technology on-line database regarding use of the technology for destruction of dioxins/furans. Indeed, the Dioxin Treatment Document indicates that although infrared destruction has advanced to commercial use in Germany, no permitted facilities exist in the United States for destruction of dioxins/furans. Dioxin Treatment Document, p. 26. c. Hubber Supercritical Oxidation Thermal Process The Agency also suggests that the Hubber supercritical oxidation process can be used to treat dioxin/furan wastes. 60 Fed. Reg. 43681, Col. 3. According to the Dioxin Treatment Document, however, the Hubber supercritical oxidation thermal process referred to in the Proposed Rule can only be used to treat liquid wastes and perhaps finely ground, thin slurries. Dioxin Treatment Document, p. 60. It has not been tested at a commercial scale on any solid wastes or even the proposed thin slurries, thus further limiting its appropriateness as a viable technology. Id. d. Pyrolytic Destruction Pyrolytic destruction is another technology that EPA believes is capable of treating dioxin/furan wastes. Id. Like the Hubber process, pyrolytic destruction of dioxin/furan has

the same limitations in that it can only treat liquid wastes and perhaps finely ground, thin slurries (with a viscosity similar to 30 wt. motor oil). The technology is being pursued by only one company and has not been demonstrated at commercial scale for destruction of dioxin/furan. Dioxin Treatment Document, p. 60. e. APEG and KPEG Processes In the Proposed Rule, EPA requests comments on whether the APEG or KPEG processes can be used to meet the dioxin/furan LDRs. Id. The APEG and KPEG processes were introduced in the 1980s and found application at commercial scale for dechlorinating organic fluids and oils. However, the treatment of nonwastewaters has not progressed successfully since its introduction. As an example, a Region VI CERCLA site in Houston mobilized a full scale APEG treatment system owned by Galson Research Corporation six or seven years ago and was unable to meet the treatment requirements for PCBs. The unit was demobilized and Galson has not pursued the technology further. f. Ultraviolet Photolysis EPA has also requested information on the use of ultraviolet photolysis in treating dioxin/furan. 60 Fed. Reg. 43682, Col. 1. The use of ultraviolet photolysis for destruction of dioxin/furan in soils requires dissolution of the dioxin/furan from the soil into a solvent extract and subsequent destruction of the dioxin/furan in the liquid solvent. This technology will face the same developmental difficulties impeding the development of critical fluid extraction for soils (material handling and agglomeration) and for the BCD liquid reactor (destruction of the dissolved dioxins/furans in the solvent extract to levels low enough to allow recycle of the solvent). Further, the process has not yet been demonstrated at commercial scale. g. Biotreatment Finally, the Agency proposes the use of biotreatment for wastewater. 60 Fed. Reg. 43681, Col. 1. Beazer contacted several water treatment equipment manufacturers to verify that the proposed treatment standards could be achieved with the specified technologies. Zimpro, the manufacturer of one of the most effective wastewater biotreatment systems available had no data to support removal of dioxin/furan to the proposed UTS levels. Because the ability of biotreatment to achieve the very stringent dioxin/furan UTS levels for wastewater was not confirmed by Beazer's contacts with equipment vendors, Beazer requests that EPA provide performance data to confirm the assertion made above regarding biotreatment of wastewaters.

#### RECOMMENDATION:

#### RESPONSE

The commenter raised concerns on whether the treatment technologies mentioned by EPA in the Phase 4 preamble and the Proposed BDAT Background Document for F032, F034, and F035 are commercially available to meet the proposed UTS limits. The commenter has also pointed out to potential waste/soil characteristics that may limit the application of the treatment technologies suggested by EPA as potentially applicable to contaminated media. EPA has addressed and incorporated specific comments on each soil/groundwater remediation technology described by the commenter into the Final BDAT Background Document for Wood Preserving F032, F034, and F035, April 15, 1997 (see, specifically, Section 6 and Appendix K in such BDAT Background Document).

EPA notes, however, that none of these technologies have changed EPA determination of the BDAT treatment technology models that support the UTS treatment standards promulgated, today, for eachone of the regulated constituents in F032, F034, and F035. EPA has found, however, that energy and chemical intensive remedial technology trains are most likely to enable members of the regulated community to meet the promulgated treatment standards since these technologies can treat, generally, within one or two orders of magnitude of the UTS limits and presumably, may be able to undergo optimization for soils/groundwaters that can be pretreated to undergo effective treatment. EPA also recognizes that there may be instances where some contaminated media may be unable to meet the treatment standards due to matrix interferences or where EPA is persuaded that the treatment standards are not appropriate. (See, for example, the memorandum titled: Use of Site-Specific Land Disposal Restriction Treatability Variances Under 40 CFR 268.44(h) During Cleanups, from Michael Shapiro, Director, Office of Solid Waste and Steve Luftig, Director, Office of Emergency and Remedial Response, to RCRA/CERCLA Senior Policy Mangers, Region I-X, dated January 8, 1997.)

Although EPA believes that treatability variances under the 40 CFR 268.44(h) will be effective, generally, in addressing circumstances where the contaminated media cannot meet the treatment standards or where the treatment standard may be inappropriate, the EPA has identified in the Final BDAT Background Document other potential waivers or variances that may lessen the impact of the land disposal restrictions promulgated today.

DCN PH4P032  
COMMENTER Penta Task Force  
RESPONDER JL  
SUBJECT WOOD7  
SUBJNUM 032  
COMMENT

II. ALTERNATIVE TREATMENT STANDARDS PROVIDE THE ONLY PRACTICABLE SOLUTION.

A. EPA Should Establish Incineration As An Alternative Treatment Standard.

Incineration in a four 9's combustion unit currently is the only practicable technology for treating F032 waste streams. Because of the stigma problem, that technology will be unavailable if the Agency sets treatment standards for dioxin/furan constituents in the waste. In our view, the problem can most readily be addressed by setting alternative treatment standards that allow a generator to meet either the numerical treatment standards for dioxins/furans or a technology standard specifying incineration. The provision for incineration as a technology standard would solve the stigma problem in that four 9's incinerators and BIAS would no longer have any reason to decline to take the wastes. The alternate performance-based numerical treatment standard would allow the generator the flexibility of selecting any applicable treatment method as long as the numerical treatment standards are met. This would provide adequate incentives to the continued development of alternate non-incineration technologies.

EPA appears to believe, and has oft stated, that incineration destroys dioxins and furans to levels below analytical detection. Because EPA believes that incineration will necessarily destroy the dioxins and furans in F032 wastes, there is no need to establish dioxin and furan standards. Incineration will serve to ensure that these constituents are appropriately treated.

To the extent EPA would prefer to set some concentration-based limits to provide a mechanism to ensure proper combustion performance of individual treatment units, it can designate polycyclic aromatic hydrocarbons ("PAHs") as part of the incineration standard. See Attached report entitled "Evaluation of Potential Surrogates for Dioxins in Wood Treatment Residues." (Tab 7). The PAHs have similar physical properties to the dioxins/furans in terms of their relative vapor pressures, boiling points, and aqueous stability. Also, many of the PAHs are more difficult to burn than the dioxins/furans. The table below provides a ranking of the thermal stability of various compounds on

the basis of the temperature required for 99 percent destruction given a reaction time of 2.0 seconds under oxygen depleted conditions (designated "T99 (2) degrees C"). As shown in the table, many of the PAHs -- i.e., naphthalene -- are ranked as more thermally stable than the listed dioxins. (Furans are considered to be less stable than dioxins and thus necessarily would have a lower ranking score.)

[TABLE IN TEXT NOT REPRODUCED HERE.]

Moreover, a number of PAHs -- naphthalene, benz(a)anthracene, benzo(a)pyrene, benzo(k)fluoranthene, dibenz(a,h)anthracene and indeno(1,2,3-c,d)pyrene are present in insignificant quantities in F-32 wastes. See Tables in Attachment at Tab 7. As such, these PAHs are present in sufficient concentrations to allow analysis and detection in the combustion residues.

The relative difficulty of analyzing for dioxins and furans in F032 wastes provides an additional justification for establishing an alternative standard based on incineration technology. In general, numerical standards are established for waste constituents which are amenable to analyses, and standards specifying specific treatment technologies are developed for wastes that are difficult to analyze. See Final Best Demonstrated Available Technology (BDAT) Background Document for U and P Wastes and Multi-Source Leachate (F039), Volume C, at 1-2 (May 1990). Indeed, the treatment standards for a significant number of waste codes specify a technology based treatment. As discussed in Section 3.8.3 of the F032 BDAT Background Document, there are significant problems associated with the analyses of dioxins/furans in F032 wastes. These problems are fully described in many of the technical documents found in the docket to this rulemaking. As EPA's contractor have observed in one such report:

"These samples also had a devastating effect on the performance of the capillary chromatography column during the GC/MS analysis. Injecting the samples without dilution caused immediate and irreversible damage to the column to the point where virtually all of the compounds would be lost even in standards. It is possible that the internal standards were actually present in the final extract but could not be detected due to the degradation of the capillary column.

The nature of this interference does not lend itself to straightforward documentation. Every time the samples were injected in either laboratory, a chromatogram of baseline noise and column

bleed would result, and all subsequent injections would also give primarily baseline noise and column bleed. This would result in breaking down the instrument, cleaning the chromatographic system, replacing the column, recalibrating, and trying again." In light of these significant analytical difficulties, and the availability of other constituents, i.e., PAHs, to provide a measure of proper combustion performance, there is no justification for requiring that dioxins/furans be analyzed for in combustion residuals.

## RESPONSE

In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method for D/F constituents in F032. EPA is also promulgating treatment limits for D/F as proposed.

EPA has promulgated, however, a revised "CMBST" compliance alternative which limits the availability of the "CMBST" to those combustion devices in compliance with applicable combustion standards in the 40 CFR 264 Subpart O, or 40 CFR 266. F032 wastes combusted in combustion devices operating under 40 CFR 264 or 266 do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities must meet UTS numerical limits applicable to each organic and metal constituent regulated in F032 as a prerequisite to land disposal.

It should be emphasized that facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265 Subpart O do not qualify for a "CMBST" treatment standard. F032 residues arising from 40 CFR 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment.

In today's rule, EPA allows F032 to comply with either a numerical limit or with the use of a combustion device operated in accordance with Part 264, incinerators, or Part 266, Boilers and Industrial Furnaces (BIFs). EPA believes that by limiting the promulgated method of treatment, i.e., availability of the combustion ("CMBST") standard, to a Part 264 incinerator or 266 BIF, EPA can ensure that the combustion of D/F in F032 is conducted in a manner that is protective to the human health and the environment.



EPA has promulgated similar kinds of technology standards for hazardous wastes regulated under Part 268.43 and hazardous debris under Part 268.45. These specific treatment standards under Parts 268.42 and 268.45 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective to the human health and the environment, and in particular do not result in the type of impermissible cross-media transfer of hazardous constituents referred to by the Chemical Waste Management court.

In addition, EPA does not accept the commenters' assertion that analyzing for non-D/F constituents should serve as a surrogate for D/F destruction to BDAT levels. Although demonstration of destruction of the other constituents is certainly some evidence of destruction of D/F as well, the Agency believes some added assurance is desirable given the toxicity of D/Fs. This added assurance is the part of the alternative standard assuring that treatment is occurring in a combustion unit which is known to operate with good combustion efficiency, either because it is subject to an explicit regulatory standard or (in the case of interim status incinerators) has made a specific demonstration of such efficiency.

DCN PH4P032  
COMMENTS Penta Task Force  
RESPONDER JL  
SUBJECT WOOD7  
SUBJNUM 032  
COMMENT

D. Requiring De Facto Six 9s Incineration Of F032 Wastes Is Unjustified And Contrary To EPA's "Toxic" Classification For These Wastes.

EPA in 1990 expressly considered whether to designate F032 wastes as an acutely hazardous dioxin-containing waste and thereby subject the waste to the special management provision of 40 C.F.R. §§ 261.30(d), 268.31, which includes treatment by an incinerator meeting six 9s DREs. See 55 Fed. Reg. 50,450 (Dec. 6, 1990) (final F032 listing rule). See also 53 Fed. Reg. 53,282, 53,291-53,308 (Dec. 30, 1988) (proposed rule). After an exhaustive review of the data, EPA concluded that F032 wastes should be designated as toxic (rather than as acutely hazardous). As a consequence of this 1990 listing decision, F032 wastes should not be subject to the exacting standards for incineration (incineration by a six 9s unit) that are required for acutely hazardous wastes.

EPA's decision to classify F032 wastes as toxic rather than acutely hazardous was firmly grounded in the record. At the time the Agency considered the designation of F032 wastes, the National Toxicology Program ("NTP") had published a cancer bioassay on commercial pentachlorophenol formulations of varying HxCDD content. The NTP data demonstrated that HxCDD was not a valid predictor of the risk associated with pentachlorophenol wastes. As EPA explained:

In light of the NTP study results, EPA can no longer use HxCDD as a reasonable surrogate to indicate the toxicity of pentachlorophenol. The NTP study provides carcinogenic potency values for pentachlorophenol products such as "purified" pentachlorophenol, 0.245 (mg/kg/day)-1, and technical grade pentachlorophenol, 0.788(mg/kg/day)-1, which are within the range of values associated with other wastes listed as toxic.

55 Fed. Reg. at 50,467. In short, because the NTP study demonstrates that the carcinogenic potency of F032 wastes is well within the range of potency values of other toxic wastes regulated under RCRA, the Agency had no choice but to designate F032 wastes as a toxic waste.

Having decided the issue in 1990, EPA now appears to be attempting through the RCRA land disposal ban program to require that F032

wastes be treated as if they were acutely hazardous dioxin-containing wastes, i.e., by incineration to six 9s DRE. This conclusion is apparent from the record. In the proposed rule, EPA states that "it has identified one commercial facility currently permitted to combust wastes that may have PCDD and PCDF constituents with concentrations one to two orders of magnitude higher than those levels found in F032." 60 Fed.Reg. 43,681. That statement necessarily refers to the Aptus incinerator in Coffeyville, Kansas because Aptus is the only "fixed-base" commercial incinerator permitted to handle dioxin-contaminated wastes. See EI Digest, "Environmental Information," Minneapolis, MN (June 1994), at 22. The draft RIA also suggests that EPA contemplates six 9s incineration for F032 wastes, see, RIA, 3-7 ("Under this rule, wood preserving facilities will be required to incinerate dioxin-contaminated waste (i.e., F032) nonwastewaters and demonstrate a destruction and removal efficiency rate of 99.9999 percent."); see, id., Exh. ES-6 n.a. ("Incineration costs for F032 nonwastewaters assume a 99.9999 percent destruction and removal efficiency rate"), as do statements in various staff memoranda that have been added to the rulemaking record. See, e.g. Memorandum from J. Labiosa to R. Kinch and L. Rosengrant, Re: "Regulation of Dioxins in F032, F033, and U242" (undated) (noting that rotary kiln incinerators followed with adequate air pollution control devices (APCDs) are likely to meet existing six 9s DRE performance requirements).

Having decided the issue in 1990, we believe that is improper for EPA now to propose a treatment strategy that treats F032 wastes as though they had been identified as acutely hazardous and relies on the management of the wastes in a six 9s incinerator. But unless the stigma issue is squarely addressed in this rulemaking, precisely that improper result will come to fruition.

## RESPONSE

It appears that the commenter was concerned that since the BDAT model supporting numerical limits for D/F constituents was based on six 9's Destruction and Removal Efficiency (DRE) incinerators, facilities seeking compliance with the numerical limits in RCRA incinerators, cement kilns, or other industrial furnaces achieving a four 9's DRE were likely to fail the proposed UTS limits. It also appears that EPA's discussions in the preamble and the BDAT Background Document for F032, F034, and F035 that at least one facility was permitted to treat D/F containing wastes as difficult to treat as F032 led the commenter to believe that EPA was considering limiting the combustion of F032 to a six 9's DRE - RCRA combustion device. EPA is clarifying, therefore, that in today's rule EPA is

not amending §§264.343 (a) (2) or 266.104 (a) (3) to compel the combustion of F032 or F024 in a six 9's Destruction and Removal Efficiency combustion device. Nor has EPA proposed that the combustion of F032 or F024 be only conducted in a six 9's or a four 9's DRE RCRA combustion device.

It should be noted that although the BDAT combustion technologies supporting the development of UTS limits for D/F regulated in nonwastewater forms of F032 and F024 met a RCRA incineration performance of six 9's DRE performance, the modeled compliance treatment alternative of "CMBST" was based on the performance a four 9's DRE - RCRA 40 CFR 264 Subpart O, rotary kiln incinerator combusting F024. Data from the F024 incineration study shows that a well designed and well operated four 9's DRE incinerator can also meet the proposed limits of 1 ppb for nonwastewater forms of F024. Based on this information, EPA believes that RCRA Omnibus permit authorities can be used under 40 CFR 264 Subpart O and 40 CFR 266 to ensure that the combustion of F032 (and F024) is conducted in a well designed and well operated combustion devices and thus, minimizing the release or generation of D/F during combustion.

DCN PH4P039  
COMMENTS AWPI  
RESPONDER JL  
SUBJECT WOOD7  
SUBJNUM 039  
COMMENT F032 REQUIREMENT FOR SIX-9'S INCINERATION IS  
UNWARRANTED

EPA is inappropriately requiring treatment standards for F032 at levels accorded to acutely hazardous waste. This is evidenced by several statements. The Agency "identified one facility currently permitted to combust wastes that may have PCDD and PCDF constituents one to two orders of magnitude higher than those levels found in F032" (the Aptus facility). "Incineration costs for F032 non-wastewaters assumes a 99.9999 percent destruction and removal efficiency" according to the draft RIA. An undated internal memorandum between OSWER staff noting that rotary kiln incinerators followed with adequate air pollution control devices (APCDs) are likely to meet existing six 9's DRE performance requirements. EPA has already given a thorough review to the proper classification of F032 wastes. The Agency cited the results of the National Toxicology Program (NTP) cancer bioassay on commercial pentachlorophenol formulations of varying HxCDD content as further evidence in support of a "toxic waste" classification. COMMENT: This "backdoor" approach to regulate F032 as a de facto "acutely hazardous waste" is inappropriate and further evidence of the need for EPA to reconsider the UTSs for F032 wastes.

#### RESPONSE

It appears that the commentor was concerned that since the BDAT model supporting numerical limits for D/F constituents was based on six 9's Destruction and Removal Efficiency (DRE) incinerators, facilities seeking compliance with the numerical limits in RCRA incinerators, cement kilns, or other industrial furnaces achieving a four 9's DRE were likely to fail the proposed UTS limits. It also appears that EPA's discussions in the preamble and the BDAT Background Document for F032, F034, and F035 that at least one facility was permitted to treat D/F containing wastes as difficult to treat as F032 led the commentor to believe that EPA was considering limiting the combustion of F032 to a six 9's DRE - RCRA combustion device. EPA is clarifying, therefore, that in today's rule EPA is not amending §264.343 (a) (2) or §266.104 (a) (3) to compel the combustion of F032 or F024 in a six 9's Destruction and Removal Efficiency combustion device. Nor has EPA proposed that the combustion of F032 or F024 be only conducted in a six 9's or a four 9's DRE - RCRA combustion device.

It should be noted that although the BDAT combustion technologies supporting the development of UTS limits for D/F regulated in nonwastewater forms of F032 and F024 met a RCRA incineration performance of six 9's DRE performance, the modeled compliance treatment alternative of "CMBST" was based on the performance a four 9's DRE - RCRA 40 CFR 264 Subpart O, rotary kiln incinerator combusting F024. Data from the F024 incineration study shows that a well designed and well operated four 9's DRE incinerator can also meet the proposed limits of 1 ppb for nonwastewater forms of F024. Based on this information, EPA believes that RCRA Omnibus permit authorities can be used under 40 CFR 264 Subpart O and 40 CFR 266 to ensure that the combustion of F032 (and F024) is conducted in a well designed and well operated combustion devices and thus, minimizing the release or generation of D/F during combustion.

DCN PH4P027  
COMMENTS Rollins Environmental  
RESPONDER JL  
SUBJECT WOOD8  
SUBJNUM 027  
COMMENT

EPA is proposing treatment standards for the wood preserving wastes F032, 34, & 35. For the purpose of these comments RES is assuming the proposed treatment standards for these wastes are those listed in the preamble of this proposed rule. The treatment standards listed in the regulatory language of this proposal rule do not coincide with the hazardous constituents of the three wastes, nor do they reflect the intent expressed throughout the preamble. Therefore we are assuming the treatment standards in the preamble are the proposed standards for these three wastes streams.

#### RESPONSE

EPA identified several discrepancies in the list of hazardous constituents and the constituent limits proposed for regulation in several pages of the 60 FR (43680-43682 and 43694-43697). EPA later issued a Correction Notice to clarify what portions of the preamble were incorrect and what portions were correct (see 60 FR (546451), October 25, 1995). Also, several commenters and two technical journals pointed out to these discrepancies. EPA is promulgating pursuant to the Correction Notice unless otherwise noticed in this preamble and in the Final BDAT Background Document for these Newly Listed Wood Preserving Wastes (F032, F034, and F035).

DCN PH4P032  
COMMENTS THE PENTA TASK FORCE  
RESPONDER JL  
SUBJECT WOOD8  
SUBJNUM 032  
COMMENT

For wastewater forms of F032, EPA has proposed treatment standards for dioxins and furans that are in the parts-per-trillion ("ppt") range. The proposed standards were transferred from the universal treatment standards for dioxins/furans in organic wastewater. The UTSs, in turn, are based on biological treatment of wastewaters that contain very low concentrations of dioxins and furans and the treatment standards were set by multiplying the average effluent concentration after treatment times a variability factor of 2.8 and an accuracy correction factor of 5.0. UTS BDAT Background Document, Vol. A, § 5-6.

The universal treatment standards for the various regulated dioxin and furan homologues, with the exception of PeCDF, were developed by transferring data from the treatment of 9. It should be noted that EPA applied the 2.8 variability factor and 5.0 accuracy correction factor in establishing the dioxin/furan universal treatment standard for wastewaters, but inexplicably failed to do so when establishing the UTS standard for dioxins/furans in nonwastewaters. See id., Vol. B at Table 6-1.

TCDD-containing wastewaters. The concentrations of TCDD in the wastewater streams ranged from 0.00004 ug/L to 0.0118 ug/L. Id., Tables 5-156, 5-155. In contrast, the average concentration of dioxins and furans in the wastewater forms of F032 wastes as reported by EPA are in the range of 0.9 ug/L to 60 ug/L, or roughly 2,000 to 5,000 times more concentrated than in the wastewaters used to develop the universal treatment standards. It is improper for EPA to transfer the UTS standard because there is no assurance that the UTS standard



can be met with the higher dioxin/furan concentrations found in the F032 wastewater streams.

**B. Wastewater Treatment Technology Cannot Achieve The Proposed BDAT Treatment Standards.**

EPA has selected wastewater treatment technologies, such as biological treatment, as BDAT for wastewater forms of F032 wastes. But EPA has incorrectly concluded that such treatment technologies can be used to meet the parts-per-trillion dioxin/furan concentration limits of the proposed rule.

The problem with EPA's analysis is most sharply illustrated by considering the biotreatment performance data used in establishing the universal treatment standards for dioxins and furans in organic wastewaters. The data indicate a removal efficiency of roughly 78 percent. See UTS BDAT Background Document for Wastewaters, Tables 5-155, 5-156. If the same removal efficiency were achieved for dioxins/furans in the more concentrated F032 wastestreams, it is clear that the proposed treatment limits would not be met. The dioxins/furans in F032 wastewaters are in the range of 0.9 ug/L to 60 ug/L. Seventy eight percent removal would only reduce the dioxins/furans in the effluent to 0.18 ug/L to 12 ug/L. These final concentrations are from 2 to 190 times higher than the proposed F032 wastewater treatment standard of 0.063 ug/L (or 5 to 343 times the proposed F032 wastewater treatment standard of 0.035 ug/L for PeCDF).

Stated another way, if the Agency had evaluated data on the biotreatment of F032 wastewaters, it would have observed dioxin/furan concentrations in the treated effluent in the range of 0.18 ug/L to 12 ug/L (based on an influent dioxin/furan concentration in the range of 0.9 ug/L to 60 ug/L and a 78 percent removal efficiency). Application

of the standard variability factor of 2.8 and the accuracy correction factor of 5.0 would have resulted in an adjusted treatment standard in the range of 12.6 ug/L to 168 ug/L (based on 0.9 ug/L x 5 x 2.8 and 12 ug/L x 5 x 2.8), or between 200 to 2666 times higher than the proposed 0.063 ug/L limit (360 to 4800 times higher than the proposed 0.035 ug/L limit for PeCDF). In sum, the BDAT standard in the proposed rule does not reflect the concentration of dioxins/furans that would result from biotreatment and, as such, must be adjusted upward.

## RESPONSE

EPA agrees with the commenter that the concentrations of PCDD and PCDF in wastewater forms of F032, as generated, will be, normally, much higher than those found in EPA's data base describing influent wastewaters to bioreactors. EPA is not persuaded, however, by comments emphasizing that the treatment limits are not achievable.

The practice of feeding diluted concentrations of PCDD and PCDF to bioreactors is an expected result in any biological wastewater treatment process because PCDD and PCDF can be highly toxic to microorganisms. One way to overcome such difficulty is to acclimate micro-organisms to some threshold tolerance levels of PCDD and PCDF coming into the reactor. Another way to enable the treatment of PCDD and PCDF in bioreactors is to reduce the loadings of PCP oils, PCDD, PCDF, and toxic metals. The loadings of such pollutants can be reduced with the use of appropriate chemical/physical separation processes (e.g. oil/water separators, distillation, flocculation, or dissolved air flotation), routing the pretreated wastewaters to holding tanks, adjust their pH, or diluted these wastewaters with other wastewaters. In addition, the use of activated carbon adsorption for reducing the levels of nonpolar constituents such as PCDD and PCDF from bioreactor effluent wastewaters can also enable facilities to meet the promulgated limits for PCDD and PCDF. EPA has determined that such practices, including the use of activated carbon adsorption systems, are also common in the wood preserving industry and can be optimized, generally, to meet the treatment limits promulgated today. In fact, activated carbon adsorption is among the most prescribed treatment method for groundwater or surface waters abatement in Records of Decisions where wood preserving facilities reported PCP, PCDD, and PCDF as groundwater/surface water pollutants. (See Appendix K in the Final BDAT Background for Wood Preserving Wastes (F032, F034, and F035), April 15, 1997.) EPA is thus promulgating treatment standards for PCDD and PCDF in wastewater forms of F032 as proposed.

DCN PH4P039  
COMMENTS AWPI  
RESPONDER JL  
SUBJECT WOOD8  
SUBJNUM 039

COMMENT TREATMENT STANDARDS FOR DIOXIN AND FURAN CONGENERS

DO NOT REFLECT RISK The Agency ignores the differences in the risks associated with each of the dioxin and furan congener constituents. EPA proposes the same concentration treatment standard for all dioxin and furan non-wastewaters of 1 ppb while wastewater treatment standards are set at 0.000063 mg/L. Having identified 2,3,7,8-tetrachloro-dibenzo-p-dioxin as the most toxic of the polychlorinated dibenzo dioxin/furan congeners, EPA adopted toxicity equivalency factors (TEFs) which permits the conversion of any PCDD or PCDF congener into an equivalent concentration of 2,3,7,8-TCDD or Toxicity Equivalents (TEQs). Of the six congeners identified in the proposed rule, five are significantly less toxic than 2,3,7,8-TCDD.

Pentachlorodibenzo-p-dioxins (2,3,7,8-PeCDDs) and pentachlorodibenzo-p-furans (2,3,4,7,8-PeCDFs) each have a TEF of 0.5. Hexachlorodibenzo-p-dioxins (2,3,7,8-HxCDDs), tetrachlorodibenzo-p-furans (2,3,7,8-TCDFs), and hexachlorodibenzo-p-furans (2,3,7,8-HxCDFs) each have a TEF of 0.1. COMMENT: EPA should set treatment standards that are reflective of the actual risks posed by the individual PCDD or PCDF congeners by using TEFs. Further, EPA should address the risks posed by the constituents of concern when disposed in a secure Subtitle C landfill, not the residential risk model that the Agency has utilized.

RESPONSE

The commenter has asked EPA to reexamine the constituents selected for regulation such that EPA only regulates those that represent the "highest risk". The commenter suggests that EPA regulates D/F constituents in F032 based on total equivalency factors which allow the conversion of any polychlorinated dibenzo-p-dioxin (PCDD) and polychlorinated dibenzo-p-furans (PCDF) into an equivalent concentration of 2,3,7,8-tetrachlorodibenzo-p-dioxin. The commenter feels such an approach may be more appropriate for F032.

Section 3004 (m) gives EPA regulatory discretion to set either technology or risk based limits that would set the maximum concentrations of D/F in F032 that can be land disposed. EPA's selection of regulated constituent was based on the concentration of untreated constituent measured in the untreated waste and the likelihood that these constituents

can regulate other D/F constituents isomers and homologues present in F032. EPA believes that

this approach is also permissible under the land disposal restrictions since the selected constituents are present at concentrations above UTS limits and these constituents are also hazardous constituents of concern that drove EPA's decision making for listing F032 as a hazardous waste under Subtitle C of RCRA. Certainly, there is no suggestion that the 1 ppb level is a level at which threats to the human health and the environment are minimized. Although there remains considerable uncertainty as to what the ultimate minimum threat level should be, it is clear that potent carcinogens like D/F constituents are not regulated past such point. (See, for example, 61 FR 18780, April 29, 1996.) EPA also points out that although the hepta-dioxin and hepta-furans were constituents of listing concern, EPA chose not to regulate all their homologues and isomers since EPA determined that regulation of the tetra-, penta-, and hexa- will regulate them too. Likewise, EPA identified octa-congeners and isomers of dioxin and furan constituents and they were not regulated since they can also be regulated by the selected constituents.

The commenter is correct to point out that based on toxicity equivalents (TEQs) --the toxicity of several isomers and congeners of PCDD and PCDF regulated in F032 may be less, generally, than the one associated with 2,3,7,8- TCDD. However, EPA notes that the tools to measure the precise toxicity and other health effects posed by PCDD and PCDF in wastes, oils, and other matrices is currently being scrutinized by EPA as part of the ongoing debate on EPA's dioxin health risk assessment. No one has suggested or convinced EPA that the regulated PCDD and PCDF constituents are not toxic. Although EPA believes that technology, risk, or health based treatment standards can satisfy, generally, the provisions of 3004 (m), EPA does not routinely rely on health or risk based quantifiers or factors to adjust upward or downward treatment standards promulgated, under the 40 CFR Part 268, or for the selection of UTS/BDAT constituents regulated by EPA.<sup>3</sup> For example, like PCDD/PCDF, PNA's are other toxic hazardous constituents found in F032 that are also relatively insoluble in water and thus, presumably less likely to migrate from a Subtitle C hazardous landfill. And EPA have selected specific constituents within the PNA's for regulation without relying on toxicity ranking factors for arriving to such list of regulated constituents or to adjust their treatment limits upward. (See Final BDAT Background Document for Wood Preserving Wastes). However, under the land disposal restrictions, treatment levels are based on technologies that substantially reduce the loadings or concentrations of such constituents prior to disposal. Further, no one is suggesting that EPA is setting, today, treatment standards that will force the treatment of PCDD and PCDF below levels were the concentrations of these constituents cease to be hazardous. To the contrary, EPA believes that the treatment standards promulgated today are within a range of treatment levels that will reduce, generally, short- and long-term threats to the human health and the environment. EPA is thus promulgating as

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<sup>3</sup> Nor is EPA precluded from doing so, if EPA determines that a treatment standard promulgated today is inappropriate for a contaminated media pursuant to a treatability variance granted under the 40 CFR Part 268.44 (h).

proposed.

Because EPA is setting treatment standards that are based on the performance of treatment technologies, EPA does rely, generally, on statistical tools to calculate variability factors that can be used in setting the final treatment standards. EPA relies on variability factors to account for fluctuations arising from sampling techniques or for fluctuations arising from the normal operation of treatment processes. EPA has determined, however, that the treatment standards for PCDD and PCDF do not need adjustments because EPA believes that well operated and designed combustion devices can treat, generally, PCDD and PCDF below the 1 ppb limits promulgated today for nonwastewater forms of F032. EPA has settled this issue in the promulgation of the Solvent and Dioxin Rule, the Third Third (F024), and the development of UTS limits for PCDD and PCDF in Phase 2. (See, 51 FR 40615, November 7, 1986; 55 FR 22580-1, June 1, 1990; 59 FR 47982, September 19, 1994). In addition, EPA believes that by promulgating, today, a compliance treatment standard alternative of combustion, the issue of potential adjustments for PCDD and PCDF in nonwaste-water forms of F032 becomes mute. This is because under the combustion treatment standard compliance alternative, combustion residues arising from Part 264, incinerators, or from Part 266, industrial boiler and furnaces, can be land disposed without the monitoring of PCDD and PCDF constituents in F032 derived from residues.

DCN PH4P113  
COMMENTER Chemical Manufacturers Association  
RESPONDER JLABIOSA  
SUBJECT WOOD8  
SUBJNUM 113  
COMMENT

B. EPA should allow concentration-based as well as technology-based criteria to satisfy BDAT for metals in nonwastewater forms of F032, F034, and F035.

In the preamble, EPA indicates that for metal in nonwastewater forms of F032, F034, and F030, stabilization is BDAT for chromium (total), and that vitrification is BDAT for arsenic. Use of the word "is" and not the phrase standards "... are based on" implies that the Agency intends to allow only the use of these specific technologies to treat these constituents to levels below which these wastes may be land disposed. However, the regulatory language in the table at 268.40 indicates that the nonwastewater standards for arsenic and chromium are numerical standards. CMA has commented in the past that it generally favors concentration-based treatment standards for BDAT and that it supports the allowance of technology-based standards as an alternative to, and not as a replacement for, concentration-based standards. We maintain this position. Although the Agency and CMA may not currently be aware of technologies other than stabilization and vitrification that could be used to treat for chromium and arsenic in the wastes described above, we favor the flexibility afforded by a concentration-based standard which would allow any technology that can meet these levels as an alternative. CMA requests that the preamble language be modified to clarify that any technology that can meet the levels indicated in the table may be used.

In addition, EPA is proposing F032 wastewater and nonwastewater standards that would require meeting a concentration that does not exceed 1 ppb (or 1 ug/kg) for all the PCDD and PCDF homologue and isomer constituents proposed for regulation for F032 wastes. Even if a 1 ug/kg level is achievable for PCDD and for PCDF, analytical limitations may preclude UTS levels this low.

Normally when EPA sets treatment standards for a waste constituent, a procedure is followed in which both an "accuracy correction factor" and a "variability factor" are applied to the concentration of the constituent observed in the treatment data that supports the standard. See, Final Best Demonstrated Available Technology (BDAT) Background Document for Universal Treatment

Standards Volume A: Universal Treatment Standards for Wastewater Forms of Wastes, 52 (July 1994). The accuracy correction factor is used to account for analytical limitations in the available treatment performance data, and the variability factor is used to correct for variations in waste treatment, sampling, analytical techniques and procedures, and other factors that affect treatment performance.

However, we are not sure if EPA accounted for variability and accuracy in setting the universal treatment standards for nonwastewater forms of these organic wastes. We urge EPA to do so. As CMA has previously written in its July 9, 1993 comments on the May 24, 1993 Interim final rule on land disposal restrictions for ignitable and corrosive characteristic wastes whose treatment standards were vacated, organic wastestreams are not easily analyzed for constituents at very low concentrations. CMA reiterates its previous recommendation that EPA explicitly states that, given approved test methods, nondetectable levels of constituents are equivalent to zero concentration and should also be applied in the setting of UTS levels.

## RESPONSE

follow  
below:

The commenter raised four issues and EPA's responses to such comments

1. Clarification that EPA is setting numerical limits for the regulation of Arsenic and Chromium (total) in wastewater and nonwastewater forms of F032.

EPA is clarifying in today's final rule that EPA is promulgating UTS limits for the regulation of Arsenic and Chromium (total) in F032, F034, and F035. Since EPA is establishing UTS limits that are expressed as maximum concentrations of these metals allowed for land disposal, the use of any treatment technologies capable of meeting the UTS limits is not prohibited except for those that may constitute impermissible dilution.

2. "Analytical Difficulties" may preclude the establishment of UTS limits for F032.

EPA lacks data from the commenter to assess what kind of technical difficulties will be encountered during the analysis of F032 wastes.

After reviewing the characterization data of the Penta Group, the reported

analytical difficulties, and F032 Characterization studies; EPA has concluded that the reported "difficulties" appear to represent more the unfamiliarity of chemists performing the chemical analyses with D/F recommended test methods rather than real flaws in the test method. EPA believes further that the alleged "difficulties" can easily be overcome by routine laboratory clean-up procedures and the use of appropriate solvents and other laboratory calibration techniques. EPA has enhanced, therefore, the discussion of these recommended procedures and calibration techniques in the BDAT Background Document. (See also the Administrative Record supporting today's Phase 4 final rule for the technical document titled: Background Paper Addressing Technical Issues Related to Analysis of F032 Wood Preserving Wastes for Dioxins and Furans, dated June 19, 1996.)

3. EPA should correct the D/F limits for accuracy and variability.

Several commenters were correct in pointing it out that EPA did not correct the proposed UTS limits for D/F in F032 with accuracy and variability factors, as typically done in the calculation of treatment standards of other hazardous constituents prohibited from land disposal. EPA did not adjust the proposed UTS limits for D/F constituents, nor is EPA doing so in today's final rule, as explained below.

The UTS treatment limits are based on combustion technologies that EPA believes will meet the proposed UTS limits for D/F in F032 as long as the combustion of F032 is conducted in a device that is well designed and well operated. EPA concluded in the Solvents and Dioxins rule that a six-nines Destruction and Removal Efficiency (DRE) combustion device can routinely achieve the promulgated limit (see January 18, 1986, 51 FR (1733-1735)). Based on the performance of a four-nines DRE rotary kiln incinerator burning F024, EPA believes that a four-nines DRE unit that is well designed and operated can also meet the promulgated UTS limits for D/F (see June 1, 1990, 55 FR (22580-22581)). Although none of the submitted comments or data appear to support the revisions to D/F limits proposed by the commenters, EPA may revisit this issue in a separate rulemaking if new data become available.

However, EPA points out to the commenter that EPA generally allows deviations from the promulgated treatment limits to concentration of up to one order of magnitude above the applicable treatment standard (i.e. the numerical UTS limit) prescribed in the 40 CFR 268.40, for the ashes arising from combustion devices if the matrix from CMBST cannot be analyzed to the treatment level using the proper analytic procedures. EPA refers to such treatment limits allowances as the analytical detection limit (compliance) alternative. Facilities seeking the disposal of such combustion ashes must satisfy the provisions in the 40 CFR 268.40 (d) (1) through (3) and 268.7 (b) (5) (iii). (Also, see June 1, 1990, 55 FR (22541-22542).)

In addition, EPA has set an alternative compliance treatment standard that sets combustion "CMBST" as a treatment standard for D/F for nonwastewater forms of F032.



To qualify for a "CMBST" treatment standard, the combustion device should be operated under a 40 CFR 264 Subpart O or under a 266 operating permit and the Permit writer will use his/her Omnibus power authorities to determine if a combustion device seeking to treat F032 can be deemed well operated and well designed combustion devices. If deemed a well operated and designed combustion device, the facility will not have to monitor the concentrations of D/F constituents in wastewater and nonwastewater forms arising from the combustion of F032. EPA feels therefore that such alternative compliance treatment standard fully addresses the concerns raised by the commenters.

4. Proposal that "nondetection limits" are equivalent to zero detection.

EPA believes the commenter is concerned that a detection limit in a treated waste above a UTS numerical limit may fail to meet the applicable treatment standard even if the targeted analyte is below the detection limit. EPA believes that a "nondetection limit" is not a feasible way to address this concern. EPA believes that a constituent shown below a particular targeted detection limit means that the constituent is either destroyed by the employed technology, masked in the waste residue due to matrix interferences, or it could be measured in concentrations below the targeted detection limit. As a result, it could be possible that the constituent of LDR concern is still above the applicable UTS limit should the targeted selection limit be above the UTS promulgated limit. Therefore, EPA believes that a facility could still be deemed in violation of the applicable limit if EPA detects such constituent above its UTS limit.

However, EPA points out to the commenter that EPA generally allows deviations from the promulgated treatment limits to concentration of up to one order of magnitude above the applicable treatment standard (i.e. the numerical UTS limit) prescribed in the 40 CFR 268.40, for the ashes arising from combustion devices. EPA refers to such treatment limits allowances as the analytical detection limit (compliance) alternative. Facilities seeking the disposal of such combustion ashes must satisfy the provisions in the 40 CFR 268.40 (d) (1) through (3) and 268.7 (b) (5) (iii). (Also, see June 1, 1990, 55 FR (22541-22542).) Another option available to the commenter is to verify if the waste of concern is different from the one supporting the UTS limit and seek from EPA a treatability variance pursuant to provisions in the 40 CFR 268.44.



DCN PH4P039  
COMMENTS AWPI  
RESPONDER JL  
SUBJECT WOOD9  
SUBJNUM 039  
COMMENT DIOXIN AND FURAN LIMITS FOR F032 WASTEWATERS ARE  
UNACHIEVABLE

EPA has proposed treatment standards for F032 wastewaters that were transferred from the UTSs for dioxins and furans in organic wastewater. These UTSs are based on biological treatment of wastewaters containing very low concentrations of dioxins and furans ranging from 0.00004  $\mu\text{g/L}$  to 0.0118  $\mu\text{g/L}$ . The average concentrations of dioxin and furans in F032 wastewaters are much higher ranging from 0.9  $\mu\text{g/L}$  to 60  $\mu\text{g/L}$ . COMMENT: Given that the removal efficiency for biological treatment of the lesser concentrated was only 78 percent, AWPI does not believe that EPA can support the claim that the UTS can be met with the higher concentrations of dioxins and furans found in F032 wastewaters.

#### RESPONSE

The commentor has asked EPA to withdraw the proposed UTS limits for the regulation of dioxin and furan (D/F) constituents in wastewater forms of F032. The commentor indicates that the proposed UTS limits cannot be achieved since the untreated concentrations of D/F in F032 are much higher than those observed in untreated wastewater supporting the UTS limits.

Like other commenters, this commentor feels that the limits proposed for D/F in F032 wastewaters are not achievable. Commenters feel that EPA's own wastewater characterization data showed that the D/F concentrations in untreated F032 wastewaters were at significant orders of magnitude greater than the untreated concentrations in wastewater supporting the proposed UTS limits. They also emphasized that the performance of biological treatment units treating D/F constituents achieve up to 78% destruction and thus, it may yield an effluent with higher concentrations than those proposed by EPA. As a result, the commentor concluded that the proposed treatment standards for D/F in wastewater forms of F032 cannot be met.

EPA has examined the available data on the characterization of F032, prevailing management practices for wastewaters as difficult to treat as F032, and for wastewaters managed by biological treatment systems. EPA acknowledges that the concentrations of D/F in F032 wastewaters, as generated, are much higher than those treated by the biological treatment system supporting the UTS limits for D/F promulgated today. Based on the available data, EPA believes that prevailing wastewater treatment practices in the

Wood Preserving industry can be optimized or up graded to meet the D/F limits proposed for F032 wastewaters.

EPA believes that these F032 wastewaters can meet the proposed limits because Wood Preserving facilities currently treat these wastewaters via biological treatment and the concentrations of Pentachlorophenol(PCP) and D/F in F032 wastewaters are being reduced substantially in order to enable the treatment of F032 wastewaters via biological treatment processes. In general, the PCP in F032 wastewaters in Wood Preserving facilities is comprised of soluble and nonsoluble PCP loadings or fractions. Generally, soluble PCP fractions enhance the solubility of D/F constituents in the wastewater. Nonsoluble fractions of PCP also carry concentrations of D/F and these constituents partition with oils, colloids, and suspended solids.

Soluble PCP fractions are being treated in biological treatment processes once appropriate pretreatment units have removed the nonsoluble PCP loadings to the wastewater treatment system. Also, a reduction in the loading of colloids, metals, total suspended solids(TSS), oils, and grease to biological treatment processes is necessary, because these wastewater contaminants can inhibit the performance of biological treatment processes. These wastewater inhibiting contaminants are typically treated in physical/chemical trains such as API sludge tanks which separate oil and grease fractions from the wastewaters, followed by the treatment of API wastewater effluents in a dissolved air flotation (DAF) which removes residual oils, residual grease, and colloids, and followed by filtration of DAF wastewaters to remove TSS and any residual colloids. These wastewaters are then routed to holding tanks which feed them to biological treatment processes. If biological treatment effluents still yield wastewaters with D/F concentrations above the UTS limits, these wastewaters can be treated by a sequence of three treatment trains: (1) filtration (if necessary), (2) pH adjustment to a neutral or slightly acidic pH, and (3) activated carbon adsorption. EPA has data on the performance of these technologies and the available data support promulgation of the proposed UTS limits. EPA believes that, generally, activated carbon adsorption (ACA) will allow facilities to treat wastewater effluents from bioreactors. ACA is widely used for the remediation of surface waters/groundwaters at wood treater sites. As a result, EPA is promulgating the UTS limits for D/F in wastewater forms of F032, as proposed. In short, EPA believes the standards to be achievable through pretreatment to remove interfering agents, followed (if necessary) by sequential treatment to achieve the standards. For additional discussion on EPA's determination, see Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035.

Another commentator asked EPA to withdraw its proposal for the regulation of D/F constituents in F032 wastewaters. The commentator believes that the regulation of PCP and Polycyclic Aromatic Hydrocarbons (PAHs) can ensure the reduction of D/F in F032 wastewaters. The commentator also submitted data with regard to concentrations of D/F, PCP, and PAHs analytes in two effluent F032 wastewaters treated by activated carbon adsorption. These data appear to support the commentator's statement that monitoring of PCP and PAHs

may serve as a surrogate candidates for the reduction of D/F levels in these particular effluent wastewaters. However, EPA lacks data to determine if the alternative surrogate constituents proposed for regulation can also serve as surrogates for monitoring the treatment of D/F in wastewater treatment effluents resulting from other treatment technology trains that may achieve the proposed UTS. Although EPA is not adopting this proposed alternative treatment standard for D/F regulated in F032 wastewaters, EPA points out that treaters of F032 wastewaters can address this kind of alternative compliance monitoring scheme in their permits' Waste Analysis Plans (WAP). Another option to the monitoring of D/F in treated F032 wastewater treatment effluents is the use of expert knowledge to certify that F032 wastewaters meet the applicable UTS limits for D/F or any other regulated constituent in the waste (see 40 CFR 268.7). It should be emphasized, however, that whether or not regulated D/F analytes are monitored in a WAP approved by EPA or an authorized State, EPA is not precluded from enforcing the applicable treatment standards by characterizing each D/F, organic, and metal analyte regulated in F032.

EPA is promulgating, therefore, UTS limits for D/F in wastewater forms of F032 as proposed. EPA also notes that it expects the wastewater standards to have little practical impact. If wastewaters are treated in tanks, LDRs do not apply because there is no land disposal. If the wastewaters are treated in impoundments, the impoundments will meet minimum technological requirements and so satisfy the requirements of section 3005 (j) (11), which means that the wastewaters do not have to be treated before they are placed in the impoundment. If the wastewaters are injected, there is ample capacity among Class 1 wells with approved no migration petitions to take untreated wastewaters.



DCN PH4P023

COMMENTS Beazer East, Inc.

RESPONDER JL

SUBJECT WOOD10

COMMENTS During the past several years, it has become apparent that EPA has begun to rethink its overall approach to the management of hazardous wastes. With the advent of the corrective action management unit ("CAMU") rule, EPA has begun to distinguish between wastes generated during remediation of sites ("remediation waste") and production wastes generated by on-going manufacturing facilities ("as-generated wastes"). Recognizing the vast difference between remediation wastes and as-generated wastes, initial efforts are now underway by EPA to develop independent regulatory programs for these wastes. For example, the Agency is currently drafting a proposed Hazardous Waste Identification Rule ("HWIR") designed to more realistically characterize and manage media impacted by hazardous waste. In addition, after five years in limbo, EPA has announced that an Advance Notice of Proposed Rulemaking on Subpart S regulations will be published in early 1996. Early reports indicate that the Subpart S regulations will further advance EPA's goal of providing flexibility and incentive to the regulated community conducting remedial activities at Resource Conservation and Recovery Act ("RCRA") and Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") sites. Beazer believes that these EPA initiatives may and should provide much-needed flexibility to the regulated community managing remediation waste without adverse impact to human health or the environment. This worthy EPA goal, however, will not come to fruition for the management of wood treating site remediation wastes if EPA promulgates the proposed LDRs for Hazardous Waste Nos. F032, F034 and F035 as drafted. In short, a strict application of this proposal will bring remediation of wood treating sites to a standstill. Parties conducting these remediations, such as Beazer, will be left with no workable option for implementing the remediations required by state and federal administrative orders and decrees. The proposed LDRs for wood treating wastes will thwart the progress made to date for several reasons. As discussed in greater detail below, the Agency's proposed LDR for dioxin/furan congeners (hereinafter referred to as "dioxin/furan") as constituents of F032 LDR lacks scientific justification and will create insurmountable disposal problems. For example, EPA has determined that its proposed one

part per billion ("ppb") concentration limit for dioxin/furan can be achieved by incineration, without considering the consequence of only one incinerator being licensed in the United States to accept such waste. Furthermore, EPA has intentionally, through its Draft Combustion Strategy For Combustion of Hazardous Waste, May 1993 ("Combustion Strategy"), created significant impediments to the issuance of new permits for additional hazardous waste incinerators. Moreover, as Beazer has consistently maintained in its previous comments, the public simply refuses to tolerate the risks of new incineration, particularly with respect to the more controversial substances, such as PCBs or dioxins. Under these circumstances, any thought of obtaining a new permit for an incinerator which would be used to incinerate dioxin/furan is unfathomable. Application of these LDRs will result in an EPA-created monopoly of the dioxin/furan incineration business. Because the costs of incinerating dioxin/furan-containing wastes are already beyond the reach of the regulated community for any significant amount of material, the proposed LDR for F032 will likely: (1) serve as disincentive to the regulated community to commence remediation voluntarily of media containing F032; (2) result in disruption, delay or total cessation of activities at remediation sites; and/or (3) create financial demands that will be impossible to meet for those regulated entities which are required by either a state or federal authority to excavate F032 media. Beazer believes that by requiring incineration for dioxin/furan, but only permitting one incinerator to treat dioxin/furan, EPA is placing the regulated community in an impossible situation. EPA's approach would result in F032-impacted remediation waste being caught in the Catch-22 position of not being treatable at the site due to LDRs while at the same time not being accepted for treatment/disposal by any outside commercial entity except the lone permitted incinerator, whose cost and capacity restraints will essentially rule out its use. Beazer believes that a number of alternatives to incineration can be employed at wood treating sites that are protective of human health and the environment. Another ramification of EPA's proposed LDRs involves the extremely low wastewater treatment standards for wood treating wastes. EPA's stringent wastewater treatment requirements (e.g., dioxin/furan levels of 0.00063 mg/l) will have a profound impact on the management of remediation of groundwater at sites. According to the regulation, the regulated community will be forced to expend valuable resources to design



and construct wastewater treatment facilities capable of meeting these low limits for any wastewaters generated at sites where pentachlorophenol ("penta") was used. Again, these requirements will result in a shutdown of remedial actions at these sites. A third critical impact of promulgating such stringent LDRs is that EPA will effectively exclude all innovative technologies from consideration at such remedial sites. Such action is in direct contravention of RCRA and CERCLA, 42 U.S.C. § 6902(a)(9) and 42 U.S.C. § 9621, and will require expenditures at sites that are wholly disproportionate to the environmental benefit. Moreover, the exclusion of non-incineration alternative technologies to treat impacted wood preserving remediation waste to LDR standards will result in bringing the remediation process to an abrupt halt. As such, EPA's proposed LDRs for F032 are arbitrary, capricious and an abuse of discretion. For these reasons and others discussed in these comments, Beazer believes that the Agency must give careful consideration to the necessary integration of the proposed LDRs (designed to protect the land from dumping of primarily untreated as-generated wastes) into RCRA and CERCLA's critical cleanup programs (designed to remediate the land to acceptable conditions). Rather than depart from its emerging policy to promote and facilitate remediation, the Agency must clearly state in the final rule that the LDRs apply to as-generated wastes only (in keeping with its position that as-generated wastes and remediation wastes differ significantly) and that the management of remediation waste (including the application of LDRs) will be governed exclusively by the HWIR upon promulgation, as modified by the new Subpart S rule. By excluding remediation wastes from the current LDR rulemaking, EPA will continue to facilitate remediation activities. Moreover, no adverse environmental effects would be expected as a result of this exclusion because the risks associated with management of these materials will be addressed on a site-specific basis. By utilizing a risk-based approach for remediation waste management (as we understand will be proposed in the HWIR and Subpart S rules), non-incineration technologies will likely be available to the regulated community for treating remediation waste at wood preserving sites, and, where adequately protective of human health and the environment, these remediation-generated materials can remain on-site and be managed accordingly. Should EPA fail to exclude remediation waste from the instant rulemaking, then EPA must, as a matter of course and without imposing protracted regulatory hurdles, allow

the use of CAMUs at all wood treating sites managing remediation wastes after the proposed capacity variance terminates and until the HWIR rule's impact on remediation is manifested. Otherwise, entities will be forced to undergo the exhaustive variance petition process for exclusion from the LDR regime - a process which is not only difficult to navigate successfully but will result in the unnecessary commitment of the Agency's and the regulated community's time and money. This comment package addresses the technical and legal shortcomings of the proposed LDRs for wood treating wastes, including its associated analytical problems, questionable science and capacity shortfalls and the impact of this Proposed Rule on future rulemakings. For organizational purposes, the technical and practical shortcomings of the Proposed Rule are discussed in Section II and, based upon a number of the points discussed in Section II, the more global aspects of the proposed LDRs and how they will affect site cleanups are addressed in Section III. Beazer requests that EPA give its full consideration to these comments. EPA's failure to incorporate the recommendations discussed in these comments amounts to arbitrary Agency action, which is in violation of and reviewable under RCRA and the Administrative Procedure Act, 5 U.S.C. § 706.

## RESPONSE

The commenter is concerned with the potential impact the proposed treatment limits for the regulation of PCDD and PCDF constituents in wastewater and nonwastewater forms of F032 can have on remedial activities taking place at wood preserving sites. The commenter has raised various arguments that the commenter believes should persuade EPA to withdraw the proposed regulation of PCDD and PCDF in F032 or that may persuade EPA to delay applying the proposed limit to contaminated media at wood preserving sites. The commenter believes that the proposed treatment limits for regulating PCDD and PCDF in nonwastewater and wastewater forms of F032 will be unachievable and will discourage the excavation of soils/debris/sediments or the pump and treat of surface water, leachate, and groundwater.

EPA acknowledges the commenter concerns and agrees that the promulgated limits can impact ongoing remediation activities at wood preserving sites and that compliance with the treatment limits promulgated today can potentially shift the focus of remedial activities away from ex-situ to in-situ or to close in place (e.g. capping) remedies. EPA also agrees that there might be instances where the promulgated treatment limits may be determined by EPA to be "inappropriate" or "unachievable" by some contaminated media at wood preserving sites. And EPA may do so, on a case-by-case basis pursuant to EPA's authorities under

CERCLA and RCRA. However, it would be illegal for EPA to delay or withdraw the regulation of hazardous media contaminated with F032 because F032 is a newly listed waste prohibited from land disposal. In addition, EPA is not persuaded that the concentrations of PCDD and PCDF in F032 or in contaminated media with F032 do not warrant regulation under the LDRs. (See Final BDAT Background Document for Wood Preserving Wastes (F032, F034, and F035) for EPA's rationale for regulating F032 in hazardous wastes and contaminated media, and response to comments under Wood 4 issues.)

Based on the review of wastewater management practices available at the wood preserving industry and on data describing treatment the performance of technologies that can facilitate the ex-situ remediation of contaminated media at wood preserving sites, EPA believes that these treatment limits are feasible and that they also shall apply to contaminated media. EPA also believes that two or more technology trains may be necessary to meet the treatment limits promulgated today. First, wood sites contaminated with PCP has relied on combustion technologies to destroy PCP, PCDD, PCDF, and other organic contaminants, generally, for the destruction of "hot spots". The treatment of contaminated groundwater or surface water via physical/chemical (P/C) treatment followed by biological treatment or followed by carbon adsorption are also being practiced; extensively, by the wood preserving industry and in the remediation of groundwater and surface waters at wood preserving sites. For instance, treatment trains are used at remedial sites to collect Non-Aqueous Phase Liquids and to concentrate, recycle, or subsequently destroy the concentration of PCP oils which also may show significant concentrations of PCDD and PCDF constituents. Wastewaters from these P/C process may undergo biological treatment or just undergo carbon adsorption prior to an outfall discharge under a National Point Discharge Elimination System permit or to an onsite re-injection to the groundwater. In addition, EPA disagrees with the commenter that the treatment limits set today for PCDD and PCDF in wastewater forms of F032 are so "stringent" that extensive wastewater treatment processes will have to be installed to meet the treatment limits promulgated today. This is because EPA believes that properly pretreated wastewaters (e.g. removal of PCP oils and colloids via API sludge removers followed by dissolved air flotation) followed by activated carbon adsorption (ACA) can meet the promulgated treatment limits. Activated carbon adsorption is a technology routinely used to remove the concentrations of hydrophobic constituents such as PCDD and PCDF from groundwaters, surface waters, and industrial wastewaters and ACA is routinely used for such purposes at wood preserving sites. Based on data describing the performance of these technologies, EPA believes that combustion (soils/debris), and P/C treatment followed by activated carbon adsorption (wastewaters, groundwater, and surface waters) can be optimized to meet the treatment limits promulgated today.

Also, EPA believes that 268.44 (h) can readily allow the commenter to meet alternative treatment limits when a particular treatment technology train is unable to treat contaminated soils, debris, or media to the treatment limits promulgated today or for media which EPA determines the treatment limits are inappropriate. (See Final BDAT Background Document for Wood Preserving Wastes and appropriate EPA guidance cited in the Final

BDAT Background document. ) EPA also disagrees that the pursuance of treatment alternatives under 268.44(h) may be an undoable burden to the industry. First, some members of the regulated community, remedial vendors, and presumably the commenter itself, has already gained experience with the procedures for soliciting from the EPA Regional Administrator treatability variances. This is because the industry has already dealt with other remedial wastes contaminated with wood preserving wastes already prohibited from land disposal, e. g. K001 and characteristic wastes. Also, EPA believes that the treatability variance process can be readily incorporated; as it is normally done for other wastes prohibited from land disposal, into the scope of feasibility studies conducted under CERCLA or RCRA. In fact, feasibility studies are often an integral part in scoping out the alternative treatment limits to be achieved under 268.44 (h). (See, generally, LDR Guidance 6A and 6 B, and the Final BDAT Background Document for Wood Preserving Wastes (F032, F034, and F035)). EPA believes, therefore, that the marginal cost for pursuing a treatability variance, generally, can be minimized.

Finally, the commenter believes that in order to lessen the regulatory burden that LDRs may impose at wood preserving sites, the EPA should grant CAMUs to all wood preserving sites managing remediation wastes without delay, once the National Capacity Variance has expired. EPA believes that although a CAMU can be one of several options available to wood preserving sites, such an option can only be made available, on a site specific basis and in accordance with the applicable regulations under the 40 CFR 264 Part S. Although EPA expects, however, the HWIR media and generated waste proposal to put to rest most of the issues raised by the commenters, EPA believes that the interim guidance for granting treatability variances under 268.44 (h) can address and minimized must of the concerns raised by Beazer. (See, for example, memorandum titled: Use of Site-Specific Land Disposal Restriction Treatability Variances Under 40 CFR 268.44(h) During Cleanups, from Michael Shapiro, Director , Office of Solid Waste and Steve Luftig, Director, Office of Emergency and Remedial Response, to RCRA/CERCLA Senior Policy Mangers, Region I-X, dated January 8, 1997.)

DCN PH4P023

COMMENTS Beazer East, Inc.

RESPONDER JL

SUBJECT WOOD10

COMMENT III. FUTURE RULEMAKINGS AND POLICY FORMATION

AFFECTING REMEDIATION MUST BE CONSISTENT AND PRACTICAL

A. The Proposed

LDRs for Wood Treating Wastes as Drafted Will Negatively Impact the HWIR For Media. 1. The proposed LDRs will limit the HWIR treatment alternatives. The proposed HWIR for media is part of the Clinton Administration Regulatory Reform Initiative to exempt certain impacted media from regulation as hazardous waste and to establish media-specific treatment standards for those impacted media which are not exempted from regulation. By establishing a management program for impacted media outside Subtitle C, EPA is acknowledging the fundamental difference between process waste and remediation waste. EPA is expected to establish "Bright Line" concentrations of hazardous waste constituents in media. Media with constituent levels below the "Bright Line" will no longer be considered to "contain" hazardous waste. Media which contain hazardous waste constituents above the "Bright Line" will require treatment prior to land disposal. EPA has indicated that these treatment standards will include various options such as (1) treatment to 10% of the original constituent concentration, (2) use of certain qualified innovative technologies, and (3) treatment to ten times the EPA UTS for the regulated constituents. As discussed above, the Agency's proposed LDR for F032 will make the third option cost prohibitive because the dioxin/furan LDRs, as proposed, are so stringent that the regulated community will be provided little relief even if the LDRs are multiplied by a factor of 10. With regard to the second option (the use of innovative technologies), EPA's recognized alternatives described in the Proposed Rule are not implementable in the field for F032. Also, development of such technologies will be unlikely given the lack of development and permitting unless EPA accepts the results of the innovative technology in advance of full scale pilot studies and does not require further treatment. Thus, the treatment options expected to be set forth in the final HWIR may realistically be limited to only one when applied to wood treating sites where penta was used: reduction of the original constituent concentration by 90%. This option may also be cost prohibitive for media impacted by F032. Therefore, if

EPA sets the LDRs for dioxin/furan as proposed, no options will exist for treatment of penta wastes other than incineration. At a remediation site, this means that media cannot be disturbed without violating LDRs. Thus, remediations will simply stop and will be replaced with all the subsequent legal wrangling necessary for protection of the parties from civil and stipulated penalties and drawn out battles over the meaning of force majeure clauses and other impossibility defenses. To the extent that media is already disturbed or the Agency insists on requiring media management, the only practical solution may be to place the impacted media in an on-site unit that meets RCRA minimum technology requirements. After placing the regulated community in this Catch-22 situation, EPA should not be heard later to criticize or challenge the regulated community's inability to meet LDRs. Timing may play a critical role in the inter-relationship of the HWIR and the LDRs for wood preserving wastes. The LDRs for wood preserving wastes are expected to be promulgated far in advance of the HWIR rulemaking. As such, these "process waste" LDRs will apply to remediation wastes. Although EPA is considering a national capacity variance for a period of two years in the Proposed Rule (which Beazer wholly supports), it is impossible to predict how long it will take EPA to promulgate the HWIR rulemaking, especially considering that the Subpart S rule was first proposed in 1990 and is not expected to be even re-proposed until 1996. Even assuming that EPA would appropriately draw a "Bright Line" that does not characterize media as a Subtitle C hazardous waste, compliance with the LDRs during the interim period will result in unnecessary expense and delay. As stated in the Proposed Rule: for some of the wastes at issue in this rule it may not be feasible to ship wastes off site to a commercial facility. In particular, facilities with large volumes of wastewaters may not readily be able to transport their waste to treatment facilities. Alternative treatment for these wastes may need to be constructed on site. 60 Fed. Reg. 43685, footnote 4. The example of groundwater further underscores the point. There are not enough resources anywhere to extract groundwater for off-site treatment to LDRs. And, the time and costs associated with permitting and construction of individual treatment facilities to meet the impossibly low UTSs for groundwater have not been even considered by EPA. These additional expenses must be addressed under the Regulatory Impact Analysis to give the regulated community a fair idea of the true costs of this

action. RECOMMENDATION:

RESPONSE

EPA agrees with the commenter that the proposed treatment standards can have a chilling effect on ongoing remedial activities under RCRA, offsite remedial activities under CERCLA, and new or modified onsite Record of decisions under CERCLA. EPA agrees, further, that in many instances, the cost to comply with such treatment standards may be prohibited. EPA emphasizes, however, that HSWA prohibits EPA from taking into account cost considerations when setting treatment standards that implement RCRA 3004(m) provisions. EPA points out, however, that although HWIR media and HWIR regulatory efforts are still on the horizon and such regulatory frame works are more appropriate, generally, for remedial activities; EPA cannot adopt the commenter's proposed option that media contaminated with wood preserving wastes are exempted from the LDRs. EPA's promulgation of such suggested option will be illegal since F032, F034, and F035 are newly listed wastes and EPA is mandated by HSWA to ban all and newly listed RCRA hazardous wastes from land disposal practices. As a result, treatment standards are needed to implement such restrictions. (See HSWA Section 3004(m) and 3004 (g)(4); Chemical Waste Management v. EPA, 869 F. 2d, D.C. Cir. 1989)

EPA also points out that the promulgated treatment limits may be determined by EPA to be "inappropriate" or "unachievable" by some contaminated media at wood preserving sites. And EPA may do so, on case-by-case basis pursuant to EPA's authorities under CERCLA and RCRA. EPA believes that although HWIR media and HWIR waste will put most of the commenter concerns to rest, EPA believes --that in the interim-- the RCRA regulatory option under the 40 CFR 268.44 (h) can address the commenters concerns. EPA notes that EPA's constructs of 300(m) allows EPA to set technology or risk based treatment standards and in today's final rule, EPA has selected a technology based approach. EPA points out, further, that such interpretation also has been extended to variances granted under the 40 CFR 268.44(h). (See memorandum titled: Use of Site-Specific Land Disposal Restriction Treatability Variances Under 40 CFR 268.44(h) During Cleanups, from Michael Shapiro, Director, Office of Solid Waste and Steve Luftig, Director, Office of Emergency and Remedial Response, to RCRA/CERCLA Senior Policy Mangers, Region I-X, dated January 8, 1997.) EPA has discussed other potential waivers or variances from the treatment standards promulgated today in the Final BDAT Background Document for Wood Preserving Wastes (F032, F034, and F035).

DCN PH4P023

COMMENTS Beazer East, Inc.

RESPONDER JL

SUBJECT WOOD10

COMMENT B. The Proposed LDRs Are Contrary to EPA's Goals for Corrective Action. On July 27, 1990 (55 Fed. Reg. 30798), EPA proposed regulations governing corrective action implementation. Of these proposed regulations, only the sections addressing CAMUs and temporary units were finalized. 58 Fed. Reg. 8658 (February 16, 1993). The remainder of the 1990 proposal, however, has been used routinely by states and EPA regions as guidance as these entities implement corrective action programs. Under the corrective action program, the facility owner/operator is responsible for conducting the remedial activities. EPA has informally indicated that it believes that there has been general reluctance on the part of facility owners and operators to undertake voluntary actions at RCRA sites. As a result, EPA is looking for opportunities to create incentives to the use of voluntary activity. As part of its re-proposed Subpart S rulemaking, it is expected that EPA will introduce several mechanisms to increase flexibility under the corrective action process under RCRA. The HWIR-media rule discussed above is considered to be complimentary to EPA's corrective action program because it provides state and EPA regions with a mechanism to tailor requirements for management of contaminated media to the risk posed by any given media and the circumstances at any given corrective action site. However, the HWIR rule is also expected to rescind the CAMU rulemaking. Without the availability of CAMUs, the LDRs will play a dominant role in the management of remediation wastes. Unless EPA excludes remediation wastes from the wood preserving waste LDRs, the regulated community will refrain from voluntary cleanup activities. Moreover, the available remedial alternatives will be drastically decreased. Decisions regarding corrective action at wood treating sites will be made based on whether the remediation wastes can be disposed of in accordance with the LDRs in a manner that is not cost prohibitive. As discussed in the 1990 Subpart S proposal, the Agency believes that many potential remedies will meet the threshold criteria proposed for corrective measures selection and in such a situation, cost is an important consideration in choosing the remedy which most appropriately addresses the circumstances at the facility, and which uses the resources of the facility owner and operator most



efficiently. 55 Fed. Reg. 30798, 30825, Col. 1, (July 27, 1990). Under such a scenario, corrective measures at sites where penta was used will be driven by cost. As stated above, due to the exorbitant cost of incinerating dioxin/furan wastes and the lack of alternative technologies, either cleanups will cease or not be undertaken voluntarily. RECOMMENDATION:

## RESPONSE

EPA agrees with the commenter that the proposed treatment standards can have a chilling effect on ongoing remedial activities under RCRA, offsite remedial activities under CERCLA, and new or modified onsite Record of Decisions under CERCLA. EPA agrees, further, that in many instances, the cost to comply with such treatment standards may be prohibited. EPA emphasizes, however, that HSWA prohibits EPA from taking into account cost considerations when setting treatment standards that implement RCRA 3004(m) provisions. EPA points out, however, that although HWIR media and HWIR regulatory efforts are still on the horizon and such regulatory frameworks are more appropriate, generally, for remedial activities; EPA cannot adopt the commenter's proposed option that media contaminated with wood preserving wastes are exempted from the LDRs. EPA's promulgation of such suggested option will be illegal since F032, F034, and F035 are newly listed wastes and EPA is mandated by HSWA to ban all and newly listed RCRA hazardous wastes from land disposal practices. As a result, treatment standards are needed to implement such restrictions. (See HSWA Section 3004(m) and 3004 (g)(4); Chemical Waste Management v. EPA, 869 F. 2d, D.C. Cir. 1989)

EPA points out that the promulgated treatment limits may be determined by EPA to be inappropriate or unachievable by some contaminated media at wood preserving sites. And EPA may do so, on case-by-case basis pursuant to EPA's authorities under CERCLA and RCRA. (See Citgo determination, 61 FR 55718, October 28, 1996.) EPA believes that although HWIR media and HWIR waste will put most of the commenter concerns to rest, EPA believes --that in the interim-- the RCRA regulatory option under the 40 CFR 268.44 (h) can address the commenters concerns. EPA notes that EPA's constructs of 300(m) allows EPA to set technology or risk based treatment standards and in today's final rule, EPA has selected a technology based approach. EPA points out, further, that such interpretation also has been extended to variances granted under the 40 CFR 268.44(h). (See memorandum titled: Use of Site-Specific Land Disposal Restriction Treatability Variances Under 40 CFR 268.44(h) During Cleanups, from Michael Shapiro, Director, Office of Solid Waste and Steve Luftig, Director, Office of Emergency and Remedial Response, to RCRA/CERCLA Senior Policy Managers, Region I-X, dated January 8, 1997.) EPA has discussed other potential waivers or variances from the treatment standards promulgated today in the Final BDAT Background Document for Wood Preserving Wastes (F032, F034, and F035).

DCN PH4P023

COMMENTS Beazer East, Inc.

RESPONDER JL

SUBJECT WOOD10

COMMENT C. EPA's Selection of Incineration as BDAT for F032 Is  
Contrary to Its Presumptive Remedy for Wood Treating Sites.

Several years ago, the Superfund program began the "presumptive  
remedy" initiative to streamline site investigations and

facilitate the selection of remedies by utilizing past

experience at similar sites. Presumptive remedies are preferred

technologies for common categories of sites, based on historical

patterns of remedy selection and EPA scientific and engineering

evaluation of performance data on technology implementation.

See, Presumptive Remedies: Policy and Procedures, EPA

540-F-93-047, September 1993. EPA believes that once

presumptive remedies are selected, they are to be used at all

appropriate sites, including RCRA sites. Id. The Agency is

currently in the process of drafting a presumptive remedy for

wood treating sites. This presumptive remedy will incorporate

EPA's Technology Selection Guide for Wood Treater Sites, EPA

540-F-93-020, May 1993. Beazer has provided comments and has

met with EPA regarding the presumptive remedy for wood treating

sites and expects the presumptive remedy to include

bioremediation, incineration for limited hot spot areas, and

stabilization for metals. The Agency's proposed LDRs for wood

treating wastes are inconsistent with these presumptive

remedies. Ex-situ biotreatment of wood treating wastes will be

eliminated by virtue of the proposed LDR regulations because any

F032 remediation wastes which are excavated will require

incineration to meet the 1 ppb standard for dioxin/furan. The

proposed LDR for F035 is also inconsistent with the Technology

Selection Guide for Wood Treater Sites which calls for

stabilization of CCA, not vitrification. RECOMMENDATION: EPA

cannot continue to promulgate conflicting regulatory programs

that apply to the same groups of remediation wastes. Nor can

EPA continue to promulgate regulations that are intended to

apply to only process waste and yet not clearly exclude

remediation wastes from their jurisdiction. The Agency is under

a statutory mandate to provide the regulated community with

consistent regulatory programs. Beazer believes that EPA should

ensure that the proposed LDRs meet that mandate. IV.

CONCLUSION In conclusion, Beazer requests that the Agency give

full consideration to the foregoing comments. We are prepared

to discuss any of these issues further with you upon request.

## RESPONSE

EPA agrees with the commenter that the proposed treatment standards can have a chilling effect on ongoing remedial activities under RCRA, offsite remedial activities under CERCLA, and new or modified onsite Record of Decisions under CERCLA. EPA agrees, further, that in many instances, the cost to comply with such treatment standards may be prohibited. EPA emphasizes, however, that HSWA prohibits EPA from taking into account cost considerations when setting treatment standards that implement RCRA 3004(m) provisions. EPA points out, however, that although HWIR media and HWIR regulatory efforts are still on the horizon and such regulatory frame works are more appropriate, generally, for remedial activities; EPA cannot adopt the commenter's proposed option that media contaminated with wood preserving wastes are exempted from the LDRs. EPA's promulgation of such suggested option will be illegal since F032, F034, and F035 are newly listed wastes and EPA is mandated by HSWA to ban all and newly listed RCRA hazardous wastes from land disposal practices. As a result, treatment standards are needed to implement such restrictions. (See HSWA Section 3004(m) and 3004 (g)(4); Chemical Waste Management v. EPA, 869 F. 2d, D.C. Cir. 1989.)

EPA is not persuaded by the commenters arguments that the concentrations of PCDD and PCDF in F032 or in remedial soils/groundwaters do not warrant treatment standards under the LDRs. EPA has determines that these constituents are toxic and hazardous and that they are also carcinogenic constituents in F032 warranting treatment standards under the LDRs. EPA's rationale for setting treatment standards for these constituents can be found in the Final BDAT Background Document for Wood Preserving Wastes (F032, F034, and F035) and in other portions of this Response to Comments document, and thus it is not repeated here.

EPA also points out that the promulgated treatment limits may be determined by EPA to be "inappropriate" or "unachievable" by some contaminated media at wood preserving sites. And EPA may do so, on case-by-case basis pursuant to EPA's authorities under CERCLA and RCRA. EPA believes that although HWIR media and HWIR waste will put most of the commenter concerns to rest, EPA believes --that in the interim-- the RCRA regulatory option under the 40 CFR 268.44 (h) can address the commenters concerns. EPA notes that EPA's constructs of 300(m) allows EPA to set technology or risk based treatment standards and in today's final rule, EPA has selected a technology based approach. EPA points out, further, that such interpretation also has been extended to variances granted under the 40 CFR 268.44(h). (See memorandum titled: Use of Site-Specific Land Disposal Restriction Treatability Variances Under 40 CFR 268.44(h) During Cleanups, from Michael Shapiro, Director, Office of Solid Waste and Steve Luftig, Director, Office of Emergency and Remedial Response, to RCRA/CERCLA Senior Policy Mangers, Region I-X, dated January 8,

1997.) EPA has discussed other potential waivers or variances from the treatment standards promulgated today in the Final BDAT Background Document for Wood Preserving Wastes (F032, F034, and F035).

DCN PH4P027  
COMMENTS Rollins Environmental  
RESPONDER JLABIOSA  
SUBJECT WOOD11  
SUBJNUM 027  
COMMENT

Commenters were also concerned that including Dioxin/Furans in the treatment standard for F032 wastes will reduce commercially available treatment capacity for these wastes. RES is confident this concern is unfounded. As the largest supplier of commercial incineration services in the U.S. we are confident there is ample commercial treatment capacity available to treat F032 wastes.

#### RESPONSE

EPA is promulgating treatment standards that set numerical limits for the regulation of Dioxin and Furan (D/F) hazardous constituents in F032. In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method for D/F constituents in F032.

EPA has promulgated, however, a revised "CMBST" compliance alternative which limits the availability of the "CMBST" to those combustion devices subject to the combustion standards in the 40 CFR 264 Subpart O, or 40 CFR 266, Subpart H. As proposed, EPA is amending the existing "CMBST" compliance treatment alternative for F024 and promulgating instead, the same "CMBST" treatment alternative finalized for F032 in today's rule. EPA notes that F032 combusted in incinerators operated in compliance with the 40 CFR 265 Subpart O do not qualify for these alternative "CMBST" treatment alternative unless the facility can demonstrate that the combustion efficiency of the Part 265 incinerator is similar to or better than those under Part 264 (incinerators) or Part 266 (BIFs). EPA will use 40 CFR 268.42(b) to examine and determine how equivalent Part 265 incinerators are to Part 264 incinerators or Part 266 BIFs. (See Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, April 16, 1997, and the preamble for a discussion of such determination of equivalent treatment pursuant to 268.42(b)). As a result, facilities or generators who elect to combust F032 and F024 in 40 CFR 265 incinerators must monitor the levels of D/F constituents in the treated residues or rely on expert knowledge as a prerequisite to land disposal.

The commenter has stated that there is sufficient treatment capacity to treat F032 wastes. EPA agrees with the comment, except in the cases of F032 contaminated soil and debris, and

mixed wood preserving and radioactive wastes. As detailed in today's preamble, EPA believes there is sufficient capacity for both wood preserving wastewater and nonwastewater hazardous wastes. However, given the lack of available capacity and other issues associated with soil and debris contaminated with F032, F034, and F035 wood preserving wastes, EPA is granting a two-year variance for these wastes. In addition, EPA has determined that sufficient alternative treatment capacity is not available for radioactive wastes mixed with wood preserving wastes, and is granting a two-year national capacity variance.

EPA notes that in 1989, the Agency found difficulty in locating facilities to receive F024 wastes until the treatment standard was amended to include a CMBST alternative. Under the same line of reasoning, the Agency believes that by including the CMBST alternative for F032 wastes, generators will have more flexibility in their choice of treatment facilities. The Agency also believes that by promulgating the CMBST alternative for F032 wastes, constituents of concern will continue to be fully treated, and therefore the standard does not compromise the Agency's commitment to protection of human health and the environment.

DCN PH4P032  
COMMENTS Penta Task Force  
RESPONDER JLABIOSA  
SUBJECT WOOD11  
SUBJNUM 032  
COMMENT

I. EPA SHOULD NOT ESTABLISH A CONCENTRATION STANDARD FOR DIOXIN AND FURAN CONSTITUENTS OF F032 WASTES.

A. The Stigma Associated With Dioxin-Containing Wastes Will Cause Incineration Facilities to Refuse To Accept F032 Wastes.

In prior rulemakings, EPA has recognized that the stigma associated with wastes that must be treated to meet specific dioxin and furan limits leads to severe capacity shortfalls. See, e.g., 55 Fed. Reg. 22,520, 22,580 (June 1, 1990) (F024 waste). Indeed, in the F024 rulemaking, the Agency found it necessary to revise the standard to delete the dioxin/furan limits and to offer incineration as an alternative technology in order to prod the treatment industry into accepting the wastes. 55 Fed. Reg. at 22,581. As EPA acknowledged in the context of that rulemaking: [T]he Agency is revising the treatment standards promulgated on June 23, 1989 to specify incineration as a method of treatment for F024 wastes ..... Ordinarily the Agency would not alter a regulatory standard due to industry recalcitrance. In this case, however, the clear existence of a problem, the Agency's desire to have industry resume treatment of these wastes (there was no capacity shortfall until EPA promulgated the Second Third treatment standard), and the statutory prohibitions on disposal and storage (which foreclose all legitimate waste management options) have led EPA to revise the treatment standard. 55 Fed. Reg. at 22,581. Since that time, EPA has promulgated dioxin and furan treatment standards for only one other type of waste that would require incineration --dioxin-containing multi-source leachate (F039).<sup>1</sup> In the case of F039 wastes, however, it was clearly understood that very little of the waste would require treatment. See Response to Comments on the Background Document for the Second Third Land Disposal Restrictions in the Proposed Rule Dated January 11, 1989 (54 FR 1056), Vol 3 (June 8, 1989) (response to comment 51 Cii-1) (noting that "[t]he Agency does not expect, however, that dioxins and furans will often be present in multi-source leachate at concentrations requiring treatment"). As such, the stigma and related capacity shortfalls that normally would have been expected to result from the dioxin and furan treatment standard for F039 did not arise.

in practice.

In the current proposal, EPA has suggested that its combustion strategy will alleviate the stigma problem. See 60 Fed. Reg. at 43,686. See also Background Document for Capacity Analysis for Land Disposal Restrictions -- Phase IV: Issues Associated with Clean Water Act Treatment Equivalency, and Treatment Standards for Wood-Preserving Wastes and Toxicity Characteristic Metal Wastes (Proposed Rule), at 311 (Aug. 1995) (Dkt. No. PH4P-S0292) (hereinafter "Capacity Analysis"). But EPA has failed to explain how its combustion strategy which focuses

1" The BDAT treatment standard for nonwastewater forms of K099 wastes also specifies a 1 ppb limit for dioxin and furan constituents, but that standard is based on chemical oxidation and not incineration. 53 Fed. Reg. 31,138, 31,170 (Aug. 17, 1988). As such, the K099 treatment standard does not raise the stigma issue discussed above.

on reducing dioxin/furan emissions would address the heart of the stigma issue -- the reluctance of incinerator operators to analyze for dioxins and furans in combustion residuals. This reluctance is accounted for by three factors: (1) the cost of analysis for dioxins and furans which can run as high as \$1,500 per sample, (2) the need for multiple burns to reduce dioxin/furans in treatment residuals to low levels, and (3) the considerable concern within the treatment industry that analysis for dioxins/furans in treatment residuals may open up a "Pandora's Box." The last factor arises because dioxins and furans are present in many of the chlorinated waste streams handled by incinerator facilities and are also products of incomplete combustion ("PICs"), and the industry is not currently required to analyze, or otherwise account, for the dioxins/furans in the residuals.

Indeed, data in the docket for this rulemaking strongly suggest that there may be a significant concentration of dioxins/furans in the particulate matter currently removed from emissions by incinerator air pollution control devices. The Draft Combustion Emissions Technical Resource Document (CETRED), (EPA 530-R-94-014) (May 1994), presents data on particulate emission rates for 17 commercial hazardous waste incineration facilities (22 data sets with a total of 133 data points). CETRED, Table 4.3-1. The average particulate emission rate for the facilities was 0.19 grains (gr) of particulate per dry standard cubic foot (dscf) of stack gas where the oxygen level of the gas is 7 percent. Id. The



dioxin/furan an emission rate for eight of these facilities is also given in Table 4.9-2 of the CETRED document; the average was 157.5 nanograms (ng) of dioxins/furans per dry standard cubic meter (dscm) of stack gas with a 7 percent oxygen content. The following equation provides a measure of the average dioxin/furan concentration in the emissions:

$$\{ \{ (157.5 \times 10^{-9} \text{ g/dscm}) / (0.019 \text{ gr/dscf}) \} \times 7000 \text{ gr/lb} \} / 454 \text{ g/lb} \times 0.0283 \text{ cm}^3/\text{cf} = 3671 \text{ ppb},$$

and is based on the assumption that the dioxins and furans in the stack are in particulate or condensed form. On a toxic equivalency ("TEQ") basis 2, the dioxin/furan concentration in the particulate is roughly 193 ppb and thus would exceed the 1 ppb limits of the proposed rule by some two orders of magnitude.3

2 Table 4.9-2 of the CETRED document provides a value of 8.38 ng/dscm for dioxin/furan emission rates on a TEQ basis. This value is plugged into the above equation to derive the estimate of 193 ppb for dioxin emissions on a TEQ basis.

3 The 1 ppb dioxin/furan treatment standards would translate into 1.85 ppb of total dioxins/furans on a TEQ basis. This results from application of the TEF values for the various dioxin/furan homologues of F032 wastes to the 1 ppb proposed treatment standard. Thus, the TEF value of 1.0 provides an adjusted TEQ of 1 ppb for TCDD, the TEF value of 0.5 provides an adjusted TEQ of 0.5 ppb for PeCDD, the TEF value of 0.1 ppb provides an adjusted TEQ of 0.1 ppb HxCDD. Similarly, the TEQ values for the furans are: 0.1 ppb for TCDF, 0.5 ppb for PeCDF, and 0.1 ppb for HxCDF. These values conservatively assume that all dioxin and furan congeners are present in the biologically active 2,3,7,8-chlorinated form.

The CETRED document also suggests that the dioxin/furan content of incinerator particulates may exceed the proposed treatment standards even after their operation is upgraded under the combustion strategy. Two proposals for controlling hazardous waste incinerator emissions are contemplated under the combustion strategy. Under the first proposal, the particulate emission rate for hazardous waste combustion units would be limited to 0.01 gr/dscf and the dioxin/furan emission rate would be limited to 0.17 ng/dscm TEQ. CETRED, v. vii. The dioxin/furan concentrations in the particulates under this first proposal could be as high as 7.4 ppb on a TEQ basis.4

Under the second proposal, the particulate emission rate would be limited to 0.0049 gr/dscf and the dioxin furan emission rate would

be limited to 0.12 ng/dscm on a TEQ BASIS. Id., v, vii. The dioxin/furan concentration in the particulate under this second proposal could be as high as 10.7 ppb on a TEQ basis.<sup>5</sup> Under either proposal, therefore, the dioxin/furan concentration in the particulates would easily exceed the proposed dioxin/furan treatment standards for nonwastewater forms of F032 waste. Also, in light of the public hysteria associated with dioxins, it is not entirely clear that the public will accept the burning of any dioxin-containing wastes even after the combustion strategy is implemented. As demonstrated by the recent difficulties experienced by companies attempting to obtain dioxin incinerator permits, the public continues to be opposed to the burning of any dioxin-containing wastes even when the facility can demonstrate that it will meet 99.9999 percent DREs.

## RESPONSE

The commenter has raised several arguments seeking to persuade EPA in withdrawing EPA's proposal for regulating Dioxin and Furan (D/F) hazardous constituents in F032. One primary concern raised by the commenter is that there is a "stigma associated with the regulation of D/F in wastes" that may compel incineration facilities to refuse providing combustion services for F032 if EPA adopts the proposed UTS limits for D/F constituents. EPA is not persuaded by the argument that the regulation of D/F should be withdrawn. The D/F constituents proposed for regulation in F032 are present in F032 in significant concentrations above the UTS proposed limits and some of these constituents also supported the listing of F032 as a hazardous wastes. EPA also believes that combustion and non-combustion treatment technologies are demonstrated to reduce the short- and long-term threats to the human health and the environment associated with the disposal of F032. EPA is thus promulgating UTS limits for D/F as proposed.

EPA acknowledges the potential impact the regulation of D/F limits may have on the availability of combustion capacity, in particular, the reluctance of commercial hazardous waste incinerators to accept F032 should EPA codify the UTS limits as the only compliance option for D/F in F032. (EPA's experience of lack of availability of capacity for F 024 wastes after promulgating a standard that included a numerical limit for CDDs shows that the commenter's concerns are rational.) EPA believes, further, that combustion represents the Best Available Treatment Technology for F032. EPA is also persuaded by the Penta Group arguments that an alternative treatment standard of Combustion ("CMBST") may make it easier for combustion facilities to accept these wastes and still treat CDDs to levels reflecting BDAT. (EPA's experience with the F 024 wastes again serves as a guide. The difficulties in finding available treatment stopped after EPA amended the treatment standard to provide a CMBST alternative.) EPA has thus promulgated an alternative treatment standard of combustion ("CMBST") for the regulation of D/F prior to disposal. (See the BDAT

Background Document for F032, F034, and F035, and today's final rule preamble for further discussion on EPA's rationale in promulgating this alternative treatment standard.)

The commenter also asked for clarification on how the Combustion Strategy will minimize the stigma for regulating D/F in wastes being combusted. As noted in the Notice of Data Availability (NODA) (see 61 FR 21418, May 10, 1996), EPA has identified the generation and emissions of D/F constituents from combustion devices as potential environmental concern. The concern is legitimate, but is not linked to combustion of these particular wastes. More importantly, CDD emissions from hazardous waste combustion can be controlled to levels that are protective of human health and the environment. The Agency is presently developing such a standard as part of the rulemaking now being conducted for these units. EPA pointed out that information supporting the proposed MACT limits for reducing the emissions of D/F air pollutants into the atmosphere indicates that about half of the combustion facilities tested by EPA meet the proposed D/F air emissions standard. (See NODA, 61 FR 21438 and the proposed revisions for Hazardous Combustors, 61 FR 17358, April 19, 1996). In the May 10, 1996 NODA, EPA proposed further several options that may minimize the potential formation and emission of D/F from combustion devices. One suboption was to allow any hazardous combustion device to manage F032 and F024 wastes prior to land disposal. EPA also proposed that compliance with the proposed MACT limit of 0.20 ng/SCDF (TEQ) be required for those combustion devices treating F032 and F024. EPA believes that the proposed air emission limit may need to undergo further comment and review and that it would be premature to finalize this limit for F032 and F024 wastes. In addition, EPA proposed to limit the combustion of F032 and F024 to combustion devices that have a final Part B permit under 40 CFR 264 and 266. F032 or F024 combusted in incinerators operated in compliance with the 40 CFR 265 Subpart O would not qualify for these alternative "CMBST" treatment alternative unless the facility can demonstrate that the combustion efficiency of the Part 265 incinerator is similar to or better than those under Part 264 (incinerators) or Part 266 (BIFs) under 40 CFR 268.42(b). EPA is promulgating today this proposed third option since it will allow greater access to combustion devices and it also will allow permit writers more latitude to prescribe technical controls and operating conditions that can minimize the potential for generating and emitted amounts of D/F.

The commenter raises a third argument that the commenter believes shall compel EPA to withdraw the proposed UTS limits for specific D/F constituents in F032. The commenter's argument focuses on several D/F stack emission rates suggested in the CETRED document, TEQ assumptions, and calculations that the commenter believes suggest that the existing combustion devices may be unable to meet the proposed UTS limits. EPA notes that no a priori methodology yet exists which can predict the exact performance an incineration device will have on the quality of incineration ash, incineration scrubber water, or on the air emissions from combustion devices. The level of performance combustion devices can achieve must be determined through field testing, and by setting in place appropriate technological and operating controls that can optimize the ultimate performance of the combustion device and the allowed emission discharges. EPA feels that the permitting process for incinerators enables

EPA and authorized states to assess the need for such controls and to ensure that F032 are treated via combustion practices that are well designed and operated. EPA also believes that the existing rules for boilers and industrial furnaces under 40 CFR Part 266, Subpart H provide the same assurance.

DCN PH4P039  
COMMENTS AWPI  
RESPONDER JL  
SUBJECT WOOD11  
SUBJNUM 039

COMMENT EPA IGNORES THE STIGMA ASSOCIATED WITH DIOXIN AND FURAN WASTES

EPA states that incineration should be able to meet the proposed treatment standards for organic wastewaters and non-wastewaters. However, this ignores the stigma associated with dioxin and furan wastes. EPA is aware of the dioxin and furan waste stigma and has acknowledged this directly and indirectly on several occasions. In 1991, the Agency noted that "the commercial-hazardous waste treatment industry tends to shy away from these (dioxin-containing) wastes, thus resulting in unnecessary delays in such treatment." The Agency also acknowledged that incineration capacity is limited and "the possibility of increased capacity in the future is constrained by EPA's "Draft Strategy for Combustion of Hazardous Waste", issued in May 1993. Presently, there is only one incinerator permitted to accept dioxin-containing wastes in the United States ( Rollin's APTUS facility in Coffeyville, Kansas). EPA has not issued standards dealing with particulate matter and dioxins/furans under its combustion strategy. Given the strong public resistance to new incinerators, and the huge costs associated with permitting a six-9's facility (several millions of dollars), additional incineration capacity for these wastes is not likely. COMMENT: AWPI believes that sufficient incineration capacity does not exist to meet the actual volumes of F032 wastes.

RESPONSE

EPA is promulgating treatment standards that set numerical limits for the regulation of Dioxin and Furan (D/F) hazardous constituents in F032. In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method for D/F constituents in F032.

EPA has promulgated, however, a revised "CMBST" compliance alternative which limits the availability of the "CMBST" to those combustion devices in compliance with applicable combustion standards in the 40 CFR 264 Subpart O, or 40 CFR 266, Subpart H. F032 wastes combusted in devices operating under 40 CFR 264 or 266 do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities

must meet UTS numerical limits applicable to each organic and metal constituent regulated in F032 as a prerequisite to land disposal.

It should be emphasized that facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265 Subpart O do not qualify for a "CMBST" treatment standard, unless they are able to make a demonstration of equivalent performance to a permitted incinerator or to a BIF. F032 residues arising from all other 40 CFR 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

DCN PH4P039  
COMMENTS AWPI  
RESPONDER JL  
SUBJECT WOOD11  
SUBJNUM 039

COMMENT ALTERNATIVE TREATMENT STANDARDS FOR F032 WASTES EPA  
has

previously acknowledged that incineration effectively destroyed dioxin and furan constituents. The Agency offered incineration as an alternative technology in the F024 rulemaking although this was in response to "industry recalcitrance" and "the Agency's desire to have industry resume treatment [of F024].  
COMMENT: Recognizing the stigma associated with incineration of dioxins and furans, the limited capacity, and the inherent difficulties in analyzing for dioxin and furan constituents, EPA should promulgate an alternative standard based on incineration in a four-9's combustion unit.

#### RESPONSE

EPA is promulgating treatment standards that set numerical limits for the regulation of Dioxin and Furan (D/F) hazardous constituents in F032. In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method for D/F constituents in F032.

EPA has promulgated, however, a revised "CMBST" compliance alternative which limits the availability of the "CMBST" to those combustion devices in compliance with applicable combustion standards in the 40 CFR 264 Subpart O, or 40 CFR 266. F032 wastes combusted in combustion devices operating under 40 CFR 264 or 266 do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities must meet UTS numerical limits applicable to each organic and metal constituent regulated in F032 as a prerequisite to land disposal.

It should be emphasized that facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265 Subpart O do not qualify for a "CMBST" treatment standard, unless they are able to make a demonstration of equivalent performance to a permitted incinerator or to a BIF. F032 residues arising from all other 40 CFR 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is

directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment. EPA believes that Omnibus permit authorities under RCRA and other available environmental federal/state laws can be used to support the establishment of 3004(m) treatment standards and thus, to prescribe appropriate technological controls on treatment methods prescribed for these wastes. EPA has promulgated specific performance standards for the operation of incinerators combusting certain acutely toxic wastes that contain D/F constituents (see 40 CFR 264.343 (a) (2) and 50 FR 2005, January 14, 1985). EPA has promulgated similar kinds of technology treatment standards for hazardous wastes regulated under §268.42 and hazardous debris §268.46. These specific treatment standards under §§268.42 and 268.46 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective of the human health and the environment.



DCN PH4P039  
COMMENTS AWPI  
RESPONDER JLABIOSA  
SUBJECT WOOD11  
SUBJNUM 039  
COMMENT

#### ALTERNATIVE TECHNOLOGIES TO INCINERATION DO NOT EXIST

EPA states that "any available technology can be used to meet the LDR level. All of the so-called "alternatives" were evaluated by the Office of Technology Assessment (OTA) in 1991.

Of the thirteen identified dioxin and furan treatment technologies, only one (rotary kiln incineration) had been developed, permitted and used on a site cleanup.

#### COMMENT:

AWPI is unaware of any alternative technology that has been developed to commercial scale, permitted to receive, and capable of meeting the 1 ppb PCDD and PCDF UTSS.

#### INCINERATION FOR F032 IS NOT "AVAILABLE"

EPA has based its treatment standards for F032 on incineration. The Agency estimates that the 49 plants using pentachlorophenol generate 12,600 tons of F032 non-wastewater process sludges and residuals per year. In addition, these plants will generate some 10,500 tons of F032 soil and debris annually.

While not disputing that the technology has been demonstrated, AWPI questions how EPA can state that it is "available." Only one site (APTUS) is permitted to accept dioxin-containing wastes with a 19,500 to 24,500 tons per year capacity. Of that amount, 70 percent is dedicated to TSCA-regulated PCB waste leaving 5,850 to 7,350 tons per year capacity available for other waste streams.

#### COMMENT:

If one assumes that the APTUS facility will dedicate the remaining 30 percent capacity exclusively to burning F032 waste, and assuming the high end of the capacity range (7,350 tons per year), the APTUS facility comes up short by 15,750 tons per year. One six-9's facility does not constitute "available" technology.

#### RESPONSE:

The commenter believes that treatment technologies identified in the BDAT Background Document and the OTA document cannot meet the proposed limits for PCDD and PCDF in media contaminated with F032. It appears that the commenter is also referring to

how the proposed limits may impact remedial activities that would like to rely on offsite treatment options (e.g. excavation followed by offsite treatment and disposal). EPA agrees with the commenter that most of the remedial treatment technologies described in the OTA document and EPA BDAT document may not currently be developed for offsite treatment since the focus of such treatment processes is to facilitate onsite clean ups.

EPA agrees with the commenter that the proposed limits, can be achieved, generally, via combustion. However, EPA disagrees with the comment that soils treated via alternative remediation technologies identified by EPA or the OTA report often will fail to achieve the proposed treatment limits for PCDD and PCDF. EPA has determined that energy and chemical intensive technologies such as chemical dehalogenation, thermal desorption, and solvent extraction (specifically, the Critical Fluids 5-pass system) are most likely to enable the treatment of contaminated soils to the UTS limits promulgated today. EPA also believes that difficult to treat soils may be amenable to optimization such that alternative treatment levels pursuant to the 40 CFR 268.44 (h) can be set. (See Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035.) This determination is based on the treatment of wastes, PCP oils, PCB oils, sludges and soils believed as difficult to treat as F032 and F034 wastes. EPA notes that, for example, thermal desorption can achieve or treat, generally, organics as difficult to treat as PCDD and PCDF well below the UTS limits in matrices such as soils, sludges, and debris. Solvent extraction can also be optimized, presumably, for sludges, oils, and permeable soils. However, EPA acknowledges that thermal desorption or solvent extraction residues pregnant with PCDD and PCDF at concentrations above the UTS limits will have to undergo subsequent treatment via combustion or chemical dehalogenation prior to disposal.

EPA recognizes and acknowledges, further, that there will be soils or contaminated media for which either the treatment standards are inappropriate or simply, cannot be achieved. EPA believes that these difficult to treat soils/contaminated media could be addressed, generally, through a treatability variance in the 40 CFR 268.44 (h). EPA has also listed and briefly discussed other variances and legal venues in the Final BDAT Background Document that could lessen the impact of the treatment standards promulgated today (see Final BDAT Background Document and for Wood Preserving Wastes F032, F034, and F035 and for a citation of appropriate EPA guidance). EPA is thus promulgating, today, treatment standards as proposed.

Another concern expressed by the commenter was what kind of controls EPA intended to impose on the combustion of F032. EPA is clarifying that F032 are toxic wastes and that combustion devices combusting these wastes would be required to meet appropriate combustion controls that would ensure the destruction of PCDD and PCDF. And the combustion of these wastes can take place in either four-nines or in a six-nines Destruction and Removal Efficient combustion device. Because EPA believes that well designed and well operated combustion devices can meet, generally, the promulgated limits, EPA has promulgated an alternative compliance treatment standard of combustion. Compliance with these standard waives the need for monitoring for PCDD and PCDF in combustion residues as long as other hazardous organic and metal constituents are monitored prior to disposal. EPA has limited, however, the availability of this alternative combustion treatment standard to units treating with combustion controls under Part 266, BIFs, or Part 264, incinerators. A Part 265, incinerator, who can demonstrate to EPA that the combustion controls at the facility's combustion unit are equivalent to a part 266, BIFs, or Part 264, incinerator, may be able to qualify for the alternative combustion treatment standard provided the Part 265 facility obtains from EPA an equivalent treatment determination pursuant to the 40 CFR Part 268.42(b). (See preamble discussion and Final BDAT Background Document for Wood Preserving Wastes for additional discussion on the implementation of the CMBST standard.) EPA believes that this alternative compliance treatment standard can address the concerns expressed by the commenter on what kind of controls EPA will impose on the combustion of F032 wastes.

DCN PH4P058  
COMMENTS JH BAXTER  
RESPONDER JL  
SUBJECT WOOD11  
SUBJNUM 058  
COMMENT

In contrast to the concern about treatment delays it viewed as serious in 1991, EPA now curtly dismisses the issue in one sentence, stating that the Agency's "Combustion Strategy" will alleviate this problem. 60 Fed. Reg. at 43682. In reviewing the proposed regulation there is no discussion of the "Combustion Strategy" or whether facilities legally will be able to accept and treat wastes with the associated dioxin standard using this "Combustion Strategy."

Presumably, the "Combustion Strategy" refers to a draft policy statement issued by EPA on May 18, 1993, that discusses both short and long-term goals for incinerators and industrial furnaces. It is impossible to ascertain how this policy statement can alleviate the unwillingness of the hazardous waste industry to accept F032 wastes if a dioxin standard is imposed. As noted earlier by EPA, refusals by commercial hazardous waste treaters to accept wastestreams with specific dioxin standards are based on public sensitivities and concerns about increased liability. Changes in permitting requirements or incinerator capacity applicable to a dioxin standard for F032 may be goals of EPA's draft policy. These goals currently have not changed public perceptions or decreased liability concerns for waste treaters. No treatment standard should be tied to these changes until they are realities.

In the newly proposed regulation, EPA has identified only one commercial facility currently permitted to combust wastes that may have PCDD and PCDF constituents with concentrations above the treatment standard proposed for F032 wastes. 60 Fed. Reg. at 43681. It is our understanding that this incineration facility has an annual capacity of only 22,000 tons. Seventy percent of this annual capacity is devoted to incineration of TSCA-regulated wastes contaminated with polychlorinated biphenyls. Therefore, this facility has additional annual capacity for only 6,600 tons of wastes from RCRA-regulated disposal activities. This predictable, extreme capacity shortfall is not addressed at all by EPA in the proposal.

RESPONSE

The commenter asked EPA to clarify how the Combustion Strategy may lessen the public perception on the combustion of D/F containing wastes. Under the Combustion Strategy, EPA has directed permit writers to conduct risk assessments and to determine whether or not the combustion of low level dioxin containing wastes is being conducted in a manner that is protective of the human health and the environment. EPA is exercising EPA's Omnibus permit writer authority under the statute to ensure that the combustion practices are being conducted properly. In addition, EPA has proposed new regulations for Hazardous Waste Combustors, revised Standards, namely the MACT Combustion rule, that would set air emission limits on D/F particulate emissions. (See 61 FR 17358-17536, April 19, 1996.)

Subsequent to the Phase 4 proposal, EPA published a Notice of Data Availability (NODA) that call for three suboptions that may allow the disposal of F032 wastes combusted in well designed and well operated combustion devices without the need that D/F constituents are monitored in the treated waste prior to disposal. EPA proposed three suboptions that would implement the proposed combustion compliance alternative, namely a combustion "CMBST" standard: (1) adoption of the existing "CMBST" standard for F024 (chlorinated aliphatic waste that also contains D/F constituents), (2) a "CMBST" that would compel meeting a proposed MACT limit for D/F air emissions, and (3) "CMBST" that would limit the combustion of F032 and F024 to fully permitted incinerators under 40 CFR 264 Part B. (See 61 FR 21418, May 10, 1996.)

After an exhaustive review of the public comments and due to an outgrowth of the public comments, EPA withdrew suboption 2. EPA also withdrew suboption 1 since EPA concluded that adoption of suboption 1 may limit EPA ability to compel risk analyses and incineration studies that can demonstrate that F032 or F024 wastes are being combusted in manner protective to the human health and the environment. EPA was also persuaded by comments emphasizing that combustion units operating pursuant to 40 CFR 266, Subpart H must meet stringent emission and combustion controls and that EPA Omnibus permit authorities can also be used (for permitted devices) to ensure that the combustion of F032 and F024 is conducted in well designed and well operated combustion devices. EPA has promulgated, therefore, a revised suboption 3 that limits the availability of a "CMBST" for the regulation of D/F constituents regulated in F032 or F024 to those F032 or F024 wastes combusted in either 40 CFR 264 or 266 combustion devices. F032 or F024 wastes combusted in 40 CFR 265 incinerators must meet applicable UTS limits for D/F as a prerequisite to land disposal, unless the owners/operators are able to make a demonstration of equivalent performance to a permitted incinerator or to a BIF.

DCN PH4P058  
COMMENTS JH BAXTER  
RESPONDER SB  
SUBJECT WOOD11  
SUBJNUM 058  
COMMENT

Along with other members of the wood preservation industry, J.H. Baxter is concerned about the impact of the proposed 1.0 part per billion treatment standard for dioxins and furans in the F032 wastestreams. J.H. Baxter believes there is not adequate capacity for treatment of F032 wastes if a treatment standard is established for dioxin constituents. Even with adequate capacity, the high cost of incineration would make the economic impact on our company and other affected wood treating facilities devastating.

We also have provided comments on the current classification of wood preserving production waste waters as solid waste. J.H. Baxter believes EPA should amend the regulations to exempt recycled wood preserving waste waters from the definition of solid waste.

**I. Treatment Standards for F032 Wood Preserving Wastes. EPA's Proposal Does Not Address Capacity Shortfall Issues**

J.H. Baxter uses pentachlorophenol (penta) to treat wood products, primarily utility poles and utility pole cross arms, that are exposed to extreme weather conditions for extended periods of service. The treating solution for these wood products consists of penta and oil, usually fuel or diesel grade. Consequently, F032 wastestreams have high energy values. They are accepted at permitted incineration facilities as alternative energy sources. If the proposed regulation with the associated dioxin standard is adopted, the wood preserving industry no longer will be able to utilize the facilities currently permitted to burn F032 wastes.

In 1991 EPA requested data and comments on treatment standards for many newly listed RCRA wastes, including F032 wastes. At that time, the Agency noted that in its experience when dioxin and furan constituents are proposed for regulation in waste-specific treatments, the hazardous waste industry "tends to shy away" from the treating such wastes, creating delays in treatment. 56 Fed. Reg. 55160, 55179 (Oct. 24, 1991). The proposal stated that the delays result "due to the acute sensitivity of the public to these constituents and the increase in liability resulting from handling them. Id. In effect, these wastes are pariahs as far as the public and the hazardous waste treatment industry are concerned. EPA, therefore,

solicited ideas on how F032 treatment standards could be constructed, so as to avoid anticipated bottlenecks in treatment for these wastes.

In the current proposal, EPA notes that many commentors to its 1991 notice expressed concerns that facilities would not accept the F032 waste if the treatment standards include a dioxin limitation. J.H. Baxter shares these concerns. J.H. Baxter has been informed by Laidlaw Environmental, the commercial hazardous waste facility currently handling our F032 wastestreams, that Laidlaw will not accept these wastes if the dioxin standard for F032 wastes is adopted. J.H. Baxter has no doubt that it will be extremely difficult, if not impossible, to obtain timely treatment for F032 wastestreams, should dioxin constituents be regulated.

## RESPONSE

EPA is promulgating treatment standards that set numerical limits for the regulation of Dioxin and Furan (D/F) hazardous constituents in F032. In response to comments from the The Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method for D/F constituents in F032.

EPA has promulgated, however, a revised "CMBST" compliance alternative which limits the availability of the "CMBST" to those combustion devices in compliance with applicable combustion standards in the 40 CFR 264, Subpart O, or 266. F032 wastes combusted in combustion devices operating under 266 or 264 do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities must meet UTS numerical limits applicable to each organic and metal constituent regulated in F032, as a prerequisite to land disposal.

It should be emphasized that facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265 Subpart O do not qualify for a "CMBST" treatment standard, unless they are able to make a demonstration of equivalent performance to a permitted incinerator or to a BIF. F032 residues arising from all other 40 CFR 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

Although the commentor supported the promulgation of the proposed "CMBST" treatment standard under suboption 1, EPA believes that the adopted final "CMBST" standard fully addresses the commentor's concerns.





DCN PH4P097  
COMMENTS Hazardous Waste Management  
RESPONDER JL  
SUBJECT WOOD11  
SUBJNUM 097  
COMMENT

Secondly, the Agency has not adequately considered the extent of the existing capacity to combust this waste as supported by the Agency's own statement that, "EPA has identified one commercial facility currently permitted to combust wastes that may have PCDD and PCDF constituents with concentrations one or two orders of magnitude higher than those levels found in F032" (60 FR 43682). This statement contradicts the Agency's capacity analysis which indicates that there is sufficient incineration capacity for wood preserving waste streams. Currently, there may be incineration capacity for the F034 wastes; however, that capacity does not include capacity for dioxins and furans that are proposed as BDAT for F032. Furthermore, it is not clear how the Agency's Combustion Strategy will alleviate this problem as asserted by the Agency. The establishment of stricter dioxin and furan requirements on combustion facilities will still not alleviate the myth in the eyes of the public that dioxin is the most toxic compound known to man and that no exposure is acceptable. As a result, the Agency should reevaluate this position and either promulgate a two-year capacity variance or remove the dioxins and furans from the F032 treatment standards.

#### RESPONSE

It appears that the commenter was concerned that since the BDAT model supporting numerical limits for D/F constituents was based on six 9's Destruction and Removal Efficiency (DRE) incinerators, facilities seeking compliance with the numerical limits in RCRA incinerators, cement kilns, or other industrial furnaces achieving a four 9's DRE were likely to fail the proposed UTS limits. It also appears that EPA's discussions in the preamble and the BDAT Background Document for F032, F034, and F035 that at least one facility was permitted to treat D/F containing wastes as difficult to treat as F032 led the commenter to believe that EPA was considering to limit the combustion of F032 to a six 9's DRE - RCRA combustion device. EPA is clarifying, therefore, that in today's rule EPA is not amending §§264.343 (a) (2) or 266.104 (a) (3) to compel the combustion of F032 or F024 in a six 9's Destruction and Removal Efficiency combustion device. Nor has EPA proposed that the combustion of F032 or F024 is only conducted in a six 9's or a four 9's DRE - RCRA combustion device.

It should be noted that although the BDAT combustion technologies supporting the development of UTS limits for D/F regulated in nonwastewater forms of F032 and F024 met a RCRA incineration performance of six 9's DRE performance, the modeled compliance treatment alternative of "CMBST" was based on the performance a four 9's DRE - RCRA 264 Subpart O, rotary kiln incinerator combusting F024. Data from the F024 incineration study shows that a well designed and well operated four 9's DRE incinerator can also meet the proposed limits of 1 ppb for nonwastewater forms of F024. Facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265 Subpart O do not qualify for a "CMBST" treatment standard, unless they are able to make a demonstration of equivalent performance to a permitted incinerator or to a BIF. F032 residues arising from all other 40 CFR 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

The commenter also stated that there is insufficient treatment capacity to treat F032 wastes. As detailed in today's preamble, EPA believes there is sufficient capacity for both wood preserving wastewater and nonwastewater hazardous wastes. However, given the lack of available capacity and other issues associated with soil and debris contaminated with F032, F034, and F035 wood preserving wastes, EPA is granting a two-year variance for these wastes. In addition, EPA has determined that sufficient alternative treatment capacity is not available for radioactive wastes mixed with wood preserving wastes, and is granting a two-year national capacity variance.

EPA notes that in 1989, the Agency found difficulty in locating facilities to receive F024 wastes until the treatment standard was amended to include a CMBST alternative. Under the same line of reasoning, the Agency believes that by including the CMBST alternative for F032 wastes, generators will have more flexibility in their choice of treatment facilities. The Agency also believes that by promulgating the CMBST alternative for F032 wastes, constituents of concern will continue to be fully treated, and therefore the standard does not compromise the Agency's commitment to protection of human health and the environment.

DCN PH2A003

COMMENTS The Penta Task Force

RESPONDER JLABIOSA

SUBJECT WOOD11

SUBJNUM 003

COMMENT As explained in our November, 1995 comments, the practical consequences of setting dioxin/furan numerical limits for F032 wastes would be to force wood preserving facilities to send their wastes to the only commercial incineration facility -- the Aptus Incinerator in Coffeyville, Kansas -- that is permitted to treat dioxin-containing waste. The cost would be exorbitant. The most recent quote for incinerating F032 waste at the Aptus facility is \$5.63/lb (\$11,260/ton). Given the volumes of F032 waste that are expected to require treatment annually -- some 12,600 tons of F032 nonwastewater sludges and residuals (see Capacity Analysis, 3-8) -- the cost of treatment at the Coffeyville facility would be roughly \$142 million per year. These prohibitive and unnecessary costs would need to be borne by the relatively few wood preserving sites -- 49 in all -- that would be subject to the rule. In sharp contrast, a CMBST standard would allow F032 waste to be appropriately managed at a fraction of that cost. FOOTNOTE 1/ The Penta Task Force believes that the exorbitantly high cost of incineration at the Coffeyville facility is a direct consequence of the lack of competitive pressure by other combustion facilities. These other facilities have no intention of accepting F032 waste under circumstances where they would be required to analyze their combustion residuals for dioxins and furans. The operator of the Coffeyville facility has argued in comments to the Agency that it supports stringent dioxin/furan limits for F032 waste. But that commenter has provided no health or safety justification to support its position. And we find it difficult to believe that a regulated entity would argue for more stringent regulation unless it believed that a competitive advantage would accrue from such regulation.

## RESPONSE

The commenter is concerned that EPA's proposal that some of the proposed regulatory controls on the combustion of F032 and F024 wastes may create a defacto monopoly on treatment of these wastes at high, and unneeded cost. Specifically, the commenter is concerned with EPA's proposal to promulgate suboption 2 as prerequisite for the disposal of F032 via a "CMBST" compliance treatment alternative. In general, the

commenter is fully supportive of the proposed "CMBST" treatment alternative. The commenter feels that F032 merits a similar "CMBST" treatment alternative as F024 and the commenter asked EPA to clarify its rationale for proposing potential amendments to the existing "CMBST" treatment alternative.

The final rule provides a means for most combustion units to accept these wastes and satisfy BDAT treatment requirements without specifically analyzing ash for CDDs. In response to comments from the The Penta Task Force and the American Wood Preserving Institute, the EPA has proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method for D/F constituents in F032.

The revised "CMBST" compliance alternative limits the availability of the "CMBST" to those combustion devices in compliance with applicable combustion standards in the 40 CFR Part 264, Subpart O, or 40 CFR Part 266, Subpart H. F032 wastes combusted in combustion devices operating under Parts 266 or 264 do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities must meet UTS numerical limits applicable to each organic and metal constituent regulated in F032 as a prerequisite to land disposal. Facilities that qualify for this option are not specifically required to maintain a DRE standard at the same level as required for F020, F021, F022, F023, F026, or F027 under 40 CFR §264.343(a)(2). The revised "CMBST" compliance alternative only requires the use of combustion units that are permitted under either 40 CFR Part 264, Subpart O, or Part 266, Subpart H.

It should be emphasized that facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265 Subpart O do not qualify for a "CMBST" treatment standard, unless they are able to make a demonstration of equivalent performance to a permitted incinerator or to a BIF. F032 residues arising from all other 40 CFR 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

DCN PH2A009  
COMMENTS Dow Chemical  
RESPONDER JLABIOSA  
SUBJECT WOOD11  
SUBJNUM 009

COMMENT Suboptions 2 and 3 also raise national capacity questions which EPA must address before further consideration of adopting such constraints can proceed. In considering the additional limitations described in Suboptions 2 and 3, EPA has not addressed whether sufficient available capacity would remain which is licensed to treat the volume of F024 and F032 currently generated. Dow alone currently generates over 50,000 tons per year of F024 at its U.S. facilities. Implementation of Suboptions 2 or 3 would require a significant portion of that waste volume to be managed offsite in commercial units. Before proceeding, EPA must analyze the U.S. wide generation of the potentially impacted waste codes considering how much available treatment capacity would be available after such requirements would go into effect.

#### RESPONSE

In today's rulemaking, EPA has withdrawn suboptions 1 and 2, (as explained below) and promulgated a revised version of suboption 3 which enable the implementation of the proposed compliance treatment alternative for the regulation of Dioxin and Furan constituents (D/F) in F032.

Some comments asked EPA to defer the adoption of suboption 2 to the MACT rule. Other comments pointed out that adoption of suboption 3 would preclude the use of industrial boilers and furnaces which in most instances have combustion controls that are more stringent than incineration controls. Another commenter expressed concerns that adoption of suboption 1 may allow the combustion of F032 in incinerator devices operated under 40 CFR 265 which the commenter feels lack adequate regulatory controls to ensure that the design and operational performance capabilities of such devices are adequate to destroy D/F constituents.

EPA finds these comments persuasive. EPA has withdrawn, therefore, the proposed suboptions 1 and 2. EPA has also revised suboption 3 to limit the availability of the proposed combustion "CMBST" compliance treatment standard alternative to those units operated under the 40 CFR 264, Subpart O and 40 CFR 266. Facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265 Subpart O do not qualify for a "CMBST" treatment standard, unless they are able to make a demonstration of equivalent performance to a permitted incinerator or to a BIF (40 CFR §268.42(b)). Although EPA has withdrawn suboption 2, EPA is not precluded from using existing risk analyses methodologies

and to require the performance of combustion studies to determine what appropriate controls, if any, should be required during the combustion of F032. EPA believes that ad hoc technological controls can be prescribed to ensure the appropriate combustion of F032. This is because existing RCRA Omnibus permit authorities under 266 and 264, can be used to address the concern that F032 is treated in well designed and well operated combustion device prior to disposal. This adopted approach may be superseded by the outcome of the proposed MACT limits for D/F arising from combustion devices schedule for promulgation in the April 1998.

Facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265, Subpart O do not qualify for a "CMBST" treatment standard, unless they are able to make a demonstration of equivalent performance to a permitted incinerator or to a BIF. F032 residues arising from all other 40 CFR 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

EPA believes that promulgation of this revised suboption 3, fully addresses the concerns of the commenters, fully addresses the capacity concerns raised by the commenters, and that this suboption is protective of the human health and the environment.

DCN PH2A012  
COMMENTS Beazer East  
RESPONDER JLABIOSA  
SUBJECT WOOD11  
SUBJNUM 012

COMMENT Specifically, EPA discusses the Penta Task Force's and the American Wood Preserving Institute's concerns that promulgation of concentration limits for dioxin/furan hazardous constituents in Hazardous Waste F032 may discourage commercial incineration facilities from treating this waste. 61 Fed. Reg. 21420. For the record, Beazer also submitted comments which were critical of EPA's proposal to establish dioxin/furan constituent concentration limits as LDRs for F032. It was and continues to be Beazer's belief that selection of incineration as the Best Demonstrated Available Technology ("BDAT") will bring cleanups of wood treating sites to a halt due to a lack of capacity at off-site incineration facilities, negative community reaction for on-site incineration facilities and skyrocketing treatment costs. Beazer recommended that EPA omit the dioxin/furan constituents from the LDR constituents of concern for Hazardous Waste No. F032. Beazer cited several reasons for not including dioxin/furan as part of the F032 LDRs, to wit: (1) EPA's failure to scientifically demonstrate and support the risk from low level exposure to dioxin/furans; (2) the problematic nature of the analytical method used for detecting dioxin/furans; and (3) the non-availability of incineration capacity for treatment of large quantities of soil and debris which may contain F032.

#### RESPONSE

EPA is not persuaded by the commenter's arguments that the regulation of D/F in F032 is not necessary or that such proposal would delay treatment of F032. EPA points out that these constituents are toxic to the human health and the environment and that D/F constituents also supported the listing of F032 as a hazardous waste under Subtitle C of RCRA. (See Background Document for the Listing of Wood Treater Wastes (F032, F034, and F035)) As the commenter may be aware, EPA's existing guidance documents on the management of contaminated media at wood preserving sites also identify D/F constituents as RCRA constituents to be addressed during the design of clean up treatment options and within the scope of Record of Decisions. Further, EPA existing soil guidance documents for wood preserving sites also identify incineration and thermal desorption as treatment options capable of meeting clean up levels and treatment standards under the LDRs. (See Presumptive Remedies for Soils, Sediments, and Sludges at Wood Treater Sites (Directive 9200.5-162, also published under NTIS: PB-95-963410); Technology Selection Guide for Wood Treater Sites (EPA 540-F-93-020 or Pub.9360.0-46FS); and Contaminants and Remedial Options at Wood

Preserving Sites.(EPA/600/R-92/182).)

Finally, the majority of commenters were more supportive of EPA's proposal to co-promulgate both treatment limits and an alternative compliance treatment standard of combustion, "CMBST", for the regulation of D/F in F032. Like EPA, these commenters felt that such approach can create more available capacity, based on empirical experience with F024 wastes.



DCN PH2A012  
COMMENTS Beazer  
RESPONDER JLABIOSA  
SUBJECT WOOD11  
SUBJNUM 012

COMMENT In our comments to the proposed Phase IV rulemaking, we discussed the unavailability of any commercial incinerator which could meet the proposed 1-part per billion LDR concentration standard for dioxin/furan, aside from the Aptus facility in Coffeyville, Kansas. The instant proposal would allow incineration or combustion of the wastes by facilities with destruction removal efficiencies ("DRE") of 99.99% rather than the 99.9999% DRE required for "dioxin-listed" wastes. 40 C.F.R. 266.104(a)(3). Theoretically, this alternative LDR treatment standard should increase the availability of incineration and combustion facilities to manage F032 wastes.

#### RESPONSE

It appears that the commenter was concerned that since the BDAT model supporting numerical limits for D/F constituents was based on six 9's Destruction and Removal Efficiency (DRE) incinerators, facilities seeking compliance with the numerical limits in RCRA incinerators, cement kilns, or other industrial furnaces achieving a four 9's DRE were likely to fail the proposed UTS limits. It also appears from EPA's discussions in the preamble and the BDAT Background Document for F032, F034, and F035 that at least one facility was permitted to treat D/F containing wastes as difficult to treat as F032. This led the commenter to believe that EPA was considering limiting the combustion of F032 to a six 9's DRE-RCRA combustion device. EPA is clarifying, therefore, that in today's rule EPA is not amending 264.343 (a) (2) or 266.104 (a) (3) to compel the combustion of F032 or F024 in a six 9's Destruction and Removal Efficiency combustion device. Nor has EPA proposed that the combustion of F032 or F024 is only conducted in a six 9's or a four 9's DRE - RCRA combustion device.

It should be noted that although the BDAT combustion technologies supporting the development of UTS limits for D/F regulated in nonwastewater forms of F032 and F024 met a RCRA incineration performance of six 9's DRE performance, the modeled compliance treatment alternative of "CMBST" was based on the performance a four 9's DRE - RCRA 264.Subpart O, rotary kiln incinerator combusting F024. Data from the F024 incineration study shows that a well designed and well operated four 9's DRE incinerator can also meet the proposed limits of 1 ppb for nonwastewater forms of F024.

Based on this information, EPA believes that RCRA Omnibus permit authorities can be used under 40 CFR 264, Subpart O and 40 CFR 266 to ensure that the combustion of F032 (and F024) is conducted in a well designed and well operated combustion

devices and thus, minimizing the release or generation of D/F during combustion. This adopted approach may be superseded by the outcome of the proposed MACT limits for D/F arising from combustion devices scheduled for promulgation in the April 1998.

Facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265, Subpart O do not qualify for a "CMBST" treatment standard, unless they are able to make a demonstration of equivalent performance to a permitted incinerator or to a BIF. F032 residues arising from all other 40 CFR 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

EPA believes that promulgation of this revised suboption 3, fully addresses the concerns of the commenters, fully addresses the capacity concerns raised by the commenters, and that this suboption is protective of the human health and the environment.

DCN PH2A013

COMMENTS Georgia Department of Natural Resources, EPD

RESPONDER JLABIOSA

SUBJECT WOOD11

SUBJNUM 013

COMMENT The Georgia Department of Natural Resources, Environmental Protection Division (EPD) has reviewed the above notice of data availability and would like to take this opportunity to provide additional comments on the issue of treatment capacity for soils contaminated with F032 wastes. Specifically, the State of Georgia may be unique in the nation for having a very substantial amount of this material on hand that will likely place a strain on the capacity of virtually any treatment methodology that is ultimately selected for F032 wastes.

RESPONSE

EPA is addressing the commenter's concerns in today's rule.

DCN PH2A021  
COMMENTS J. H. Baxter  
RESPONDER JLABIOSA  
SUBJECT WOOD11  
SUBJNUM 021

COMMENT In its comments on the August 1995 proposal, J.H. Baxter made clear that the cost of incineration and lack of available capacity would impose a real, unwarranted hardship on many members of the wood preserving industry. Suboption 1 appears to address this problem by expanding the number of facilities available to treat F032 wastes. In the very limited time made available to comment on this proposal, J.H. Baxter has tried to ascertain the impact it would have if implemented. We understand from sources in the waste disposal industry that implementation of suboption 1 should result in adequate capacity. Further, J.H. Baxter has been informed that it should not cause the dramatic price increase for disposal of F032 that will occur if the original proposal is implemented. J.H. Baxter has not been able to obtain any meaningful information on the impact of suboptions 2 and 3. Therefore, J.H. Baxter remains very concerned that either of these are unlikely to yield the same benefits. They both will result in a smaller universe of approved combustion facilities and in higher prices. Therefore, J.H. Baxter urges EPA to adopt suboption 1, not suboptions 2 or 3 when the final Phase IV rule is issued. If EPA is interested in proceeding with suboptions 2 or 3, it, along with OMB, must carefully assess the benefits and burdens of these proposals, as well as the impact on the regulated community. To obtain meaningful public input, EPA also should provide additional time for comment.

#### RESPONSE

Economic considerations have no bearing in the development of treatment standards under the LDR. EPA is relying solely on treatment management alternatives allowed under Section 3004(m) of HSWA, which EPA believes enable the reduction of short- and long-term risks associated with the disposal of Dioxin and Furan (D/F) constituents in F032 wastes.

EPA is promulgating treatment standards that set numerical limits for the regulation of Dioxin and Furan (D/F) hazardous constituents in F032. In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment.

standard that sets combustion ("CMBST") as a treatment method for D/F constituents in F032.

EPA has promulgated, however, a revised "CMBST" compliance alternative which limits the availability of the "CMBST" to those combustion devices in compliance with applicable combustion standards in the 40 CFR 264, Subpart O, or 266. F032 wastes combusted in combustion devices operating under 266 or 264 do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities must meet UTS numerical limits applicable to each organic and metal constituent regulated in F032 as a prerequisite to land disposal.

It should be emphasized that facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265 Subpart O do not qualify for a "CMBST" treatment standard, unless they are able to make a demonstration of equivalent performance to a permitted incinerator or to a BIF. F032 residues arising from all other 40 CFR 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

EPA's authority to prescribe treatment limits or methods of treatment under the LDR are set under section 3004 (m) of HSWA. Under such HSWA provisions, EPA is directed to set treatment standards that would reduce short- and long-term threats to the human health and the environment. EPA believes that Omnibus permit authorities under RCRA and other available environmental federal/state laws can be used to support the establishment of 3004(m) treatment standards and thus, to prescribe appropriate technological controls on treatment methods prescribed for these wastes. EPA has promulgated specific performance standards for the operation of incinerators combusting certain acutely toxic wastes that contain D/F constituents (see 40 CFR 264.343 (a) (2) and 50 FR 2005, January 14, 1985). EPA has promulgated similar kinds of technology treatment standards for hazardous wastes regulated under §268.42 and hazardous debris §268.46. These specific treatment standards under §§268.42 and 268.46 prescribe treatment methods and EPA has relied on permit authority, federal/state air emission standards, or promulgated operational technology performance requirements to ensure that the technology treatment methods are protective of the human health and the environment.



DCN PH2A003

COMMENTS Penta Task Force

RESPONDER JLABIOSA

SUBJECT WOOD12

SUBJNUM 003

COMMENTS The Penta Task Force is comprised of the two U.S. manufacturers of penta -- Vulcan Chemicals, a division of Vulcan Materials Company, and KMG-Bernuth, Inc. Penta is the chlorophenolic chemical used in wood preserving processes that generate F032 waste. Accordingly, the Penta Task Force is profoundly affected by the Agency's August, 1995 Phase IV LDR proposal and the May 10, 1995 Notice of Data Availability.

RESPONSE

EPA is addressing the commenter's concerns in today's final rule.

DCN PH2A009

COMMENTS Dow Chemical Company

RESPONDER JLABIOSA

SUBJECT WOOD12

SUBJNUM 009

COMMENT The Dow Chemical Company (Dow) appreciates this opportunity to comment on this important Notice of Data Availability and respectfully submits these comments on the notice published in the May 10, 1996 Federal Register pages 21,418 - 21,422. Dow is only submitting comments on item 2 Treatment Standards for Wood Preserving Waste F032, and Potentially, F024.

RESPONSE

EPA is addressing the commenter's concerns in today's final rule.





DCN PH2A010  
COMMENTS EDF  
RESPONDER JLABIOSA  
SUBJECT WOOD12  
SUBJNUM 010

COMMENT These comments are submitted to the U.S. Environmental Protection Agency (EPA) in response to the Agency's notice of data availability (NODA) related to the land disposal restrictions (LDR) program under the Resource Conservation and Recovery Act (RCRA). EPA's NODA was published in the Federal Register at 61 FR 21418 (May 10, 1996). Description of the Commenter EDF is a national non-profit environmental advocacy organization with more than 300,000 members dedicated to the protection of human health and the environment by inter alia, eliminating unnecessary exposure to hazardous substances, including hazardous wastes. EDF members live, work, and recreate in areas immediately affected by the improper management of hazardous and industrial wastes, including the hazardous wastes addressed in this NODA. EDF participates extensively in RCRA implementation and oversight, including activities in the regulatory, legislative, and judicial contexts. The NODA Generally Though published under the title "Notice of Data Availability", the current notice largely requests comment on issues for which the Agency lacks data, has never proposed regulatory language, and/or never articulated a rationale or methodology for reaching a particular position. In many cases, the only material on which EPA seeks comment is the position of other commenters.

#### RESPONSE

EPA believes that it clearly presented certain issues for supplemental comment in a legitimate manner. The issue is whether there should be an alternative means of compliance for the CDD/CDF standards. EPA proposed an alternative whereby monitoring was unnecessary if treatment was conducted in certain types of devices. The basis for the alternative standard was that if the device is combusting efficiently and demonstrates compliance with all other organic standards through monitoring, compliance with CDD standards would also be demonstrated. EPA has adopted essentially this approach in the final rule, the alternative being available only to combustion devices subject to at-the stack controls which show efficient combustion conditions (these are BIFs and permitted incinerators, all of whom would be subject to continuous CO or HC standards; and in some cases, to at-the-stack CDD/CDF controls, plus interim status incinerators able to demonstrate equivalent performance.) EPA believes that this level of combustion is a valid alternative way of

expressing BDAT for the CDDs in the wood preserving wastes.

DCN PH2A010  
COMMENTS EDF  
RESPONDER JLabiosa  
SUBJECT WOOD12  
SUBJNUM 010

COMMENT Conclusion EPA should abandon issues raised in the NODA not ripe for consideration in this rulemaking, and promulgate the necessary treatment standards as expeditiously as possible reflecting the comments expressed herein.

RESPONSE

EPA believes that the revised suboption 3 allowing the combustion of F032 and F024 in combustion devices regulated under 40 CFR 264 Subpart O, and 40 CFR 266 Subpart H, fully addresses EDF concerns that these wastes are combusted in a manner that will achieve the numerical CDD standard. The Agency's experience with F024 wastes, which can achieve these same standards (as established initially in the June 1989 Second Third rulemaking), demonstrates that combustion properly conducted can treat CDDs to this level. See also information in the BDAT Background Document for these wood preserving wastes. EPA believes it is warranted to adopt this alternative standard, because a) the standard is equally effective at minimizing threats posed by land disposal of wood preserving wastes; and b) the alternative creates desirable flexibility and is likely to provide more available treatment capacity for these wastes, thus further minimizing threats by increasing the likelihood that treatment will occur promptly. EPA's past experience with F024 wastes again supports these conclusions.

EPA has deferred the proposed MACT standard for the combustion of F032 and F024 to the MACT rule, scheduled for promulgation in April 1998. EPA believes that adoption of such proposed treatment standard for F024 and F032 may impose regulatory burden on the combustion industry while technical issues on the proposed air emission for D/F-MACT limit are still being deliberated. EPA believes that the existing CO/HC standards, plus at-the-stack controls on D/F, are adequate to assure that the treatment standard for D/F will be met without analysis. EPA's experience with F024 wastes in 1989 lends credence to commenters' concerns that there will be insufficient capacity without this compliance alternative. EPA therefore has decided to adopt it.



DCN PH2A011

COMMENTS Vinyl Institute

RESPONDER JLabiosa

SUBJECT WOOD12

SUBJNUM 011

COMMENT On behalf of our client, the Vinyl Institute (VI), a division of The Society of the Plastics Industry, Inc. (SPI), we are pleased to submit the following comments on the above-captioned matter. 61 Fed. Reg. 21,418 (May 10, 1996). As discussed below, we support suboption 1 as it relates to F024 wastes.

RESPONSE

EPA is addressing the commenter's concerns in today's final rule.

DCN PH2A012  
COMMENTER Beazer East  
RESPONDER JL  
SUBJECT WOOD12  
SUBJNUM 012

COMMENT EPA has identified three suboptions for implementation of the proposed alternative treatment method. Suboption 1 would apply the existing F024 combustion treatment standard to F032. Suboption 2 would establish the incineration/combustion alternative standard but would require the combustion unit to achieve a dioxin/furan emission standard. Thus, such units would be required to install controls to limit the potential for forming and emitting dioxin/furan emissions into the atmosphere or adsorption into the waste. EPA has suggested that the dioxin/furan emission standard proposed by EPA under the Clean Air Act, that is, a maximum toxicity equivalent emission standard of 0.2 mg/dscf for combustion units burning RCRA-hazardous wastes, could be a requirement of the combustion alternative treatment standard. Under this suboption, any RCRA-permitted or interim status combustion device capable of meeting the 0.20 mg/dscf standard would be allowed to combust F032. The third suboption would limit the combustion of F032 waste to combustion devices that have been permitted (i.e., Suboptions 1 and 2 would apply to interim status and fully-permitted facilities but under Suboption 3 only fully-permitted facilities could accept hazardous waste). 61 Fed. Reg. 21421.

#### RESPONSE

In today's final rule, EPA is promulgating, as proposed, numerical limits and an alternative compliance treatment standard for the regulation of each Dioxin and Furan (D/F) constituent regulated in F032 and F024. After reviewing public comments, EPA decided not to promulgate suboptions 1 and 2. In addition, EPA amended the proposed suboption 3 and promulgated a revised combustion --"CMBST" --- treatment standard alternative that meets BDAT under the Land Disposal Restrictions. The revised "CMBST" standard is only available for those units operating pursuant to permit conditions under 40 CFR 264, Subpart O, or operating under the Part 266 standards for BIFs. F032 or F024 wastes treated pursuant to the "CMBST" treatment compliance alternative do not have to be monitored to see if the numerical limits for D/F constituents have been achieved. However, the other organic and metal constituents must be analyzed to assure they meet the applicable UTS limit as a prerequisite to land disposal.

Facilities who choose to combust F032 or F024 in an incinerator operating pursuant to 265 provisions must meet the applicable treatment limit for each one of the regulated D/F constituents, organics, and metals as a prerequisite to land disposal. EPA also believes that facilities operating a Part 265 incinerator that can demonstrate to EPA that their combustion device operates in a manner that conforms to the combustion controls achieved by Part 264 incinerators or Part 266 BIFs may qualify for the CMBST treatment standard pursuant to a treatability variance under 268.42(b). (See Final Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997, and today's preamble discussion.)



DCN PH2A012  
COMMENTS Beazer  
RESPONDER JLabiosa  
SUBJECT WOOD12  
SUBJNUM 012

COMMENT Beazer East, Inc. ("Beazer"), and its subsidiaries and affiliates with headquarters in Pittsburgh, Pennsylvania, hereby submit comments in response to the United States Environmental Protection Agency's ("EPA's" or the "Agency's") notice of data availability for the Land Disposal Restrictions Phase IV Proposed Rule - Issues Associated with Clean Water Act Treatment Equivalency, and Treatment Standards for Wood Preserving Wastes and Toxicity Characteristic Metal Wastes, 61 Fed. Reg. 21418, May 10, 1996 (hereinafter referred to as the "Notice"). On August 22, 1995, EPA proposed the Land Disposal Restriction ("LDR") Phase IV rule ("proposed Phase IV rulemaking") (60 Fed. Reg. 43654) which, among other things, set forth proposed treatment standards for newly listed and characteristic wastes. Beazer provided comments to the August 22, 1995 Notice of Proposed Rulemaking which addressed the proposed LDRs for wood preserving wastes F032, F034 and F035. These comments are incorporated by reference as if fully set out herein. See, Comments of Beazer East, Inc. Regarding the August 22, 1995 Notice of Proposed Rulemaking and Request for Comment on Land Disposal Restrictions - Phase IV, November 17, 1995. In the instant Notice, EPA discusses certain data and comments that it has received in response to the proposed Phase IV rulemaking and requests comments on certain issues raised by the Phase IV proposal commenters. 61 Fed. Reg. 21419.

RESPONSE

EPA is addressing the commenter's concerns in today's final rule.

DCN PH2A014

COMMENTER Env. Technologies Intl

RESPONDER JLABIOSA

SUBJECT WOOD12

SUBJNUM 014

COMMENT II. Treatment Standards for Wood Preserving Waste F032, and Potentially F024 In this NODA, EPA has suggested three alternative treatment standards for F032 wood preserving wastes. 61 FR at 21420-21. ETC is considering these alternatives in greater detail and will provide supplemental comment.

RESPONSE

EPA did not receive supplemental comments from ETC with regard to the proposed "CMBST" treatment standard alternative and each one of the three proposed not mutually exclusive suboptions.

DCN PH2A015  
COMMENTS CKRC  
RESPONDER JLABIOSA  
SUBJECT WOOD12  
SUBJNUM 015

COMMENT In the following paragraphs, CKRC comments on specific concerns raised within each NDA option to set an alternative treatment standard for F032 wastes that the Agency has published for comment, but stresses the importance of our fundamental process concern as it is applicable to each specific issue identified in this comment letter.

#### RESPONSE

After reviewing public comments, EPA concurs with the commenter that promulgation of regulatory performance requirements for combustion technologies treating D/F constituents in F032 and F024 will ultimately be addressed in the MACT rule and that finalizing the MACT standards at this time is premature. The standards are only proposed, and may well undergo change as a result of public comments received. EPA intends to finalize the proposed MACT standards in April 1998. EPA believes further that until MACT standards are promulgated, standards for permitted incinerators and for BIFs (which may be supplemented by conditions adopted pursuant to permit writer's omnibus authority, upon a proper site-specific demonstration of need) are sufficient to assure that D/F in the waste will be destroyed to the level of the treatment standard. The particular controls are those assuring proper combustion efficiency, and, for some units, at-the-stack D/F standards. EPA therefore has modified its proposal.

DCN PH2A016  
COMMENTS DuPont  
RESPONDER JLABIOSA  
SUBJECT WOOD12  
SUBJNUM 016

COMMENT DuPont is pleased to submit one original, two paper and one computer disk ASCII file copy of our comments on the Environmental Protection Agency's notice of data availability for Land Disposal Restrictions Phase IV Proposed Rule--Issues Associated With Clean Water Act Treatment Equivalency, and Treatment Standards for Wood Preserving Wastes and Toxicity Characteristic Metal Wastes published in the Federal Register on May 10, 1996. DuPont is a generator and treater of hazardous wastes which are potentially impacted by this rulemaking, once final. If there are questions regarding any of the information provided in this package, please call me at 302-774-8056. DuPont appreciates your consideration of these comments.

RESPONSE

EPA is addressing the commenter's concerns in this final rule.



DCN PH2A021

COMMENTS J. H. Baxter

RESPONDER JLABIOSA

SUBJECT WOOD12

SUBJNUM 021

COMMENT J.H. Baxter & Company (J.H. Baxter) submits these comments on the information set forth in the above-referenced notice. J.H. Baxter is a family-owned company in the wood preserving industry. J.H. Baxter is very concerned about the potential impact of the proposed regulations on the industry and submitted comments on EPA's August 1995 Notice proposing land disposal restrictions for certain wood preserving wastes. Two aspects of EPA's May 10 Notice concern J.H. Baxter: 1) treatment standards for F032 wastes; and 2) excluding wood preserving waste waters from the definition of solid waste.

RESPONSE

EPA is addressing the commenter's concerns in today's final rule.

DCN PH4P113  
COMMENTS Chemical Manufacturers Association  
RESPONDER JL  
SUBJECT WOOD12- "Non Detection Limits"  
SUBJNUM 113  
COMMENT

B. EPA should allow concentration-based as well as technology-based criteria to satisfy BDAT for metals in nonwastewater forms of F032, F034, and F035. In the preamble, EPA indicates that for metal in nonwastewater forms of F032, F034, and F030, stabilization is BDAT for chromium (total), and that vitrification is BDAT for arsenic. Use of the word "is" and not the phrase standards "... are based on" implies that the Agency intends to allow only the use of these specific technologies to treat these constituents to levels below which these wastes may be land disposed. However, the regulatory language in the table at 268.40 indicates that the nonwastewater standards for arsenic and chromium are numerical standards. CMA has commented in the past that it generally favors concentration-based treatment standards for BDAT and that it supports the allowance of technology-based standards as an alternative to, and not as a replacement for, concentration-based standards. We maintain this position. Although the Agency and CMA may not currently be aware of technologies other than stabilization and vitrification that could be used to treat for chromium and arsenic in the wastes described above, we favor the flexibility afforded by a concentration-based standard which would allow any technology that can meet these levels as an alternative. CMA requests that the preamble language be modified to clarify that any technology that can meet the levels indicated in the table may be used.

In addition, EPA is proposing F032 wastewater and nonwastewater standards that would require meeting a concentration that does not exceed 1 ppb (or 1 ug/kg) for all the PCDD and PCDF homologue and isomer constituents proposed for regulation for F032 wastes. Even if a 1 ug/kg level is achievable for PCDD and for PCDF, analytical limitations may preclude UTS levels this low.

Normally when EPA sets treatment standards for a waste constituent, a procedure is followed in which both an "accuracy correction factor" and a "variability factor" are applied to the concentration of the constituent observed in the treatment data that supports the standard. See, Final Best Demonstrated Available Technology (BDAT) Background Document for Universal Treatment

Standards Volume A: Universal Treatment Standards for Wastewater Forms of Wastes, 52 (July 1994). The accuracy correction factor is used to account for analytical limitations in the available treatment performance data, and the variability factor is used to correct for variations in waste treatment, sampling, analytical techniques and procedures, and other factors that affect treatment performance.

However, we are not sure if EPA accounted for variability and accuracy in setting the universal treatment standards for nonwastewater forms of these organic wastes. We urge EPA to do so. As CMA has previously written in its July 9, 1993 comments on the May 24, 1993 Interim final rule on land disposal restrictions for ignitable and corrosive characteristic wastes whose treatment standards were vacated, organic wastestreams are not easily analyzed for constituents at very low concentrations. CMA reiterates its previous recommendation that EPA explicitly states that, given approved test methods, nondetectable levels of constituents are equivalent to zero concentration and should also be applied to the setting of UTS levels.

## RESPONSE

The commenter raised four issues and EPA's responses to such comments follow below:

1. Clarification that EPA is setting numerical limits for the regulation of Arsenic and Chromium (total) in wastewater and nonwastewater forms of F032.

EPA is clarifying in today's final rule that EPA is promulgating UTS limits for the regulation of Arsenic and Chromium (total) in F032, F034, and F035. Since EPA is establishing UTS limits that are expressed as maximum concentrations of these metals allowed for land disposal, the use of any treatment technologies capable of meeting the UTS limits is not prohibited except for those that may constitute impermissible dilution.

2. "Analytical Difficulties" may preclude the establishment of UTS limits for F032.

EPA lacks data from the commenter to assess what kind of technical difficulties will be encountered during the analysis of F032 wastes.

After reviewing the characterization data of the Penta Group, the reported analytical difficulties, and F032 Characterization studies; EPA has concluded that the reported



"difficulties" appear to represent more the unfamiliarity of chemists performing the chemical analyses with D/F recommended test methods rather than real flaws in the test method. EPA believes further that the alleged "difficulties" can easily be overcome by routine laboratory clean-up procedures and the use of appropriate solvents and other laboratory calibration techniques. EPA has enhanced, therefore, the discussion of these recommended procedures and calibration techniques in the BDAT Background Document. *Also, see the Administrative Record supporting today's Phase 4 final rule for the technical document titled: Background Paper Addressing Technical Issues Related to Analysis of F032 Wood Preserving Wastes for Dioxins and Furans, dated June 19, 1996.*

3. EPA should correct the D/F limits for accuracy and variability.

Several commenters were correct in pointing it out that EPA did not correct the proposed UTS limits for D/F in F032 with accuracy and variability factors, as typically done in the calculation of treatment standards of other hazardous constituents prohibited from land disposal. EPA did not adjust the proposed UTS limits for D/F constituents, nor EPA is doing so in today's final rule, as explained below.

The UTS treatment limits are based on combustion technologies that EPA believes will meet the proposed UTS limits for D/F in F032 as long as the combustion of F032 is conducted in a device that is well designed and well operated. EPA concluded in the Solvents and Dioxins rule that a six-nines Destruction and Removal Efficiency (DRE) combustion device can routinely achieve the promulgated limit (see January 18, 1986, 51 FR (1733-1735)). Based on the performance of a four-nines DRE rotary kiln incinerator burning F024, EPA believes that a four-nines DRE unit that is well designed and operated can also meet the promulgated UTS limits for D/F (see June 1, 1990, 55 FR (22580-22581)). Although none of the submitted comments or data appear to support the revisions to D/F limits proposed by the commenters, EPA may revisit this issue in a separate rulemaking if new data become available.

However, EPA points out to the commenter that EPA generally allows deviations from the promulgated treatment limits to concentration of up to one order of magnitude above the applicable treatment standard (i.e. the numerical UTS limit) prescribed in the 40 CFR 268.40, for the ashes arising from combustion devices. EPA refers to such treatment limits allowances as the analytical detection limit (compliance) alternative. Facilities seeking the disposal of such combustion ashes must satisfy the provisions in the 40 CFR 268.40 (d) (1) through (3) and 268.7 (b) (5) (iii). (Also, see June 1, 1990, 55 FR (22541-22542).)

In addition, EPA has set an alternative compliance treatment standard that sets combustion "CMBST" as a treatment standard for D/F for nonwastewater forms of F032. To qualify for a "CMBST" treatment standard, the combustion device should be operated under a 40 CFR 264 Subpart O or under a 266 operating permit and the Permit writer

will use his/her Omnibus power authorities to determine if a combustion device seeking to treat F032 can be deemed well operated and well designed combustion devices. If deemed a well operated and designed combustion device, the facility will not have to monitor the concentrations of D/F constituents in wastewater and nonwastewater forms arising from the combustion of F032. EPA feels therefore that such alternative compliance treatment standard fully addresses the concerns raised by the commenters.

4. Proposal that "nondetection limits" are equivalent to zero detection.

EPA believes the commenter is concerned that a detection limit in a treated waste above a UTS numerical limit may fail to meet the applicable treatment standard even if the targeted analyte is below the detection limit. EPA believes that a "nondetection limit" is not a feasible way to address this concern. EPA believes that a constituent shown below a particular targeted detection limit means that the constituent is either destroyed by the employed technology, masked in the waste residue due to matrix interferences, or it could be measured in concentrations below the targeted detection limit. As a result, it could be possible that the constituent of LDR concern is still above the applicable UTS limit should the targeted selection limit be above the UTS promulgated limit. Therefore, EPA believes that a facility could still be deemed in violation of the applicable limit if EPA detects such constituent above its UTS limit.

However, EPA points out to the commenter that EPA generally allows deviations from the promulgated treatment limits to concentration of up to one order of magnitude above the applicable treatment standard (i.e. the numerical UTS limit) prescribed in the 40 CFR 268.40, for the ashes arising from combustion devices. EPA refers to such treatment limits allowances as the analytical detection limit (compliance) alternative. Facilities seeking the disposal of such combustion ashes must satisfy the provisions in the 40 CFR 268.40 (d) (1) through (3) and 268.7 (b) (5) (iii). (Also, see June 1, 1990, 55 FR (22541-22542).) Another option available to the commenter is to verify if the waste of concern is different from the one supporting the UTS limit and seek from EPA a treatability variance pursuant to provisions in the 40 CFR 268.44.

**RESPONSE TO PUBLIC COMMENTS  
ON THE PROPOSED PHASE IV  
LAND DISPOSAL RESTRICTION RULE:  
Wood Preserving Wastes**

Office of Solid Waste  
U.S. Environmental Protection Agency

April 15, 1997



## INTRODUCTION

EPA proposed the Phase IV Land Disposal Restriction (LDR) rule in August 1995 to regulate decharacterized wastewaters and several newly listed hazardous wastes.<sup>1</sup> As part of the proposed rule, the Agency solicited and received public comments. This document reviews EPA's response to comments that relate to the Regulatory Impact Analysis (RIA) conducted for the proposed Phase IV rule.<sup>2</sup> We discuss below only those comments related to the analysis of the costs, benefits, and economic impacts of the proposed rule.<sup>3</sup> We also exclude discussion of comments on the portion of the proposed rule addressing decharacterized wastewaters. In March 1996 Congress passed the Land Disposal Program Flexibility Act, a statute that essentially postpones any decision on potential regulation of decharacterized wastewaters until EPA conducts a study of the risks posed by units that manage these wastes. We also exclude discussion of comment on the portion of the proposed rule addressing treatment standards for TC metals. The Agency is reproposing treatment standards for TC metal nonwastewaters. Responses to public comments made on the TC metals portion of the proposed rule will be addressed in the response to comments document for the final rule.

In several instances, comments on the proposed rule led EPA to initiate new analysis to reflect the concerns of commentors and to incorporate their suggestions for improving the impact assessment. We identify below the major issues raised in the comments and describe the analysis that we performed in response. We address each of the major issues commentors raised for the Phase IV LDR rule regarding treatment standards proposed for newly identified wood preserving wastes.

## WOOD PRESERVING LDRS

### Summary of Comments

Commentors on the portion of the rule that establishes LDRs at UTS levels for wood preserving wastes focused on three major issues: (1) commentors in the wood preserving industry suggested that the economic impact of establishing dioxin treatment standards based on "six nines" incineration is very large and is underestimated in the RIA because they disagree with both

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<sup>1</sup> EPA, "Land Disposal Restrictions -- Phase IV," 60 FR 43654, August 22, 1995.

<sup>2</sup> See *Regulatory Impact Analysis of the Phase IV Land Disposal Restriction Rule*, which can be found in the docket for this rule.

<sup>3</sup> In most cases we have not addressed the wide range of comments that deal with EPA's selection of specific policy options. Examples of such comments include arguments related to the Agency's decision to regulate specific constituents, the suitability of granting compliance variances to certain industries, and the basis for selecting concentration standards. EPA's response to these comments is summarized in the preamble to the final rule.

the cost per ton and tonnage affected estimates in the RIA (e.g., estimates of tonnage affected did not include quantities of remedial waste at wood preserving sites); (2) commentors supported language in the rule that would provide exemptions for recycling of wood preserving wastewaters; and (3) commentors expressed some concern about differences in the quantity estimates in the capacity analysis and RIA (the difference was substantial, approximately an order of magnitude) and 4) commentors expressed concern that EPA had underestimated costs of the proposed rule for media (e.g., soil and groundwater) contaminated with wood preserving waste. Most of the commentors expressed similar concerns and most referred explicitly to the comments of the American Wood Preservers Institute.

### EPA's Response

EPA's revised RIA addresses most of the concerns of commentors. First, [[[revisions to the proposed rule allow for less stringent "four nines" incineration of wood preserving wastes affected by the rule. EPA reconsidered its suggestion that these wastes be combusted only in units meeting a "six nines" standard. This was not required in the listing rule itself, and is not warranted in any case since these wastes are not listed as acute hazardous -- the principal dioxin contaminant are HCDD/HCDFs, not the more toxic TCDD/TCDFs. As a result of this change, the estimated unit costs for incineration dropped substantially, from approximately \$6,000 per ton to a range of \$1,000 to \$1,500 per ton, depending on whether the waste contains both organic and metal hazardous constituents (wastes that contain both types of constituents are more costly to treat to UTS standards). EPA has also evaluated the option of treating newly identified wood preserving wastes in other combustion units such as cement kilns and the economic feasibility of this option.

Second, the final rule affirms an exclusion for recycling of certain wood preserving wastewaters -- this assumption is reflected in the cost and affected waste analysis conducted for the revised RIA, as it was in the RIA supporting the proposed rule.

Third, EPA devoted considerable effort to developing revised estimates of the total quantity of affected waste that accurately affect the legitimate uncertainty in measuring these quantities using existing sources of information. The revised RIA now incorporates a range of estimates, with the low end of this range based on the waste-per-unit-product approach employed in the RIA for the proposed rule and the high end of this range reflecting quantities of wood preserving wastes reported in EPA's Biennial Reporting System. After careful efforts to correct for differences in the manner in which the data were collected and interpreted, the two estimates nonetheless still differ by a factor of five. Differences in these estimates reflect that BRS estimates include some undetermined amount of soil and debris not captured in the waste-per-unit-production approach, and may also reflect some uncertainty over the physical form of the waste as reported in the BRS. Using a range of estimates is a reasonable method to reflect these uncertainties in evaluating the quantity of affected wastes.

EPA also explored the possibility of updating affected waste estimates that rely on the waste-per-unit-product approach used in the proposed RIA, but found that the wood preserving

industry no longer sponsors development of the comprehensive, detailed estimates of industry production necessary to implement this approach. Recent industry data collection efforts may not represent trends in the industry as a whole, and do not provide information at the detailed level necessary to update the waste-per-unit-product approach. The result of EPA's efforts to improve estimates of the impact of wood preserving LDRs are summarized in Exhibits 1 and 2 below.

**Exhibit 1**

**QUANTITY ESTIMATES FOR NEWLY LISTED WOOD  
PRESERVING WASTES BY PRESERVATIVE TYPE**

<b>Preservative Type (Wastecode)</b>	<b>Number of Generating Facilities<sup>a</sup></b>	<b>Low-End, Micklewright-based Quantity (tons)<sup>b</sup></b>	<b>High-End, BRS-based Quantity (tons)<sup>c</sup></b>
<b>Wastewaters<sup>d</sup></b>			
Creosote (F034)	40	284,375	440
Creosote/Inorganic (F034)	18	55,220	0
Chlorophenol (F032)	19	56,754	12,761
Chlorophenol/Inorganic (F032)	12	34,632	0
Chlorophenol/Creosote (F032)	6	37,193	0
Chlorophenol/Inorganic/Creosote (F032)	12	77,835	0
Inorganic (F035)	362	0 <sup>e</sup>	59
<b>TOTAL</b>	<b>469</b>	<b>546,009</b>	<b>13,260</b>
<b>Nonwastewaters<sup>f</sup></b>			
Creosote (F034)	40	1,086	1,671
Creosote/Inorganic (F034)	18	242	8,751
Chlorophenol (F032)	19	348	2,385 <sup>g</sup>
Chlorophenol/Inorganic (F032)	12	240	1,645 <sup>g</sup>
Chlorophenol/Creosote (F032)	6	170	1,165 <sup>g</sup>
Chlorophenol/Inorganic/Creosote (F032)	12	424	2,907 <sup>g</sup>
Inorganic (F035)	362	1,350	284
<b>TOTAL</b>	<b>469</b>	<b>3,860</b>	<b>18,808</b>

- <sup>a</sup> Number of active facilities data was taken from the 1993 Micklewright report; BRS data indicate a total estimate of over 200 facilities generating primary newly listed wood preserving wastes.
- <sup>b</sup> Quantity estimates are based on data from *Wood Preservation Statistics: 1993: A Report to the Wood-Preserving Industry in the United States* (Tables 7 and 8) and waste generation rates from *Regulatory Impact Analysis for the Final Listing of Certain Wood Preserving Wastes* (Exhibit 2-17).
- <sup>c</sup> Quantity estimates are based on data from "Revised Wood Preserving Estimates," a memorandum from ICF Incorporated to EPA's Capacity Programs Branch, June 18, 1996 and include an unknown amount of soil and debris.
- <sup>d</sup> Includes quantity estimates for wastewaters and preservative drippage.
- <sup>e</sup> No wastewaters/preservative drippage are generated. Facilities recycle/reuse all of their F035 wastewaters.
- <sup>f</sup> Includes quantity estimates for process solid residuals. Spent formulations are assumed to be minimal, and therefore are not affected by the proposed Phase IV restrictions.
- <sup>g</sup> In the BRS scenario, we were unable to directly classify all F032-bearing wastes. Therefore, we have allocated the total F032-bearing waste quantity (8,102 tons) according to the proportions in the Micklewright scenario.



**Exhibit 2**

**ESTIMATED INCREMENTAL TREATMENT COSTS OF THE PROPOSED RULE:  
NEWLY LISTED WOOD PRESERVING WASTES**

Preservative Type (Wastecode)	Waste Quantity Affected (tons)	Total Costs (in millions)		Incremental Treatment Cost Attributable to Phase IV LDRs (in millions)
		Combined LDR Treatment and Subtitle C Disposal <sup>a</sup>	Subtitle C Land Disposal (Baseline)	
Creosote (F034)	1,086 to 1,671	\$1.0 to \$1.6	\$0.2 to \$0.3	\$0.8 to \$1.3
Creosote/Inorganic (F034)	242 to 8,751	\$0.3 to \$10.4	\$0.1 to \$1.6	\$0.2 to \$8.8
Chlorophenol (F032)	348 to 2,385	\$0.3 to \$2.2	\$0.1 to \$0.6	\$0.3 to \$1.6
Chlorophenol/Inorganic (F032)	240 to 1,645	\$0.3 to \$2.0	\$0.1 to \$0.3	\$0.2 to \$1.7
Chlorophenol/Creosote (F032)	170 to 1,165	\$0.2 to \$1.1	\$0.1 to \$0.2	\$0.1 to \$0.9
Chlorophenol/Inorganic/Creosote (F032)	424 to 2,907	\$0.5 to \$3.5	\$0.1 to \$0.5	\$0.4 to \$3.0
Inorganic (F035) <sup>b</sup>	1,350 to 284	\$0.7 to \$0.1	\$0.3 to \$0.1	\$0.4 to \$0.4
<b>TOTAL<sup>c</sup></b>	<b>3,860 to 18,808</b>	<b>\$3.3 to \$20.9</b>	<b>\$0.7 to \$3.7</b>	<b>\$2.5 to \$17.1</b>

Note: Cost estimates are based on information from both the low-end, Micklewright and high-end, BRS-based scenarios and are for Phase IV affected nonwastewaters only. F032 and F034 wastewaters are treated and discharged to a POTW and F035 wastewaters are recycled/reused.

<sup>a</sup> Incineration costs for F032 and F034 nonwastewaters assume a 99.99 percent destruction and removal efficiency rate.

<sup>b</sup> The values in the F035 range appear in descending order to maintain the format within the range: the first value references the low-end Micklewright scenario, while the second value references the high-end, BRS scenario. This is reflected in the totals.

<sup>c</sup> Totals may not add due to rounding.

<sup>d</sup> Baseline costs for F032 include incineration costs for 180 tons of F032/D037-mixed waste regulated by Phase II LDRs.

Finally, because environmental media contaminated by wood preserving wastes is being granted a capacity variance for two years, no costs from the Phase IV final rule will be incurred during this time period. Beyond this time period, any remaining remediation of these contaminated media still have a series of alternatives that would preclude the need to incinerate these media as commenters claim. In-situ treatment of these media are exempt from LDR treatment standards. Second, placement of wood preserving remediation wastes into or within a Corrective Action Management Units (CAMU) designated by the Regional Administrator does not constitute land disposal. 40 CFR §264.552(a)(1). Third, the alternative treatment standard for dioxins and furans for F032 wastes allows combustion in a wider range of units (e.g., cement kilns) at a lower cost than in the proposed rule. Fourth, hazardous debris can be treated using alternative treatment standards provided at 40 CFR §268.45. Finally, prospective EPA rulemakings such as the Hazardous Waste Identification Rule for contaminated media should be in effect at the end of the capacity variance