



# **RCRA Permit Policy Compendium**

## **Volume 4**

9441.1987 - 9441.1990

### **Identification and Listing of Hazardous Waste (Part 261) • General**

#### **DISCLAIMER**

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JAN 6 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Thomas Dufficy  
Executive Vice President  
National Association of  
Photographic Manufacturers, Inc  
600 Mamaroneck Avenue  
Harrison, NY 10528

Dear Mr. Dufficy:

This is in response to your letters of September 15, October 24, and November 4, 1986, regarding the regulatory status of properly washed chemical recovery cartridges (also referred to in your letters as steel wool cartridges), flake silver from electrolytic recovery cells, and silver-containing ion-exchange resins, under the federal hazardous waste rules. These units (i.e., chemical recovery cartridges, electrolytic recovery cells, and ion-exchange resins) are used to recover silver in a number of operations in the photographic industry.

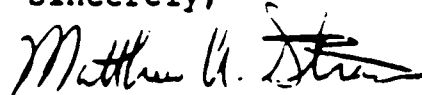
Based on the data and information provided in your letters (i.e., analytical test data and discussions regarding the representativeness of the data), it appears that when these units are properly washed (in accordance with the instructions provided in your letters), they do not exhibit the characteristic of EP toxicity for silver. You also state that these recovery units do not exhibit the characteristics of ignitability, corrosivity, and reactivity, and I presume that these recovery units are not EP toxic for any of the other toxic contaminants. Thus, those recovery units that are properly washed appear not to be hazardous wastes and, therefore, are not subject to the federal hazardous waste regulations. However, each generator is still responsible for determining whether or not the wastes contained in the recovery units are hazardous. See 40 FR §262.11.

In addition, as we've discussed previously, to the extent that these recovery units would be defined as a sludge (i.e., a pollution control residual), they would not be subject to the federal hazardous waste rules when they were sent for reclamation, since they would not be considered a solid waste. Thus, if any of these devices was used to treat wastewater (for example, to comply with the new BAT/PSES rules), the residues contained in the units would be considered a sludge; if the sludge is sent for reclamation, it would not be considered a solid waste. See 40 CFR §261.2(c)(3).

Finally, as you are aware, States may choose to regulate these recovery units under their State hazardous waste program differently than under the federal program. Therefore, representatives in the various States will need to be contacted to determine the regulatory status of these recovery units under the State hazardous waste rules.

Please feel free to give me a call at (202) 475-8551 if I can be of any further assistance.

Sincerely,

A handwritten signature in dark ink, appearing to read "Matthew A. Straus". The signature is fluid and cursive, with a large initial "M" and a stylized "S" at the end.

Matthew A. Straus  
Chief  
Waste Characterization Branch



January 7, 1987

9441.1987(03)

M. J. Carricato, CAPT. CPC, USN  
Acting Director  
Environmental Policy  
Office of the Assistant Secretary of Defense  
Department of Defense  
Washington, DC 20301-8000

Dear Captain Carricato:

We have reviewed the final draft DOD Instruction on the Applicability of RCRA to demilitarization of munitions. Agreement between EPA and DOD on this issue is being achieved at a critical time. Review of RCRA Part B permit applications for the proposed incinerators to destroy munitions containing chemical agents would have been delayed if the demilitarization issue had been left pending.

As you know, due to recent developments at Camp Edwards, Maine, open detonation of discarded munitions on training grounds and impact ranges continues to be a subject of discussion between DOD and EPA. Until issues posed by some of the military's open detonation activities are analyzed and resolved to our mutual satisfaction, we recommend deleting paragraphs 6 and 7 from the final Instruction. Deletion of these two sections does not appear to jeopardize the value of the rest of this Instruction. If you consider it advisable to modify the references to open burning or detonation made elsewhere in the Instruction, we would be happy to review any revisions DOD proposes. Paul Connor (475-7066) is available to assist your staff, as necessary, in this regard.

We have noted a minor inaccuracy regarding RCRA coverage in the draft Instruction. The exclusion referred to in paragraph 8 is only for off-specification small arms ball ammunition. There are other ammunition types of similar caliber that are subject to RCRA.

We also want to offer some comments that would ease implementation of this Instruction, both by DOD personnel and by EPA and State RCRA staffs:

- There should be a clear identification of munitions that have already been declared a waste by the various DOD branches. For example, EPA understands the M55 rockets are not affected by this Instruction. For administrative ease, a list of all such munitions already designated as wastes (not only those containing chemical agents) should be attached to the final Instruction.
- An indication of how the Instruction applies to "leakers" should also be included in the final version. The text

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*This document has been retyped from the original.*

(or, alternatively, accompanying guidance) should clarify whether leakers--which are not commonly thought of as being amenable to further use--are covered by this instruction to the same extent as all other munitions.

- All DOD field personnel must clearly understand that as soon as munitions are declared to be hazardous wastes, it is important to clearly distinguish them from other items also scheduled for demilitarization. The RCRA requirements apply to the hazardous wastes even when they are co-mingled with other munitions. The designated wastes must, for instance, be accompanied by the Uniform National Manifest if shipped to a demilitarization site together with other munitions.

My staff is willing to assist DOD to prepare guidance on interpretation of the final Instruction, especially concerning "leakers" and situations where hazardous wastes and other munitions are co-located or mixed in the same shipment. Please contact Paul Connor to arrange for prompt review of any DOD implementation guidance.

I hope our comments are useful in finalizing the DOD Instruction.

Sincerely,

Marcia Williams  
Director

**JAN 13 1987**

Mr. James E. (Jim) Nugent, Chairman  
Railroad Commission of Texas  
Capitol Station, P.O. Drawer 12967  
Austin, Texas 78711

Dear Mr. Chairman:

Thank you for your letter dated October 21, 1986. As discussed below, the Agency has made some decisions concerning issues you raised in your letter. Because these tentative determinations are preliminary, however, we invite further discussion on them.

The legislative history of Section 3001(b)(2)(A) of the Resource Conservation and Recovery Act (RCRA) sheds some light on the identity of oil and gas and geothermal energy wastes subject to exemption:<sup>1</sup>

the term "other wastes associated" is specifically included to designate waste materials intrinsically derived from the primary field operations associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy. It would cover such substances as hydrocarbon-bearing soil in and around facilities; drill cuttings; materials (such as hydrocarbon, water, sand and emulsion) produced from a well in conjunction with crude oil, natural gas, or geothermal energy; and the accumulated material (such as hydrocarbon, water, sand, and emulsion) from production separators, fluid treating vessels, storage vessels, and production impoundments.

The phrase "intrinsically derived from the primary field operation ..." is intended to differentiate exploration, development, and production operations from transportation (from the point of custody transfer or of production separation and dehydration) and manufacturing operations.

Given the above background, EPA intends to employ four criteria to assist in determining whether a waste is exempt, pending completion of our Report to Congress next year:

1. Only waste streams intrinsic to the exploration for, or development and production of, crude oil, natural gas, or geothermal energy are subject to exemption. Waste streams generated at oil, gas, and geothermal energy facilities that are not uniquely associated with exploration, development, or production activities are not exempt (one example would be spent solvents from equipment cleanup).
2. Exempt waste must be associated with "extraction"<sup>2</sup> processes, which include measures (1) to remove oil, natural gas, or geothermal energy from the ground or (2) to remove impurities from such substances, provided that the purification process is an integral part of normal field operations.<sup>3</sup>
3. The proximity of waste streams to primary field operations is another factor in determining the scope of the exemption. Process operations that are distant from the exploration, development, or production operations may not be subject to exemption.
4. Wastes associated with transportation are not exempt. The point of custody transfer, or of production separation and dehydration, may be used as evidence in making this determination.

As shown on the enclosed table, EPA has used these criteria to tentatively designate various wastes as exempt or not exempt. This table was taken from our October 31, 1986 Technical Report on wastes from the extraction of oil, gas and geothermal energy (copy enclosed). The Agency is aware that this list does not include all waste streams found at oil, gas, or geothermal energy extraction facilities. Therefore, EPA invites commenters to specifically describe other pertinent waste streams and to articulate, in terms of the above criteria, whether they believe these additional streams are exempted by Section 3001(b)(2)(A). EPA also invites comment on the criteria themselves and on the appropriateness of the tentative classification shown on

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<sup>2</sup> The term extraction is defined to include exploration, development, and production activities for oil, gas, and geothermal energy.

<sup>3</sup> Thus, wastes associated with such processes as oil refining, petrochemical-related manufacturing, or electricity generation from geothermal energy are not exempt.

the table. However, we believe this interpretation is consistent with the final "Small Quantity Generator" regulation promulgated on March 24, 1986 (51 FR 10146, copy enclosed; see especially page 10162 for a discussion of the applicability of that rule to offshore oil rigs).

Consistent with the Small Quantity Generator regulation, EPA's Region 6 office in Dallas has distributed "notices of hazardous waste registration requirements". They are being distributed only as a result of inquiries or requests in order to aid parties in fulfilling responsibilities which they consider to be theirs under the law. Because EPA did not seek data from these facilities requesting information on our Small Quantity rule, we are unable to determine whether their waste streams meet the four criteria discussed above.

I trust this clarifies the Agency's current assessment of the scope of the exemption. If I can be of any further assistance, please let me know.

Sincerely,  
/s/ Jack W. McGraw



J. Winston Porter  
Assistant Administrator

Enclosures (3)

JAN 27 1987

Paul P. Didier, Director  
Bureau of Solid Waste Management  
Wisconsin Department of Natural  
Resources  
Box 7921  
Madison, Wisconsin 53707

Dear Paul:

Thank you for your letter of December 9, 1986, requesting an interpretation of 40 CFR §261.3(a)(2)(iii), regarding the regulatory status of listed wastes which were listed solely because they exhibit a characteristic and whether they must go through the delisting procedures of §260.22 in order to become non-hazardous.

Your interpretation of this provision is largely correct. The existing regulations do allow wastes which are listed in Subpart D solely because they exhibit a characteristic of hazardous waste identified in Subpart C to be mixed with solid waste and become unregulated, provided that the resultant mixture no longer exhibits any characteristic of hazardous waste. The provisions of §260.22 notwithstanding, §261.3(a)(2)(iii) is, in essence, a form of self-implementing delisting.

In the case of still bottoms produced from the distillation of waste acetone (F003), those still bottoms would remain hazardous waste unless mixed with another solid waste such that the resultant mixture no longer exhibited a characteristic. Such a mixture would not currently be required to go through the delisting procedures. Despite the apparent contradiction, however, this provision only applies to mixtures of solid wastes and hazardous wastes. Thus, these still bottoms would technically remain hazardous until formally delisted unless they were mixed with a solid waste, even if the still bottoms did not exhibit a characteristic on their own.

While the mixing of a solid waste and a hazardous waste would technically meet the definition of treatment, you should be aware that generators may perform treatment in their accumulation tanks or containers without a permit provided that it is performed strictly in accordance with §262.34. The enclosed memorandum provides additional detail on this policy interpretation.

It is also worth noting that we perceive a number of problems with the mixture rule provision and are considering proposing a change to the regulations. However, no such proposal is likely in the near future due to other priorities.

I hope that this has been responsive to your request. If we can be of any additional help on this issue, please do not hesitate to contact Matt Straus, of my staff, on (202) 475-8551.

Sincerely,

Marcia Williams, Director  
Office of Solid Waste

Enclosure

cc: Dave Stringham, Region V



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

January 28, 1987

9441.1987(08)

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. David M. Friedman  
Environmental Chemist  
Bureau of Waste Management  
Commonwealth of Pennsylvania  
Department of Environmental Resources  
P.O. Box 2063  
Harrisburg, PA 17120

Dear Dave:

This is in response to your letter of October 21, 1986, regarding the scope of the final rule exempting lime-stabilized waste liquor sludge (LSWPLS) from the presumption of hazardousness in 40 CFR 261.3. As we discussed on the telephone, the exemption applies to LSWPLS generated by plants in the iron and steel industry (Standard Industrial Classification (SIC) Codes 331 and 332), whether or not the spent pickle liquor has been mixed with other non-listed process wastes generated by the iron and steel industry.<sup>1/</sup> In reaching this conclusion, the Agency evaluated both the residue generated by the lime-stabilization of spent pickle liquor as well as the lime-stabilization of spent pickle liquor that has been mixed with other process wastes generated by the iron and steel industry. In both instances, we determined that the LSWPLS was not hazardous after considering the original basis for the listing (i.e., corrosivity and the presence of lead and hexavalent chromium) as well as considering other toxicants that may reasonably be expected to present in the waste. Thus, the LSWPLS generated by Bethlehem Wire Rope at their facility in Williamsport, Pennsylvania is covered by the exemption in 40 CFR 261.3(c)(2)(ii).

Please feel free to give me a call at (202) 475-8551 if you have any questions.

<sup>1/</sup> As you are aware, LSWPLS would be considered hazardous if it exhibits one or more of the hazardous waste characteristics (i.e., ignitability, corrosivity, reactivity, or extraction procedures (EP) toxicity).

Sincerely,

A handwritten signature in dark ink, appearing to read "Matthew A. Straus".

Matthew A. Straus, Branch Chief  
Waste Characterization Branch



FEB 19 1987

9441.1987(09)

Mr. Gregory A. Hemker  
Vice President, Environmental Engineering  
QSource Engineering, Inc.  
Suite 300  
228 Byers Road  
Miamisburg, Ohio 45342

Dear Mr. Hemker:

This is in response to your letter of January 8, 1987, requesting clarification on the proper hazardous classification of discarded inks, paints, and adhesives that contain certain solvents. These waste inks, paints, and adhesives are process wastes that are not currently listed in Subpart D of 40 CFR Part 261, and therefore, not subject to Subtitle C regulations unless the waste exhibits any of the four hazardous waste characteristics defined in 40 CFR 261.21-261.24 (ignitability, corrosivity, reactivity, or EP toxicity).

In the event that fresh or commercial grade solvents are present in the product or added to these products as an ingredient in the formulation, the resulting product (or discarded product) is not within the scope of the spent solvent listings. This point is stated in the preamble to the solvent rules as well as the listing background documents. However, should a spent solvent (one that can no longer be used for its original purpose without reclamation) be added to the discarded product, then the resulting mixture is a hazardous waste pursuant to 40 CFR 261.3(a)(2)(iv).

In your case, you claim the discarded products fail the ignitability test and, therefore, are listed as D001 ignitable hazardous waste. I agree with your interpretation of the hazardous classification of this waste.

Also, I agree with your interpretation of the hazardous classification of the wastes in the two scenarios enclosed in your letter. If you have further questions regarding the proper classification of solid wastes, please contact Mr. Ed Abrams of my staff at (202) 382-4787.

Sincerely,

Matthew A. Straus  
Chief, Waste Characterization Branch

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

FEBRUARY 87

1. Small Quantity Generator Determination

A recycler regenerates listed spent solvent (F005) that he receives from off-site. The recycler burns the still bottoms and a portion of the reclaimed solvent on-site in an industrial furnace. He sells the remaining reclaimed solvent to two companies: one that will burn it as fuel and one that will use the solvent for its solvent properties. How does the recycler count the still bottoms and reclaimed solvent for the purpose of small quantity generator monthly quantity determinations?

The recycler must include the still bottoms in his quantity determinations because they are hazardous waste generated on-site and burned for energy recovery. As a hazardous waste fuel, they are subject to 40 CFR Part 266 Subpart D. According to §261.5(c), a generator must count wastes subject to Part 266 subpart D in his monthly quantity determination. The reclaimed solvent fuels that are burned on-site and marketed off-site are subject to Part 266 Subpart D and the counting requirements.

The only waste quantity that the recycler does not include in his quantity determinations is the reclaimed solvent that will be used for its solvent properties. 40 CFR 261.3(c)(2)(i) exempts reclaimed materials that will be used beneficially from regulation as wastes as long as they are not burned for energy recovery or used in a manner constituting disposal. Because the reclaimed solvent will be used as a solvent and not a fuel or product applied to the land, it would not be included in the monthly quantity determinations.

Source:	Mike Petruska	(202) 475-8551
Specialist:	Jennifer Brock	(202) 382-3112

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

FEBRUARY 87

2. F006

F006 is specifically electroplating wastewater treatment sludge. If a corrosive electroplating wastewater is drummed up and shipped off-site without treatment it is classified as D002. This waste goes to an acid waste treatment facility where it is mixed with other various types of acid wastes. Is the sludge from this treatment process going to be classified as F006?

Yes, since some of the waste is electroplating wastewater, the sludge is partly derived from the wastewater and will meet the definition of F006.

Source:	Steve Hirsch	(202) 382-7706
Specialist:	Randy Eicher	(202) 382-3112



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 3 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Jerry Hubbard  
Colonel, General Staff  
Deputy Chief of Staff, Engineer  
Department of the Army  
Headquarters, US Army Material Development  
and Readiness Command  
5001 Eisenhower Avenue  
Alexandria, VA 22333

Dear Colonel Hubbard:

This letter is in a response to your November 6, 1986, letter requesting clarification on the hazardous waste classification of ash residue generated from the incineration or thermal treatment of EPA Hazardous Waste No. K045 (spent carbon from the treatment of wastewater containing explosives).

My interpretation of the classification of this waste is somewhat different than that presented by Luetta Flournoy of EPA Region VII in her December 16, 1985 letter to you. That is, the ash resulting from the incineration of the listed waste K045 is still considered to be a hazardous waste even if it does not exhibit the reactive characteristic. 40 CFR § 261.3(a)(2)(iii) of the regulations only applies to mixtures of solid wastes and wastes listed solely because they exhibit a characteristic and does not apply to residues generated from the treatment of such wastes. However, if prior to incineration you mix K045 with another solid waste and this mixture no longer exhibits a characteristic or after incineration you mix the treatment residue with another solid waste and this mixture does not exhibit the reactivity characteristic, the waste will no longer be considered hazardous. This presumes, of course, that the material does

not exhibit any other hazardous waste characteristic (e.g., ignitability, corrosivity, or extraction procedure toxicity).

I hope the above helps to clarify any concerns you have regarding this waste. If you have any additional questions or wish to discuss the matter in more detail, do not hesitate to contact me.

Sincerely,

  
Matthew A. Straus, Chief  
Waste Characterization Branch

MAR - 4 1987

Mr. Michael Piznar  
Neptune Water Meter Company  
Route 229 South  
Tallahassee, AL 36078-1799

Dear Mr. Piznar:

Thank you for your letter of January 19, 1987, confirming our telephone conversation. As I explained by telephone, EPA's hazardous waste regulations have special requirements for wastes that are recycled. You should review Part 261.2 and 261.6.

Based on the information you provided in our conversation the treatment process necessary to recycle your foundry sands back into your foundry would appear to be exempt from the need for a RCRA treatment permit. However, you should be aware that you will need to comply with the generator storage requirements if the wastes are stored in a tank or container for less than 90 days (40 CFR 262.34) or will need a storage permit if the wastes are stored on site for greater than 90 days. I am enclosing a copy of Parts 261.2, 261.6, 262.34 and the regulation for hazardous waste storage in tanks for your information.

Sincerely,

James R. Berlow, Chief  
Treatment Technology Section  
Office of Solid Waste

Enclosures

cc: Matthew Straus, Chief  
Waste Characterization Branch

March 6, 1987

9441.1987(14)

MEMORANDUM

SUBJECT: Hazardous Waste Status of Automotive Fluids

FROM: Marcia E. Williams  
Director, OSW

TO: Michael J. Sanderson  
Chief, RCRA Branch  
EPA Region VII

This is to provide guidance on the questions raised in your February 19, 1987 memo. First, no automotive fluids have been listed as hazardous under Subtitle C of RCRA; therefore, the question of whether these fluids are subject to the hazardous waste regulations depends on whether the fluid in question exhibits one or more of the RCRA hazardous waste characteristics. Although we do not have studies in this area, we have been informed that some brake fluids and automatic transmission fluids are ignitable under 40 CFR §261.21. Used crankcase oils may also be ignitable (because small amounts of gasoline are added during or after use), and may exhibit E.P. toxicity for lead.

However, for those automotive fluids that are used oils and are recycled, the hazardous waste regulations would not currently apply, even if the fluid exhibits a characteristic; rather all used oils that are recycled are subject to 40 CFR Part 266, Subpart E (See 40 CFR §261.6 (a)(2)(iii).) Currently, Part 266, Subpart E only regulates the recycling of used oil as fuel. All other recycling methods are exempt from regulation. Those automotive fluids that are either not a used oil, or are used oil that is disposed of, are subject to the hazardous waste regulations if they exhibit one or more of the characteristics. Currently, we define "used oil" in §266.40(b) very broadly. Brake fluid, power steering fluid, and automatic transmission fluid would all be considered used oils. On the other hand, antifreeze and windshield washer fluid, because they are not "oils" as the term is commonly used, would not be used oils.

As a practical matter, our understanding is that brake, steering, and transmission fluids are typically mixed with crankcase oils and recycled. Therefore, the hazardous waste characteristics are not relevant and Part 266, Subpart E applies if the oils are recycled as fuel. Used anti-freeze is not a used oil and is not likely to exhibit any of the hazardous waste characteristics; consequently, it may be disposed of as a solid waste in Subtitle D facilities. Similarly, windshield washer fluid is not used oil, and is not likely to exhibit a characteristic; thus, it may also be disposed of as solid waste.

-2-

Please feel free to call Mr. Mike Petruska at 8-382-7737 if you have any further questions.

cc: Regional Branch Chiefs (EPA Regions I-IV and VII-X)



MAR 11 1987

George W. Rambo, Ph.D., P.P.E.  
Director, Research, Education  
and Technical Resources  
National Pest Control Association, Inc.  
8100 Oak Street  
Dunn Loring, VA 22027

Dear Dr. Rambo:

I am writing in response to your letter of February 9, 1987, requesting an interpretation of the hazardous waste rules as they apply to the practice of treating homes and apartment complexes for termites with the pesticides, Chlordane and Heptachlor. You also specifically request that we discuss the relationship of the June 13, 1986 Federal Register notice, proposed toxicity characteristic, to the practice of termite treatment.

As you are aware, Subtitle C of RCRA controls the management of hazardous wastes. The soils described in your letter are not considered hazardous wastes under the Federal hazardous waste rules since contamination which results from normal pesticide use is not covered by the hazardous waste regulations. This interpretation would not change under the proposed toxicity characteristic.

However, you should be aware that States may have differing regulations which may affect this interpretation. In particular, state regulation may be more stringent than the Federal hazardous waste rules. (See section 3009 of RCRA.) Therefore, you will still need to discuss your concern with the Arizona Department of Health Services as it relates to their regulations.

Please do not hesitate to contact my office, if you have any further questions.

Sincerely,

Marcia E. Williams  
Director  
Office of Solid Waste

March 17, 1987

9441.1987(16)

Dr. Wladimir Gulevich, Ph.D., P.E., Director  
Bureau of Hazardous Waste Management  
Commonwealth of Virginia  
Department of Waste Management  
11th Floor, Monroe Building  
101 N. 14th Street  
Richmond, Virginia 23219

Dear Dr. Gulevich:

This letter is in response to the various conversations we have had and your letter of January 15, 1987, in reference to the U.S. Navy salvage fuel boiler plant in Norfolk. I have also received from you EP tox data which indicate some ash from this plant exceeds EP concentration levels for lead and cadmium. I understand the U.S. Navy has proposed that the residues from this plant be exempted from hazardous waste regulation by way of two regulatory exclusions.

The exclusion at 40 CFR, Section 261.4(b)(4) applies to residue primarily from combustion of coal or other fossil fuels. There is insufficient information to determine whether residue from the Norfolk facility qualifies for this exclusion. On January 13, 1981, the Agency offered an interpretation (copy enclosed) on the question of whether this exclusion extends to combustion wastes that result from the burning of mixtures of fossil and other fuels. In that interpretation, the exclusion was defined to include all wastes generated in the combustion of coal-waste mixtures where coal makes up more than 50% of the fuel mixture. This interpretation is still operative.

The "household waste exclusion" of 40 CFR 261.4(b)(1) turns not on the composition of the waste, but on whether the particular source of the waste can properly be characterized as a household. Based on the information you have provided, we see no basis for a conclusion that the Navy salvage fuel boiler plant is a household. In addition Section 223 of the Hazardous and Solid Waste Amendments of 1984 modified RCRA to provide an exemption for wastes at certain resource recovery facilities handling municipal solid waste. Based on the information available at this time, we do not believe there is a basis for excluding these boiler plant wastes under this provision.

The Agency is vigorously investigating the issue of disposal of residues from municipal waste combustion. We are aware of the growing concerns involved, and we are moving as rapidly as is prudent to acquire the data necessary for regulatory strategy development. I would be happy to meet with you, per your request, to discuss this issue. We can arrange a mutually convenient time following your receipt of this letter.

-2-

Thank you for your continued communication and cooperation.  
I look forward to seeing you soon. With kindest regards, I am,

Sincerely,

Gerry Dorian  
Environmental Scientist

cc: Truett DeGeare  
Mark Greenwood  
Pat Pesacrete



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 31 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Reuse of Spent Pickle Liquor

FROM: Matthew A. Straus, Chief *Matthew A. Straus*  
Waste Characterization Branch, OSW (WH-562B)

TO: William H. Miner, HWEB Chief  
EPA Region V

This is in response to your memorandum of January 14, 1987, in which you request a regulatory interpretation regarding the "reuse" of spent pickle liquor for purposes of neutralization. In particular, you ask: (1) whether the treatment (reuse) process conducted at a specific facility would be considered "use constituting disposal" and (2) whether the recycling of spent pickle liquor for purposes of neutralization would be considered re-use as an effective substitute. The answer to these two questions is as follows:

- (1) Is the treatment (reuse) process conducted and described in your memorandum considered to be used in a manner constituting disposal?

No. The "Use Constituting Disposal" regulations applies to those wastes or waste-derived products <sup>1/</sup> that are applied to or placed on the land for beneficial use (i.e., those materials that are recycled by being placed on the land). Wastes that are stored or treated in units (i.e., surface impoundments) that are on the land are not considered within this provision (i.e., they are not being applied to the land for beneficial use). Rather, these units and the wastes they contain would be evaluated based on other aspects of the Subtitle C regulations to determine their regulatory status.

1/ A waste-derived product is defined as those products which contain hazardous waste that are applied to the land that are themselves hazardous.

- (2) Is the recycling of spent pickle liquor for purposes of neutralization considered to be reuse?

The answer to this question depends on a number of factors. As we state in the preamble to the final rules, corrosive materials that are neutralized are normally considered wastes. However, where such corrosive materials can be shown to: (1) meet relevant specifications with regard to contamination levels; (2) be as effective as the virgin material for which they substitute (i.e., the same amount of waste acid would generally be needed as the virgin acid for which it replaces); (3) be used under controlled conditions (i.e., stored in a manner commensurate with its alleged status as a new material, which storage in an impoundment rarely or ever would be; 50 FR 652 n. 44 (January 4, 1985)); and (4) that in a two party transaction, there be consideration (usually monetary) for use of the material, we believe such materials may not be wastes. See 50 FR 638, January 4, 1985. Based on the information provided in your memorandum, I would question whether the neutralization process is a reuse process; rather it appears to constitute waste management. However, whether or not the use of spent pickle liquor as a neutralizing agent is excluded from regulation in the particular situation described in your memorandum will need to be evaluated based on the particular facts. (See attached letters for successful demonstration with respect to this provision.) Pickle liquor stored without being used for neutralization is indisputably a solid waste. 48 FR 14488 n. 32 (April 4, 1983).

With respect to the argument made by the company (who I assume is Dundee Cement) that the language of the preamble cannot change the effect of the regulatory language, we believe that both the rule and the preamble are consistent. In particular, the rule specifically excludes from being solid wastes those materials that are reused as "effective substitutes." The question therefore, is what is meant as an effective substitute; the preamble discussion lays out what the Agency considers to be an effective substitute where neutralization is occurring. As the Agency's contemporaneous interpretation

and explanation of its own regulation--in fact dealing with the precise point at issue--the preamble is entitled to, and would receive great deference from any reviewing court (see, e.g., Ford Motor Credit Co. v. Milhollin, 444 U.S. 555, 566 (1980); General Electric Co., v. Gilbert, 429 U.S. 125, 129 (1976)). In addition, the preamble language is detailed and well-reasoned, draws on the Agency's technical expertise, and is in accord with the general statutory scheme, all further factors which would lead a court to consider the interpretation with great deference. Skidmore v. Swift & Co., 323 U.S. 134, 140 (1944); Ford Motor Co., supra, 444 U.S. at 568-69. Therefore, we do not agree with the company that the preamble is inapplicable to this situation.

You also ask, to what degree does the preamble influence the interpretation of the regulations from an enforcement standpoint and to what extent can it be used to support an administrative or other enforcement action. As we've indicated previously, your primary argument in any administrative or enforcement action must be based on the language of the rule.<sup>2/</sup> However, the language of the preamble or any other document can and should be used where it supports the language of the rule; in this case, the language in the preamble can be used as explanation and interpretation of the term "effective substitute."

Please feel free to give me a call if you have any further questions.

**Attachments**

cc: Solid Waste Branch Chiefs (EPA Regions I-X)  
Gary Geunther (Mich. DNR)  
Larry Aubuchan (Mich. DNR)

<sup>2/</sup> In addition to the language in 40 CFR §261.2(e), you can also refer to 40 CFR §260.10 (definition of treatment and elementary neutralization unit); 40 CFR 264.1(g)(6); and 40 CFR 265.1(c)(10).

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

MARCH 87

2. Solvent Mixture Rule

How will the following mixtures be classified under RCRA?  
The concentrations of the various components before use are indicated below.

- 1) Solvent containing 15% xylene (F003), 15% toluene (F005) and 70% water.
- 2) Solvent containing 80% xylene (F003), 5% methylene chloride (F001) and 15% water.
- 3) Solvent containing 80% xylene (F003) and 20% water.

The preamble of the "Solvent Mixture Rule" published in the Federal Register on December 31, 1985 (50 FR 53315) states that since the Agency has not evaluated the F003 solvents for their toxicity, and no determination could be made as to the ignitability of an F003 mixture, the 10% threshold applies to them in a modified form. According to the Solvent Mixture Rule, mixtures containing F003 solvents are covered under the listings only under two conditions: 1) the mixture contains only F003 constituents, or 2) the mixture contains one or more F003 constituents and 10% or more of the other listed solvents prior to use.

Therefore, the first mixture when spent would be a listed hazardous waste under RCRA. For the purposes of notification and manifesting, the generator would designate this waste as F005/F003.

The second mixture is not a listed waste because the methylene chloride (F001) concentration prior to use is less than 10% and it contains constituents other than F003. This mixture, however, will probably be ignitable and therefore classified as D001.

The last mixture is not a listed waste unless it is considered to be a commercial or technical grade xylene solution. If it is not technical or commercial grade, the mixture should be tested for the characteristic of ignitability.

Source: Jacqueline Sales (202) 382-4770  
Research: Robyn Neaville

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

MARCH 87

3. Solvent Drippings for Degreasing Operations

A ball-bearing manufacturer dips metal parts in a degreasing tank of pure 1,1,1-trichloroethane. Once the parts have been dipped, they are ground. The cooling system (either oil or water is used as the fluid) picks up the grinding sand, metal flakes, and traces of solvent left on the part. The fluid is then filtered for reuse, and the sand-metal-solvent mixture is discarded. Are the traces of solvent left on the parts after degreasing classified as F001? Is the sand-metal-solvent mixture regulated as a hazardous waste when discarded?

The small amount of solvent remaining on the part after it has been dipped will not be regulated as F001. The solvent is not spent. If the sand-metal-solvent mixture exhibits any of the characteristics of hazardous waste as defined in Subpart C of 40 CFR Part 261, then the mixture would be regulated as a hazardous waste.

Source: Steve Silverman 382-7706  
Research: Becky Outhbertson



APR 8 1987

K. Seiler  
State of Washington  
Department of Ecology  
7272 Cleanwater Lane, LU-11  
Olympia, Washington 98504-6811

Dear Ms. Seiler:

I recently received your letter of February 26, 1987, in which you requested clarification as to whether excavated soils, contaminated with 2,4,5-T, Simazine, 2,4-D, Dicamba, and Bromacil, are F027 wastes. The site in question was a county public works yard where a pesticide product was mixed with water as a carrier, prior to application on the county roadsides. Contamination occurred from spillage of both unused and used pesticide solutions.

The F027 listing designates, as acute hazardous waste (H), formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. Whether the contaminated soil contains a listed hazardous waste is dependent on: (a) whether the 2,4,5-T got onto the soil through the use of the chemical or by being discarded, and (b) whether the 2,4,5-T was in fact a discarded formulation as stated in Sec.261.31.

Soil, which is contaminated with unused 2,4,5-T, that had been discarded, would contain a listed hazardous waste, namely F027. This contaminated soil, which contains a hazardous waste, is therefore subject to the Subtitle C regulations.

Soils, which are contaminated with 2,4,5-T, as a function of its use, would not be considered to contain a hazardous waste. These contaminated soils may, however, be hazardous if they are excavated to be discarded, and if they meet the hazardous waste characteristics, i.e., if the EP leachate concentration exceeds the levels specified in Sec.261.24(b).

To my knowledge, there are currently no commercial treatment or disposal facilities permitted to accept listed dioxin wastes. You also questioned whether any treatment standards have been established for dioxin wastes. According to 40 CFR 264.343, incinerators burning hazardous wastes F020-F023, F026, and F027 must achieve a destruction and removal efficiency of 99.9999% for each principal organic hazardous constituent specified in its permit. Effective Nov. 8, 1988, these same wastes are restricted from land disposal if an extract of the waste or the treatment residual of the waste (using the Toxicity Characteristic Leaching Procedure (TCLP)) is equal to or greater than 1 ppb of dioxin.

Please feel free to call Doreen Sterling, of my staff, at 202-475-6775, if you have any further questions.

Sincerely,

Matthew Straus, Chief  
Waste Characterization Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 15 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Ronald D. Conte  
Operations Coordinator  
Petroswill Chemicals, Inc.  
2523 Mogadore Road  
Akron, OH 44313

Dear Mr. Conte:

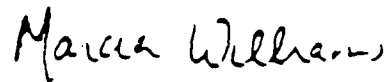
Thank you for your letter of March 27, 1987, concerning the regulatory status of virgin and recycled chemicals being placed in and removed from storage tanks. From the facts you provided, the only material that appears to be a solid waste at all and so potentially subject to the hazardous waste regulations, is the recycled xylene. My understanding is that your normal operation involves blending of reclaimed xylene to produce a marketable solvent. In this situation, EPA only regulates storage and transportation of the spent solvent, not the reclamation or blending process or the reclaimed material. (See 40 CFR §261.6(c)). However, you indicated that you produced a batch of material not suitable for solvent use, and that you sent this for fuel use. EPA does regulate a reclaimed solvent that is used to produce a fuel. (See 40 CFR §261.6(a)(2)(ii), and Part 266, Subpart D.) Therefore, it was correct for you to manifest the blended solvent/chemical mixture that you were sending for fuel use.

Because your operation normally produces reclaimed solvent, the mixture actually became a hazardous waste at the time you determined that it was not suitable for solvent use (and that it therefore had to be marketed as fuel). As referenced above, EPA does regulate the storage of hazardous waste fuel as well as fuel blending tanks. In your case, however, it appears that the tank was really a product (solvent) blending tank, and so not subject to regulation. This determination is based on your assurance that the fuel production was an isolated incident, and that your original intent in placing reclaimed xylene in the tank was to produce solvent, not fuel. The fact that you normally produce solvent and that you actually did market some of the material from the tank as a solvent (as well as fuel)

supports such a conclusion regarding your intent. Let me reiterate however, that EPA does normally regulate tanks used to store or blend hazardous waste fuel, and your tank was not subject to regulation only due to the special circumstances described above.

If you have questions concerning the determinations outlined above, contact Mike Petruska of my staff at (202) 475-8551.

Sincerely,

A handwritten signature in cursive script that reads "Marcia Williams".

Marcia Williams  
Director of Solid Waste

cc: Regional Waste Management  
Division Directors

APR 17 1987

Ms. Sue Vedantham  
Environmental Engineer  
Solvent Service, Inc.  
1021 Berryessa Road  
San Jose, California 95133

Dear Ms. Vedantham:

This letter responds to your March 18, 1987, correspondence requesting a written statement addressing the regulatory status of "clean" solvent from recycled solvent-containing wastes that are subject to the land disposal restrictions.

According to the provisions in 40 CFR 261.3(c)(2)(i), "materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal." Therefore, the clean solvent from your recovery process is not a solid waste, and as such, is not a hazardous waste which is subject to the land disposal restrictions. However, the still bottoms from the recovery of spent solvents are hazardous wastes listed in 40 CFR 261.31. For example, the recycling of spent carbon tetrachloride from a metal cleaning operation results in "clean" carbon tetrachloride solvent that may be sold as a product or otherwise reused and still bottoms which remain listed hazardous wastes and subject to the land disposal restrictions.

If you have additional questions, you may call me at (202)382-4770.

Sincerely,

Jacqueline W. Sales, Chief  
Regulation Development Section



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 30 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Terry Gray, Chief  
Plan Review and Permit Section  
Hazardous Waste Management Branch  
Solid and Hazardous Waste Management  
State of Indiana  
Department of Environmental Management  
105 South Meridian Street  
P.O. Box 6015  
Indianapolis, IN 46206-6015

Dear Mr. Gray:

This is in response to your letter of March 13, 1987, in which you request written confirmation concerning a specific aspect of the mixture rule exemption that was promulgated on November 17, 1981. In particular, you ask if solvent that is lost via volatilization once it is discharged to the plant sewer is excluded from the mixture rule calculation in §261.3(a)(2)(iv)(A) and (B).

As I discussed with Ms. Jayne Browning of your staff, the regulation and the preamble to the November 17, 1981 Federal Register makes it clear that once a waste (i.e., spent solvent) is discharged to the wastewater, it must be included in the calculations to determine whether or not a facility exceeds the mixture rule exemption levels. See, for example, 40 CFR §261.3(a)(2)(iv)(A) where it states "... provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater)...;" see also footnote 24 at 46 FR 56585 where it states:

However, if a facility can demonstrate by means of appropriate records that any portion of solvents used at the facility are not disposed to wastewater, that portion is to be excluded from the calculation. That portion of solvents which is volatilized may not be excluded from the calculation of solvent usage."

Please feel free to give me a call at (202) 475-8551 if you have any further questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew A. Straus". The signature is fluid and cursive, with a prominent initial "M".

Matthew A. Straus, Chief  
Waste Characterization Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 30 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Gordon Davidson  
Project Manager for Environmental  
Affairs  
IT Corporation  
600 Maryland Avenue, S.W.  
Washington, D.C. 20024

Dear Mr. Davidson:

This is in response to your April 9, 1987, letter in which you request authorization to transport laboratory samples and associated laboratory wastes contaminated with 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin from your Knoxville laboratory back to the Diamond Shamrock Lister Avenue site. You state that the samples originated from the clean-up associated with this site.

It is my understanding, from a telephone conversation between you and Doreen Sterling of my staff, that you are unsure if the waste in question is actually covered by the Dioxin Listings. You are, however, handling your waste as if it were hazardous. Our response, therefore, assumes that the waste in question is a "hazardous waste".

According to 40 CFR 261.4(d), a laboratory may transport a sample, which is collected for the sole purpose of testing to determine its characteristics or composition, back to the sample collector. No approval from the Environmental Protection Agency (EPA) is required for this action. However, once the sample is received at the Lister Avenue site, it must be managed as a hazardous waste.

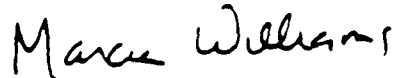
You also stated in your telephone conversation with Doreen Sterling that the associated wastes in question include lab solvents, protective gear, etc. which were used during analysis. These wastes are not covered by the provisions of Section 261.4(d). Rather, these materials either are listed hazardous waste (i.e., spent solvents) or contain a listed hazardous waste (i.e., protective gear) and must be managed



as if it were an acute hazardous waste. However, if the materials that contain listed hazardous waste are decontaminated such that they no longer contain the listed waste, they are no longer subject to Subtitle C regulations. Any rinsate, generated during cleaning would, however, be an acute hazardous waste via application of the mixture rule (40 CFR 261.3(a)(2)).

If you have any further questions, please contact Doreen Sterling of my staff at (202) 475-6775.

Sincerely,

A handwritten signature in cursive script that reads "Marcia Williams".

Marcia E. Williams  
Director  
Office of Solid Waste

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

APR 30 1987

MEMORANDUM

SUBJECT: Scope of Temporary Exclusion for Monroe Auto Equipment,  
Cozad, Nebraska

FROM: Marcia Williams  
Director, Office of Solid Waste (WHS-562)

TO: David A. Wagoner  
Director, Waste Management Division  
Region VII

Thank you for your April 10, 1987 memorandum concerning the scope of Monroe Auto Equipment's December 27, 1982 temporary exclusion. Specifically, you asked if the temporary exclusion issued December 27, 1982 covered (1) the POC6 sludges disposed of at the Sandhills Landfill during 1981 and 1982; and (2) the POC6 sludges generated at Monroe Auto Equipment prior to the temporary exclusion.

The Agency believes that Monroe's temporary exclusion did not apply to any of the wastes disposed at their Sandhills disposal site. First, exclusions are granted to a facility for specific wastes. If the waste will be managed on-site, sampling data for the waste contained in each onsite management unit must be provided. Monroe's initial petition (submitted 9/20/81) was limited to the impounded waste at the Second Street facility. It did not mention the Sandhills site, nor was analytical data characterizing the sludge at the Sandhills disposal site submitted until August 1985, nearly three years after the date of the temporary exclusion. The August 1985 submission provided incomplete information for the landfilled sludge at Sandhills. Subsequently, Monroe discontinued use of the two impoundments at the Second Street facility and began using a vacuum filter press to generate dewatered sludge from their production process. Due to trichloroethylene contamination found in ground water at the Second Street site, and trichloroethylene found in the sludge contained in the inactive surface impoundments, at the Second Street site, Monroe attempted to re-treat the impounded wastes by aeration. On October 18, 1985,

Monroe submitted a second petition seeking to exclude their re-treated (aerated) surface impoundment sludges, the Sandhills landfill sludge, and their actively generated process vacuum filter cake. This further demonstrates that Monroe's first petition was only for the sludge contained in their two on-site surface impoundments at their Second Street facility, and that their temporary exclusion did not apply to the waste disposed at the Sandhills landfill site. Therefore, since no temporary exclusion applied to the Sandhills landfill, and it contains uncharacterized listed waste generated prior to the issuance of the temporary exclusion, it is and has been hazardous waste since 1980.

Because the waste disposed at the Sandhills disposal site was never covered by Monroe's December 27, 1982 temporary exclusion, Monroe does not have the six month period (normally given to petitioners having had a temporary exclusion revoked) in which to bring the Sandhills disposal site into compliance with all of the applicable RCRA regulations. This area has contained hazardous waste since 1980 and, as a result, Monroe must comply with all appropriate requirements under 40 CFR Parts 262 through 265 and 40 CFR Part 270.

We are going to publish a final denial decision in the Federal Register. This notice will both explain the Agency's position regarding the scope of Monroe's previous temporary exclusion and how the Agency inadvertently omitted reference to Monroe's Sandhill disposal site sludge in our final decision to deny Monroe's surface impoundment sludge and vacuum filter cake published November 14, 1986 in the Federal Register (see 51 FR 41320).

I hope that we have responded to your questions. Should you require more information or further clarification, please call Mr. Myles Morse, of my staff, at (202) 382-4792.

APRIL 87

4. Waste Derived from Treating Exempt or Excluded Wastes

Residues from treating, storing, or disposing of hazardous waste are included in the definition of hazardous waste (§261.3(c)(1)). Can residues resulting from incinerating the following wastes which are exempt or excluded from regulation meet the definition of hazardous waste?

- (a) Ash produced by incinerating hazardous waste generated by less than 100 kg/mo small quantity generators whose waste is exempt from full regulation by §261.5(b).
- (b) Ash produced from incinerating only household waste which is excluded from the definition of hazardous waste per §261.4(b)(1).
- (c) Ash produced from incinerating EP toxic arsenical treated wood which is excluded from the definition of hazardous waste under §261.4(b)(9).
  - (a) Yes, Although §261.5(b) exempts wastes from small generators producing <100 kilograms per month from regulation under Parts 262-266 and Parts 270 and 124, it does not exempt the waste from being classified as hazardous, nor does it imply that the waste is not hazardous. A discussion in the preamble of the August 1, 1985 Federal Register mentioned that any hazardous waste, regardless of its point of origin, is hazardous waste. This logic could only apply to < 100 kg/mo generators' waste, as well as to > 100 kg/mo generators' waste (50 FR 31299). The incinerator would not be required to have a RCRA permit in order to receive hazardous waste from < 100 kg/mo generators per §265.1(c)(5) and §264.1(g)(1), but the incinerator could itself generate a hazardous waste ash that would be subject to regulations under Parts 262-266.
  - (b) No. Section 261.4(b)(1) excluded household waste that has been recovered (e.g., refuse-derived fuel) from regulation as a hazardous waste. The preamble of the May 19, 1980 Federal Register stipulated that residues remaining after treatment (e.g. incineration) of household waste are not subject to regulation as hazardous waste (45 FR 33099).
  - (c) Yes. The exclusion for arsenical treated wood, as discussed in the preamble of the November 25, 1980 Federal Register, pertains to arsenical-treated wood that is land disposed by someone who uses the wood for its intended end use, (45 FR 78531). This exclusion does not extend to EP toxic waste generated by the incineration of the wood. The incineration of the wood may be subject to regulation if the wood exhibits the characteristic of EP toxicity.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAY 14 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Barbara J. Zellmer  
Hazardous Waste Regulatory Unit  
Department of Natural Resources  
Box 7921  
Madison, WI 53707

Dear Ms. Zellmer:

This is in response to your April 22, 1987 letter in which you request clarification of the Resource Conservation and Recovery Act (RCRA) regulations governing the management of waste containing dioxins (2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)). In particular, your question relates to a notification received from the University of Wisconsin regarding research projects involving injection of dilute solutions of TCDD into birds and bird eggs. The University has inquired about the proper disposal of these carcasses containing small quantities of TCDD.

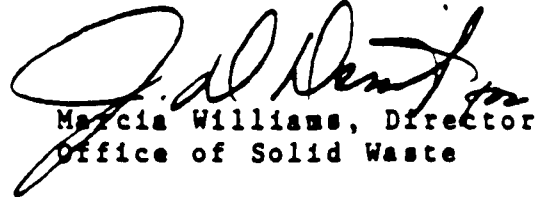
The waste which you described is not listed under 40 CFR §261.31, nor is its disposal currently regulated under the Toxic Substances Control Act (TSCA). Rather, these wastes would more appropriately be characterized as infectious waste, "... laboratory wastes, such as pathological specimens (e.g., all tissues, specimens of blood elements, excreta, and secretions obtained from patients or laboratory animals) and disposable fomites (any substance that may harbor or transmit pathogenic organisms) attendant thereto..." see 40 CFR §241.101(h). To date, EPA has not promulgated criteria for identifying waste as infectious under §261 Subpart C.

The Agency has, however, developed a manual to provide guidance on the management of infectious waste. A copy is enclosed for your reference. You should be aware that typical infectious waste incinerators are probably not satisfactory devices for disposal of materials highly contaminated with TCDD. TCDD decomposes above 800°. Therefore, if the waste is to be incinerated, the wastes which you describe should be managed by high temperature incineration.

-2-

I hope this adequately answers your questions. If you have any further questions, please contact Doreen Sterling of my staff at 202 475-6775.

Sincerely,



Marcia Williams, Director  
Office of Solid Waste

Enclosure

May 18, 1987

9441.1987(37)

Mr. Dennis M. Burchett  
V.P. Regulatory Affairs  
Clean Crop  
419 18th Street  
P.O. Box 1286  
Greeley, Colorado 80632

Dear Mr. Burchett:

This is in response to your inquiry of April 21, 1987. From information in your letter and from your phone conversation of May 8, 1987, with Mike Petruska of my staff, we have concluded that your spent carbon contains the listed hazardous waste Phorate (P094). Therefore, the contaminated carbon is subject to the hazardous waste regulations. In particular, your company must comply with the hazardous waste generator requirements, including compliance with the manifest. See 40 CFR 261.6(b). In addition, the facility that regenerates the carbon must also comply with the appropriate hazardous waste rules. See 40 CFR 261.6(c)

The reasoning behind this determination is as follows:

- The packaging of the finished Phorate product releases Phorate to the air. In effect, Phorate is being "discarded;"
- EPA regulations at 40 CFR §261.33 identify certain commercial chemical products (among them Phorate) as hazardous waste when they are discarded;
- EPA continues to regulate a listed waste even when it is contained in another material, i.e., in this case the spent carbon.

The first point above, concerning the Phorate being discarded, is critical to your situation. Even though you capture the Phorate released to the air in carbon scrubbers and send the spent carbon for regeneration, the Phorate contained in the carbon is not recovered but rather is destroyed during carbon regeneration. This leads us to conclude that you are discarding Phorate. You should note, however, that if you were reclaiming or reusing the Phorate, your regulatory situation would be different. In this case, the Phorate would not be solid waste, and so would not be hazardous waste. (See 40 CFR §261.2.)

-2-

If you have further questions in this area, contact Mike Petruska of my staff at (202) 382-4765.

Sincerely,

Matthew A. Straus, Chief  
Waste Characterization Branch

Regional Hazardous Waste  
Division Directors





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAY 20 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Dr. Peter Russell  
President  
Russell Resources Inc.  
25 Oak View Drive  
San Rafael, CA 94903

Dear Dr. Russell:

I am responding to your letter of May 8, 1987, requesting the regulatory interpretation of used pickle liquor generated at the USS-POSCO Project in Pittsburg, CA. Specifically, you requested responses to three questions concerning the regulatory interpretation of the pickle liquor.

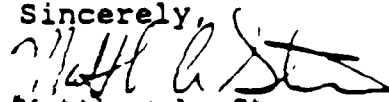
Your first question asks when the pickle liquor becomes a hazardous waste. The pickle liquor becomes EPA Hazardous Waste No. K062 as soon as it exits the pickling line baths and is sent to the regeneration operations; at this point it is considered to be a spent material (see 40 CFR 261.1(c)(1)). Thus, the spent pickle liquor is subject to the appropriate requirements in 40 CFR 261.6(b) and (c).

Your second question asks whether the regulatory interpretation for question 1 above is affected by the hydrochloric acid concentration in the waste. The answer to this question is no. Whether or not the pickle liquor can continue to be used does not affect the regulatory status of the pickle liquor at the subject facility; the fact that the pickle liquor is being regenerated (i.e., reclaimed) before reuse makes it a spent material. Therefore, pickle liquor is a spent material (cannot be reused without being regenerated) when it is taken from the pickling process for regeneration and its status would not change based on the concentration of the acid.

Your last question asks if the regulatory status of the spent pickle liquor is dependent upon whether it is used again in the same pickle line after on-site processing in a high temperature "reactor/separator" to remove iron as ferric oxide. Reuse on site after regeneration does not affect the regulatory status; however, reuse without the pickle liquor first being regenerated or use as an effective substitute for a commercial product would change the regulatory status because the spent pickle liquor would no longer be considered a solid waste (see 40 CFR 261.2(e)).

If you have further questions, please call Ed Abrams at (202)  
382-4787.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew A. Straus". The signature is stylized with a large, looped "M" and a long, sweeping underline.

Matthew A. Straus

Chief, Waste Characterization Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

JUN - 1 1987

MEMORANDUM

SUBJECT: Determination on Issues Pertinent to Mixed Waste  
Regulation in Colorado

FROM: J. Winston Porter, Assistant Administrator

TO: James J. Scherer  
Regional Administrator

This is in response to Alexandra Smith's March 25, 1987, memorandum in which a number of issues were raised regarding the applicability of RCRA to high-level, transuranic and low-level mixed waste.

The Agency published a Federal Register notice on July 3, 1986 which clarified the applicability of RCRA to radioactive mixed waste. The notice stated that "radioactive mixed wastes are wastes that contain hazardous wastes subject to RCRA and radioactive wastes subject to the Atomic Energy Act (AEA)," and that the hazardous component of such wastes are subject to RCRA regulation. The scope of radioactive materials defined by the AEA includes source, special nuclear, and by-product materials. Radioactive mixed waste may include any AEA radionuclide, regardless of further subclassification of the radioactive waste as highlevel, transuranic or low-level waste.

Although the Mixed Energy Waste Study (MEWS) was commissioned by Lee Thomas to examine the viability of a DOE proposal for exempting high-level and transuranic mixed wastes from RCRA jurisdiction, a final determination on this option has not been made. However, the July 3, 1986 Federal Register notice provides for States to receive authorization to regulate mixed wastes, regardless whether it is high-level, transuranic, or low-level. Therefore, even though the Rocky Flats Compliance Agreement does not specifically include high-level or transuranic mixed wastes, Colorado's authorization for radioactive mixed waste gives the State the authority to regulate those wastes. You should note, however, that based on information given to EPA's MEWS task force, no high-level wastes are generated or managed at Rocky Flats. I have enclosed a copy of the final MEWS report as requested by Mr. Smith for further information.

Furthermore, I will keep you and the other Regional Administrators apprised of any developments that could potentially affect the administration of the mixed waste program. For example, DOE finalized its rulemaking on the definition of "byproduct material" on May 1, 1987 (52 FR 15937). DOE's final rule which defines byproduct material as interpreted by EPA and the Nuclear Regulatory Commission, stipulates that the nonradioactive "hazardous component" of wastes which heretofore may have been construed as byproduct material is now subject to RCRA regulation. The implications of that notice are quite far reaching since waste streams which may have been excluded from RCRA jurisdiction under the proposed rule are now clearly included in the RCRA system. Staff are currently preparing an interpretative memorandum addressing the potential implications of DOE's byproduct rule which will be available to you in the near future.

If I can be of further assistance in clarifying issues pertinent to mixed waste regulation, do not hesitate to contact me.

Enclosure

June 9, 1987

9441.1987(42)

\_\_\_\_\_  
Hubbard  
Colonel, General Staff  
Deputy Chief of Staff for  
Engineering, Housing and  
Installation Logistics  
Department of the Army  
Headquarters, U.S. Army Material Command  
5001 Eisenhower Avenue  
Alexandria, VA 22333-001

Dear Colonel Hubbard:

This letter is in response to your letter (dated May 4, 1987), the letter from David Eaton (dated March 3, 1987) and my discussion with Major Cabellon on May 12, 1987, regarding the applicability of the use/reuse exclusion (40 CFR 261.2(e)(1)) to red water (EPA Hazardous Waste No. K047) that is recycled. As I explained to Major Cabellon, the use/reuse exclusion does not apply to the red water that is generated at the Radford Army Ammunition Plant (RAAP) and sold to the Champion Paper Company located in Canton, North Carolina, since it is not directly used; rather, as I understand the process, sodium sulfite that is contained in the red water is first recovered before it is used/reused. In addition, as it is stated in Mr. Eaton's letter, the red water is also used for its calorific properties (i.e., as a fuel). Under the hazardous waste regulations, any spent material, sludge, or by-product that is listed and reclaimed and/or used as a fuel is considered a solid and hazardous waste. See 40 CFR §261.2(c)(2) and (c)(3). Thus, the example described on page 2-152 to 2-153 of the EPA "Guidance Manual on the RCRA Regulation of Recycled Hazardous Wastes" appears to be incorrect.

Please feel free to give me a call at (202) 475-8851 if you have any further questions.

Sincerely,

Matthew A. Straus  
Branch Chief  
Waste Characterization Branch

cc: Solid Waste Management Branch Chiefs (Regions I-X)

**JUN 16 1987**

Mr. Fred Kamienny  
Vice President  
PRN Service, Inc.  
1210 Morse  
Royal Oak, Michigan 48067

Dear Mr. Kamienny:

This responds to your letter of April 13, 1987, regarding the regulatory status of chemotherapy drugs and related supplies. In particular, you questioned whether the weight of the "empty" vial should be included in determining the amount of drug residues to be disposed.

As you pointed out, several chemotherapy drugs are listed in 40 CFR 261.33(f) (commonly known as the U-list). As such, these wastes are regulated under the EPA hazardous waste regulations (unless subject to the small quantity generator exclusion). Included in the listing are the following discarded commercial chemical products, off-specification species, container residues, and spill residues:

- |                     |        |
|---------------------|--------|
| 1) chlorambucil     | (U035) |
| 2) cyclophosphamide | (U058) |
| 3) daunomycin       | (U059) |
| 4) melphalan        | (U150) |
| 5) mitomycin C      | (U010) |
| 6) streptozotocin   | (U206) |
| 7) uracil mustard   | (U237) |

Under EPA regulations governing the management of hazardous wastes, any container used to hold these chemicals (such as vials) are considered hazardous wastes unless these containers meet the criteria of an "empty container." Under the empty container provision such vials are excluded from regulation if the material has been removed by pouring, pumping, and aspirating, and no more than 1 inch of residue remains in the bottom of the vial or no more than 3 percent by weight of the total capacity of the container remains in the container. (See 40 CFR 261.7)

The Agency is aware, however, that prudent practice dictates that materials contaminated with these chemicals (such as syringes, vials, gloves, gowns, aprons, etc.) not be handled after use. Therefore, to minimize exposure to these toxic chemicals, the

Agency recommends that the entire volume of waste be weighed and that there be no attempt to remove any residue from the vial before disposal.

Chemotherapy drugs that are not listed hazardous wastes are not regulated by EPA. However, you should contact your State or local government regarding the management of these chemicals. Also, the National Institutes of Health (NIH) provides guidance on handling and management of antineoplastics. Contact Harvey Rogers, at NIH for further information. Mr. Rogers may be reached at (301) 496-7775.

If you should have any further questions regarding regulatory requirements for specific wastes, you may call the RCRA Hotline at (800) 424-9346, or contact Mitch Kidwell, of my staff, at (202) 382-4805.

Sincerely,

Jacqueline W. Sales, Chief  
Regulation Development Section



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON D.C. 20460

JUN 17 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Methanol Recovery System; Clarification of Waste Status

FROM: Matthew A. Straus  
Chief, Waste Characterization Branch

TO: Clifford Ng, Engineer, Region II, AWM-HWF

This is in response to your memo of February 18, 1987, in which you request our interpretation of the waste streams associated with a specific methanol recovery process. First, I apologize for taking so long in responding to your request. I hope this delay has not caused you any problems.

With respect to your specific questions, the following is our interpretation of how this process is regulated under the hazardous waste rules:

1. Stream A, the methanol-laden air from the drying and granulation step of the process, does not meet the definition of a solid waste under RCRA because it is in vapor form and not confined in a container.
2. The carbon beds that both condense and adsorb the methanol from the air contains an F003 waste when the condensation of methanol occurs. Therefore, stream B, the carbon/methanol mixture is to be handled as a listed hazardous waste.
3. The solvent stripper is used to recover the spent carbon. Therefore, this process is not subject to regulation. See 40 CFR 261.6(c)(1). However, any residues (stream C) derived from it is considered an F003 waste. The spent carbon, which is the recovered product, is not a solid waste.
4. Stream C, the condensed steam/methanol mixture is a hazardous waste because it was derived from treating a hazardous waste (see 40 CFR 261.3(c)(2)(i)) and stream C would remain a hazardous waste, unless it is delisted under the provisions of 40 CFR Sections 260.20 and 260.22 or is mixed with another solid waste (see 40 CFR 261.3(a)(2)(iii)).



5. Since stream C is hazardous (unless it is delisted or has been mixed with a solid waste), then downstream tank 4 would be subject to RCRA hazardous waste regulations. Stream F is also derived from the treatment of a hazardous waste and, therefore, would be a hazardous waste. As you are aware, if stream F were sent to a POTW or discharged under an NPDES permit, then it would not be subject to RCRA regulations.

I hope this clarifies your concerns about the waste streams from this process. If you require additional information, please feel free to call Ed Abrams at FTS-382-4787.

June 26, 1987

9441.1987(52)

Mr. Terry Husseman  
Chair, Northwest Interstate  
Compact Committee  
Washington Department of Ecology  
PV-11  
Olympia, Washington 98504

Dear Mr. Husseman:

Thank you for your letter of May 28 in which you requested guidance on treatment and disposal methods for low-level waste that contains uncontaminated lead used as shielding, surface contaminated lead and activated lead.

First, I would like to address activated or radioactive lead. As you know, lead is not a naturally occurring radionuclide. Lead may become radioactive or activated as a result of neutron bombardment while being used as shielding in nuclear power plants, for example. Such activated lead, if short-lived, may be stored to allow radioactive decay prior to disposal. The resultant non-activated or elemental lead may be disposed of as hazardous waste in a hazardous waste disposal facility. If storage for decay is impractical, the activated lead must be managed as mixed waste. You should note, however, that in States authorized to administer the Federal mixed waste program or in States with Federally administered hazardous waste programs, any storage of mixed waste in excess of ninety days for generators and ten days for transfer facilities would require a Resource Conservation and Recovery Act (RCRA) permit. Similarly, designated storage facilities must obtain a RCRA permit.

Lead which is contaminated on the surface may be decontaminated by a number of commercially available processes. However, because lead is malleable and easily gouged or pitted, radioactive contamination is often not limited to the surface and may be imbedded in the lead itself. Where decontamination is incomplete or contraindicated because of occupational health considerations, the lead must be managed as a mixed waste. Also, EPA's Office of Radiation Programs is developing a standard which will delineate levels of radiation which are below regulatory concern (BRC). Once BRC levels have been established, it may be possible to dispose of lead which exhibits BRC levels of radioactive contamination as a hazardous waste.

Lead containers or container liners which are used as shielding in low-level waste disposal operations pose a unique problem. Containers or container liners are not regulated by the Agency (See 40 CFR 261.7) nor would they be a waste because they are fulfilling intended uses. ((CF 40 CFR 261.2(c)(1)(ii))). In this instance, containers or liners may be analogous to commercial chemical products (e.g., pesticides) where as a

product, their normal use is placement on the land. Therefore, lead whose primary use is shielding in low-level waste disposal operations is not subject to Federal hazardous waste regulations when placed on the land as part of its normal commercial use.

Encapsulation represents a viable mechanism for mitigating the hazardous waste characteristic lead may exhibit upon EP toxicity testing only in specific circumstances. The EP toxicity test procedure requires grinding the waste into pieces not greater than one square centimeter in size prior to extraction. Therefore, encapsulation would result in a non-hazardous waste only in those instances where it could be demonstrated that the encapsulation process results in a product that would not degrade after disposal, (i.e., is resistant to degradation or fracturing when placed in the land disposal environment). In such instances, you could petition the Agency to waive the EP toxicity test requirement. Additionally, the Agency is revising existing EP toxicity test procedures. Work is underway to develop procedures for evaluating a waste's long term physical stability. These procedures may then be used to demonstrate that the encapsulated material will not degrade and allow testing of an intact lead brick or the like, for example.

The Agency has not evaluated specific technologies for encapsulation of lead or other wastes, nor has the Agency performed specific laboratory analyses of materials to determine their resistance to the EP toxicity test. However, a polymer or some other material which maintains its integrity under environmental stress would seem to be suitable.

In view of the urgency of the lead issue, it may be prudent to explore the feasibility of obtaining both a Nuclear Regulatory Commission license and an EPA permit to provide for the disposal of mixed waste.

If I can be of further assistance, do not hesitate to contact me.

Sincerely yours,

Marcia E. Williams, Director  
Office of Solid Waste

cc: Alan Corson  
Floyd Galpin  
Ken Shuster  
bcc: Jim Michael  
Betty Shackelford

JUN 29 1987

Mr. Curtis J. Baker  
Safety Environmental Specialist  
Moore Business Forms &  
Systems Division  
3100 North Husband  
Stillwater, Oklahoma 74075-2199

Dear Mr. Baker:

In your letter of May 27, 1987, you requested Agency guidance on whether the provisions in 40 CFR 261.4(c) pertain to wastes subject to Part 268 (i.e., the Land Disposal Restrictions).

According to the provisions in 40 CFR 261.4(c), hazardous wastes that are generated in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, are not subject to regulation under Part 262 through 265, 270, 271 and 124 or the notification requirements of section 3010 of RCRA until it exits the unit in which it was generated. In the November 7, 1986, solvents and dioxins final rule, the Agency revised 40 CFR Part 261.4(c) to include a reference to Part 268. Therefore, wastes generated within a manufacturing process unit likewise are not subject to Part 268 until they exit the manufacturing process.

The Agency has stated in its June 11, 1987, Notice of Data Availability (52 FR 22356) that for purposes of determining compliance with land disposal restrictions, the initial generator of the waste (i.e., before the waste is treated) determines whether the waste is subject to the 2-year national capacity extension. Therefore, a hazardous waste which meets the requirements in 40 CFR 261.4(c) are subject to the 2-year national variance if it meets one or more of the following criteria (in § 268.30):

- 1) The generator of the solvent waste is a small quantity generator of 100-1000 kilograms of hazardous waste per month; or
- 2) The solvent is from a response action under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) or any corrective action taken under the Resource Conservation and Recovery Act (RCRA) . . . ; or

- 3) The solvent waste is a solvent-water mixture, solvent-containing sludge, or solvent-contaminated soil (non-CERCLA or RCRA corrective action) containing less than 1 percent total P001-P005 solvent constituents listed in Table CCWE of § 268.41.

I hope this information adequately addresses your concerns. If you have additional questions, you may call me at (202) 382-4770.

Sincerely,

Stephen R. Weil, Chief  
Land Disposal Restrictions Branch

cc: Region VI



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 13 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Wayne E. McCoy  
Pfizer, Inc.  
Minerals, Pigments and Metals Division  
640 North 13th Street  
Easton, PA 08042-1497

Dear Mr. McCoy:

This letter responds to a request from Pfizer to provide an interpretation on the regulatory status of the lime-ammonia stabilized iron oxide sludge that is generated at Pfizer's Valparaiso, Indiana facility. In particular, it was asked whether this sludge is exempted from the hazardous waste regulations under 40 CFR 261.3(c)(2)(ii) (i.e., exemption for lime-stabilized waste pickle liquor sludge). Based on my understanding of the process, spent pickle liquor (K062) is the only waste that is received at the Valparaiso facility; in the course of recycling the spent pickle liquor<sup>1/</sup>, solids are generated which are treated with ammonia and lime to produce a stabilized sludge. Under this set of conditions, the iron oxide sludge that Pfizer generates at its Valparaiso plant is covered under the lime-stabilized waste pickle liquor sludge exemption. Thus, I agree with the State of Indiana in their interpretation of the hazardous waste rules. However, you should be aware that this waste may still be hazardous if it exhibits any of the hazardous waste characteristics, and Pfizer is still responsible for making this determination.

Please feel free to give me a call at (202) 475-8551 if you have any further questions.

1/ The spent pickle liquor is first neutralized with scrap iron. Waste from the liquor consists of tramp dirt and foreign materials from the scrap iron and the steel mill liquor. The liquor is clarified prior to using for iron oxide manufacturing by settling out the solids. The solids are then treated to generate the lime-ammonia stabilized iron oxide sludge.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew A. Straus".

Matthew A. Straus, Chief  
Waste Characterization Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 31 1987

MEMORANDUM

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

SUBJECT: Regulatory Status of Facilities Previously  
Granted Temporary Exclusions

FROM: Marcia Williams, Director, Office of Solid Waste

TO: Regional Division Directors, Hazardous Waste  
Management Divisions

Between 1980 and 1982 the Environmental Protection Agency issued 150 temporary and informal exclusions for delisting petitions. The Hazardous and Solid Waste Amendments of 1984 (HSWA) established a November 8, 1986 statutory deadline for taking final action on these petitions. If a final decision was not promulgated by the November deadline, the exclusions were automatically revoked effective November 9, 1986. This memorandum summarizes, by Region, the status of all previous temporary exclusions in light of the November 8, 1986 statutory deadline. Only three (Lederle Laboratories, NY; Faultless Hardware, KY; and Rock Island Refining, IN) of the 150 temporary exclusions were not issued final decisions by the HSWA statutory deadline of November 8, 1986. These three facilities automatically lost their exclusions as of November 9, 1986 and should be handling their petitioned wastes as hazardous until a final delisting decision is promulgated. It should also be noted that the effective date of the final denial decisions for all temporarily excluded wastes has now passed and, therefore, all facilities that had temporary exclusions for their wastes and that were denied final exclusion, should be handling the petitioned wastes as hazardous unless the unit closed prior to the effective date of the final decision.

The attached status list indicates whether petitions with temporary or informal exclusions were issued final grant or denial decisions or whether the petition was withdrawn, moot, or is still being processed. The list also provides the effective date for each final decision. These dates vary depending on: the type of decision made, the basis for the decision (i.e., failure to submit necessary information or results of the technical evaluation), and the date that the final decision was published in the Federal Register. The Federal Register citations for proposed and final decisions are also given.

The Agency notes that all final decisions that have been promulgated pertain only to the waste(s) cited in the promulgation notice. Any other waste management activities not included in the delisting decision are still subject to RCRA Subtitle C or authorized State requirements.

As a general rule, the petitioned wastes generated before the granting of a temporary exclusion were considered hazardous and, therefore, subjected the units handling the wastes to Subtitle C control. The granting of a temporary exclusion for the waste only temporarily removed the waste unit from Subtitle C regulation. It should also be noted that the petitioned wastes (that had been granted a temporary exclusion, but then denied final exclusion), that were generated during the time the temporary exclusion was in effect, are now considered hazardous wastes. However, if these wastes remain in the disposal unit identified in the petition, the wastes are not subject to Subtitle C management requirements unless they are disturbed in such a way so as to trigger Subtitle C regulation (e.g., removed, excavated, or mixed with other wastes). The following discussions clarify the regulatory status of wastes that were previously granted temporary exclusions.

#### Final Exclusion Granted

- o The facility may continue to handle the petitioned waste as non-hazardous within the constraints of the granting notice and any other applicable requirements.

#### Final Exclusion Denied Based on the Results of the Technical Evaluation (i.e., the petitioner failed to show the waste to be non-hazardous)

If the waste is disposed off-site:

- o The effective date of the revocation of the temporary exclusion is six months after publication of the Agency's final decision in the Federal Register.
- o Starting on the effective date, new waste that is generated, as described in the petition and that would have previously been included under the temporary exclusion, is subject to all applicable RCRA Subtitle C or authorized State program requirements (e.g., the facility must insure that the waste is shipped to a RCRA hazardous waste management facility).
- o While a temporary exclusion was in effect, the petitioner was not liable for compliance with hazardous waste regulations. Petitioned wastes generated while the temporary exclusion was in effect could have been disposed of off-site as non-hazardous. All wastes in the off-site unit must



be handled in accordance with Subtitle C requirements if, at a later date, they are managed in such a way as to trigger Subtitle C regulation (e.g., removed from the unit or considered to be "stored" rather than "disposed").

If the waste is managed on-site:

- o The effective date of the revocation of the temporary exclusion is six months after publication of the Agency's final decision in the Federal Register.
- o Starting on the effective date, new waste that is generated, as described in the petition and that would have been included under the temporary exclusion, is subject to all applicable RCRA Subtitle C or authorized State program requirements.
- o Between 1980 and the granting of a temporary exclusion, there was some period of time that the waste was considered to be hazardous. Therefore, all units covered by temporary exclusions have or should have interim status.
- o If an on-site land disposal unit that received wastes covered by a temporary exclusion, continues to receive hazardous waste after the effective date of the final decision, Attachment 1 provides guidance on compliance requirements for those units.
- o If an on-site land disposal unit that received wastes covered under a temporary exclusion stops receiving all wastes prior to the effective date of the final decision, (and receives no other hazardous wastes), Part 265 closure must be initiated within 90 days of the revocation of the temporary exclusion.
- o If an on-site land disposal unit that received wastes covered under a temporary exclusion stops receiving hazardous waste prior to the effective date of the final decision but continues to receive solid waste, Part 265 closure must be initiated within 90 days, and completed within 180 days, of the revocation of the temporary exclusion. However, the Agency intends to propose, in the near future, a rule which may change these requirements.
- o If prior to the effective date of the final decision, waste covered under a temporary exclusion is disposed in an on-site solid waste<sup>1/</sup> unit, the solid waste unit is not subject to hazardous waste regulations other than would typically apply to a solid waste management unit. All

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<sup>1/</sup> "Solid waste" is defined in 40 CFR 261.2(a)(1).

wastes in that unit are considered hazardous and must be handled in accordance with Subtitle C requirements if they are managed in such a way as to trigger Subtitle C regulation at a later date (e.g., they are removed and are shipped off-site or receive further on-site treatment).

- o If a unit containing only a waste covered under a temporary exclusion closed prior to the effective date of the final decision, the unit is not subject to hazardous waste regulation unless later disturbed (e.g., removed, excavated).

Final Exclusion Denied Based on the Failure to Provide Information Needed to Evaluate the Petition

- o The effective date of the revocation of the temporary exclusion was November 9, 1986. As of this date, the waste must be managed in accordance with applicable RCRA Subtitle C or authorized State program requirements.
- o Attachment 1 provides guidance regarding LOIS compliance requirements for petitioners with on-site land disposal units that contain wastes once covered by a temporary exclusion.
- o Starting on the effective date, new wastes that are generated, as described in the petition and that would have previously been included under the temporary exclusion, that are disposed off-site must be shipped to a RCRA hazardous waste management facility.

The status list also shows petitions that have been withdrawn or are considered moot.

- o Petitioners that have withdrawn (i.e., the facility has submitted a letter to the Agency requesting that its petition be withdrawn) have lost their temporary exclusions and should have handled their waste(s) as hazardous as of the date the petition was withdrawn.
- o Petitions that are considered moot may be moot for a variety of reasons, including: disposal of a specific volume of waste under a previously granted "one-time" exclusion; cessation of production activities that generated the waste being petitioned for delisting; or reclassification of a particular listing. The status list identifies the reasons a petition is considered "moot" and the date that the petition was determined to be moot by the Agency.

I hope that the attached status list and regulatory compliance guidance is useful in coordinating the ongoing efforts of both the Regional and State programs. Should you have any questions regarding the attached material or require more information on the Federal delisting program activities, please feel free to contact Suzanne Rudzinski of the Office of Solid Waste at FTS 382-4206. If guidance is needed in determining appropriate compliance actions, please contact Steve Heare of the Office of Waste Programs Enforcement at FTS 382-2207.

Attachments

cc: RCRA Branch Chiefs, Regions I-X	Jeff Denit (OSW)
Enforcement Section Chiefs, Regions I-X	Bruce Weddle (PSPD)
Permit Section Chiefs, Regions I-X	Susan Bromm (PSPD)
Jack McGraw (OSWER)	Steve Hirsch (OGC)
Gene Lucero (OWPE)	Ed Reich (SSCD)
Suzanne Rudzinski (PSPD)	Myles Morse (PSPD)
Steve Heare (OWPE)	Delisting Staff (PSPD)

## ATTACHMENT 1

Guidance On Compliance Requirements For Facilities That Lost  
Their Temporary Exclusion But Continue To Manage The Waste On-site

Guidance on Compliance Requirements For Facilities That Lost Their  
Temporary Exclusion But Continue To Manage The Waste On-site

- I. Requirements for facilities that had interim status, and had other units that handled hazardous waste during the time that the temporarily excluded waste was handled:
- If the facility filed a Part A permit application, and did not modify it to exclude the unit handling the temporarily excluded waste, and the facility has not filed a Part B permit application, and no decision on its permit has been made, no further action is required by the facility.
  - If the facility revised its Part A permit application to exclude the unit handling temporarily excluded waste (which should mean that that unit handled no other hazardous waste then the facility must make the necessary change during int status to include this unit, under Section 270.72 or its st analog.
  - If the facility has filed a Part B permit application, but decision on its permit has yet been made, no further action required. The facility may need to revise its Part B permit application, however, if the units containing the petitioned waste were not included as part of their permit application. It must also request a change in interim status as described above.
  - If the facility received its permit, it must file for a major permit modification for the unit handling the temporarily excluded waste under Section 270.41 or its state analog. Under the existing regulations, the facility may not handle that waste until the permit is modified. However, the Agency intends to propose, in the near future, a rule that will simplify the procedures for obtaining approval to handle new hazardous wastes.
  - If the petitioned waste is disposed of in an on-site surface impoundment, and that impoundment continues to receive the petitioned waste four (4) years after the date of promulgation of the final denial decision, the petitioner must comply with Section 3005(j)(6) of RCRA which requires that the impoundment be retrofitted to meet minimum technological requirements of Section 3004(o)(1)(A) of RCRA. Accordingly the deadline for complying with the minimum technological requirements for surface impoundments is four (4) years after the date of promulgation of the final denial decision.

II. Requirements for facilities that may have lost interim status because of failure to certify compliance:

- If other units handling hazardous waste at the facility required certification on November 8, 1985, but did not certify, those units lost interim status. However, if a unit handled only temporarily excluded wastes, that unit did not lose interim status. (See 50 FR 38946, September 25, 1985.) We recommend that you inspect these units to verify that they are in compliance with all applicable regulations.

III. Requirements for facilities that handled only temporarily excluded wastes:

- If the facility had interim status and has filed a Part A permit application, and did not modify its Part A to exclude the unit handling the temporarily excluded waste, no further action is required by the facility.
- If the facility withdrew its Part A permit application, the facility still has interim status, however, the facility must reinstate its Part A under Section 270.10(a) and (e) or their state analogs.
- If the facility has filed a Part B permit application, but no decision on its permit has yet been made, no further action is required by the facility. The facility may need to revise its Part B permit application, however, if the units containing the petitioned waste were not part of their permit application (i.e., if the permit application addresses only new units that are yet to be constructed). We do not believe that any facilities which handled only temporarily excluded wastes have received a permit.
- If the facility handled only temporarily excluded waste, it was not required to do anything to retain interim status under Section 3005(e)(2) of RCRA. (See 50 FR 38946, September 25, 1985.) The facility is not subject to Section 3005(e)(3) of RCRA.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 31 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Regulatory Interpretation Regarding Briquetting  
of Flue Dust

FROM: Marcia E. Williams, Director  
Office of Solid Waste (WH-562)

TO: Judith Kertcher, Acting Chief  
Solid Waste Branch, Region V (5HS-13)

This is in response to your June 25, 1987, memorandum in which you asked for a regulatory interpretation regarding flue dust (K061) that is mixed with sodium silicate binder and pressed into briquettes for use in steel production by the original waste generators. The regulatory provision that covers this situation is 40 CFR §261.2(e)(1)(i), which provides that a material is not a solid waste when it is used or reused as an ingredient in an industrial process to make a product, without first being reclaimed. (See 50 CFR 638-639, January 4, 1985.) In the Dehli Industrial Products, Inc. case, you have indicated that the briquettes made from the flue dust are returned to the original generators (under batch tolling agreements) who use them in steel production. As explained below, our conclusion is that the flue dust is not a solid waste.<sup>1/</sup> The answers to your specific questions are as follows:

1. The fact that the flue dust is generated, removed from the site of generation, and later returned to the generator does not alter the regulatory status of the recycled material. The storage of the flue dust is not regulated either at the generator's or the recycler's site provided that the flue dust is not speculatively accumulated.

<sup>1/</sup> In taking this position, we assume that the flue dust is actually providing materials useful to steel production. See the discussion at 50 FR 638-639, January 4, 1985, for guidance on identifying "sham recycling" operations.

2. The fact that batch tolling agreements are in place also does not affect the regulatory status of the recycled material.<sup>2/</sup> Such agreements would probably help a generator satisfy the burden of proof (§261.2(f)) to document that the generator's material is not solid waste.
3. The addition of sodium silicate binder to the flue dust does not change the regulatory status of the recycled material. EPA has said that briquetting of dry wastes to facilitate remelting (and this would include the addition of a binding material) is not reclamation. (See 50 FR 639; January 4, 1985.)
4. The process in question is probably not a closed loop system. The issue here is not whether the waste is recycled on or off site, because nothing in §261.2(e)(1)(iii) limits the closed-loop exemption to on-site recycling. Rather, information available to EPA indicates that facilities such as Dehli' (i.e., electric arc furnaces) typically use scrap steel as feedstock. As such, the operation does not meet the condition in §261.2(e)(1)(iii) that the recycled material be returned as a substitute for raw material feedstock, and that the process must use raw materials as principal feedstocks. In this case (scrap steel) the flue dust substitutes for a secondary material, not a raw material.

2/ On April 4, 1983, EPA proposed a conditional exemption for hazardous waste recycled under batch tolling agreements. (See 48 FR 14494-14495.) EPA rejected this exemption in the final rule. (See 50 FR 643; January 4, 1985.)



AUG 7 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. William S. Harer  
CHEM-CLEAR  
992 Old Eagle School Road  
Suite 915  
Wayne, PA 19087

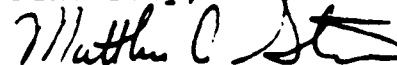
Dear Mr. Harer:

This is response to your letter of May 12, 1987, in which you requested an interpretation regarding the regulatory status of a waste generated by one of your clients. Specifically, the waste in question is generated by caustic rinsing metal parts that have been cleaned with a solvent containing over 10% by volume, trichloroethylene.

The Agency does not consider small amounts of solvent carried over on the metal parts from solvent degreasing to meet the listing description of a spent solvent. Therefore, if any solvent is carried over into the caustic rinse water, the mixture rule would not be applicable. Thus, the caustic rinse water would only be a hazardous waste if it exhibits one of the hazardous waste characteristics [ignitability, corrosivity, reactivity, or extraction procedure (EP) toxicity]. Since your caustic rinse water does not exhibit any of the hazardous waste characteristics, as was demonstrated by your client's analytical results, the caustic rinse water would not appear to be a hazardous waste under the Federal hazardous waste regulations. However, you should be aware that the State's hazardous waste regulations may be more stringent than the federal hazardous waste rules. Therefore, you should contact a representative from the State to determine the waste's regulatory status under the State's hazardous waste program.

If you require additional information, please contact Ed Abrams at (202) 382-4787.

Sincerely,



Matthew A. Straus  
Chief, Waste Characterization Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

9441.1937(51)

AUG 12 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Roy Lee Tate  
804 Sugarloaf Lane  
Anniston, Alabama 36201

Dear Mr. Tate:

This is in response to your letter of July 17, in which you requested an interpretation of whether and how the RCRA hazardous waste regulations apply to a zinc oxide dust being recycled. The dust is considered a sludge under 40 CFR §261.2. The status of the sludge is as follows:

1. If any material recovered from the sludge is sent for fertilizer use, the sludge is subject to 40 CFR §261.6(b) and (c), the requirements for recyclable materials. (When a sludge is used as fertilizer, it is a solid waste. See §261.2(3).)<sup>1/</sup>
2. The leach residues that are sent for metals recovery, once completely reclaimed, are not solid waste. (See §261.2(e).)

In the case where a given quantity of sludge is reclaimed both for metals recovery and for fertilizer use, the sludge would be subject to §261.6(b) and (c) prior to reclamation because some of the sludge was used in a manner constituting disposal.

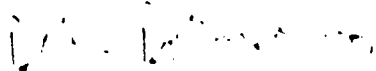
Finally, you should note that the U.S. Court of Appeals for the District of Columbia reached a decision on July 31, 1987, that calls into question EPA's authority to regulate certain waste recycling activities. EPA is studying the opinion to determine its scope. Because the Court has not yet issued its mandate, the regulations currently in the Code of Federal Regulations defining what is "solid waste," and establishing regulations for recycled hazardous waste, remain in effect.

<sup>1/</sup> In contrast, if the reclaimed zinc oxide is sent to produce zinc sulfate (and not for fertilizer), then the sludge is not solid waste and is not subject to the hazardous waste regulations. See §261.2(c)(3).

-2-

If you have further questions in this area, please contact Mike Petruska of my staff at (202) 475-6676.

Sincerely,



Matthew A. Straus, Chief  
Waste Characterization Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

AUG 13 1987

Mr. Lawrence H. Harmon  
10804 Longmeadow Drive  
Damascus, Maryland 20872

Dear Mr. Harmon:

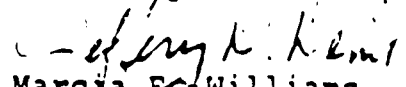
This letter is in response to your July 24, 1987 inquiry regarding the regulation and management of used crankcase oil. The EPA does not regulate disposal of used oil by "do-it-yourselfers". In fact, in the Resource Conservation and Recovery Act (RCRA), Congress exempted all household wastes from the hazardous waste regulations. We do, however, have minimal regulations in place, and are considering others, that will regulate the waste oil industry. We believe these regulations will encourage recycling options. We are keenly aware of the problems of disposal by the do-it-yourself community, and are developing a program to address these problems. An important component of this program will be public education. Some States already have regulatory and informational programs in place.

In the meantime, do-it-yourselfers do have alternatives to throwing their waste oil in the trash. Many service stations do accept waste oil from the public (sometimes charging a small fee), while others do not. We believe this situation is the result of market forces, and not the result of EPA regulation of the industry. The Agency strongly encourages service stations to provide collection facilities, and for do-it-yourselfers to use those facilities (enclosure).

In response to your specific regulatory questions, we are also enclosing copies of our current used oil regulations. These regulations provide for controls on used oil fuel and hazardous waste fuel (including contaminated waste oil) burned for energy recovery. There are different regulatory requirements for different categories of used oil. For example, "clean" used oil meeting specifications would be relatively free from regulation, while off-specification used oil and hazardous waste fuels (including used oil that has been mixed with a hazardous waste) would be subject to increasingly greater degrees of regulation. No federal permits are presently required for used oil collection, transportation, recycling, or disposal activities.

If we can be of any further assistance, please contact David Tomten of my staff at (202) 382-3298.

Sincerely,



Marcia E. Williams  
Director, Office of Solid Waste

Enclosures

AUG 17 1987

Mr. E.H. Phillippe  
Manager, Environmental and Regulatory Affairs  
Virginia Chemicals, Inc.  
801 Water Street  
Portsmouth, VA 23704

Dear Mr. Phillippe:

The Permits and State Programs Division (PSPD) has completed a review of your petitions requesting exclusions under 40 CFR §260.20 and §260.22 of the still bottoms from the recovery of methanol (EPA Hazardous Waste No. P003) generated at Virginia Chemicals' Leeds, South Carolina (#0668) and Bucks, Alabama (#0669) facilities.

We understand that these still bottoms are ultimately sold as a co-product to users in the pulp and paper industry. According to your letter of May 8, 1987, it is clear that the delisting criteria are not applicable to your co-product at the time of sale as a result of mixture with a solid waste.

Based on 40 CFR §261.3(a)(2)(iii), a mixture of a solid waste (e.g., off-specification sodium hydrosulfite) with a hazardous waste listed solely because it exhibits a characteristic specified in 40 CFR Part 261, Subpart C (e.g., your petitioned P003 wastes) is not a hazardous waste if it no longer exhibits any hazardous waste characteristic identified in Subpart C. The delisting criteria of 40 CFR §260.22(c)(2) do not apply to mixtures of wastes where 40 CFR §261.3(a)(2)(iii) applies. In such a case, it is the responsibility of the generator to demonstrate to themselves and to responsible state (or other) authorities that the resultant mixture does not exhibit the hazardous waste characteristics.

Although the co-product as sold is subject to 40 CFR §261.3(a)(2)(iii), the still bottoms generated from the recovery of methanol are still considered hazardous at the source of generation. These still bottoms, therefore, are subject to all applicable hazardous waste management regulations, unless delisted.

We understand that you still wish to pursue a delisting of the still bottoms. Additional information, however, is necessary before we can complete our review of your petitions. We have evaluated the analytical data of your petitions using the vertical and horizontal spread (VHS) model (see 50 FR 48886-48967, November 27, 1985). We use this model to predict constituent concentrations in the ground water at a hypothetical compliance point located 500 feet downgradient from the site. The VHS model uses the maximum annual waste generation rate and the maximum leachate concentrations as inputs to determine the amount of dilution that may occur in an underlying aquifer. The results of the model (i.e., the calculated compliance point concentrations) are compared with the Agency's level of regulatory concern for each constituent.

The maximum allowable EP levels that could be exhibited by the wastes without failing the VHS model evaluation would be 0.315 ppm for arsenic, chromium, lead, and silver; 0.063 ppm for cadmium and selenium; and 0.0126 ppm for mercury. Any extract levels above these concentrations would generate levels (at the compliance point) greater than the National Interim Primary Drinking Water Standards of 0.05 ppm for arsenic, chromium, lead, and silver; of 0.01 ppm for cadmium and selenium; and of 0.002 ppm for mercury. These constituents were not reported as detected in any of the still bottom samples, however, the analytical detection limits exceeded the maximum allowable levels and were higher than detection limits typically achieved for similar waste matrices. Therefore, before we can complete our evaluation, new test results (using detection limits which do not exceed the maximum allowable concentrations) must be provided on a minimum of four representative samples from each facility.

The new samples should be grab samples collected on a weekly basis. Based on the analyses conducted as a result of the spot check sampling visit at your Leeds, South Carolina, facility on March 9, 1987, the sample from the distillation column contained less than 0.5% filterable solids. The spot check analysis for the EP metals and nickel, therefore, did not include EP toxicity testing and instead included direct or total constituent analysis, as directed by 40 CFR Part 261, Appendix II. We recommend, therefore, that you collect two samples on each sampling occasion for analysis of the EP metals and nickel levels, one of which is not preserved for the EP toxicity testing, and one of which is preserved for the total constituent analysis. If your analyses of the unpreserved samples also indicate that the samples contain less than 0.5% filterable solids, then total constituent analyses should be conducted on the preserved samples. When results are submitted for these analyses, please indicate whether or not each sample contained less than 0.5% filterable solids (i.e., whether or not the samples were subjected to extraction or direct analysis). If the samples contained less than 0.5% filterable solids, then the total constituent data generated by the analyses will be evaluated using the VHS model.

Additionally, high concentrations of sodium salts are known to cause substantial interferences when analyzed by ICP or AA furnace spectroscopy. Based on previous analyses, your waste may contain high concentrations of sodium salts and, therefore, analysis should involve an approach to alleviate this problem. A possible alternative approach would include handling the samples as "seawaters" and preparing the samples by EPA-approved seawater techniques to eliminate the high sodium interferences (Method 9.2 in EPA "Methods for Chemical Analysis of Water and Wastes", 1983). A full description of analytical methods used should accompany your submittal.

In addition, our review of your latest submittals of October 22 and 24, 1986 and of April 7, 1987 indicates that the following additional information is also necessary:

- 1) For each facility, results of total constituent and EP leachate analysis for cyanide on a minimum of four representative samples from each facility. Samples collected for EP toxicity analysis should not be preserved. Distilled water instead of acetic acid should be used during the analysis. The detection limit should not exceed the maximum allowable level of 1.26 ppm for cyanide. Method 9012 found in Chapter 7 of "Test Methods for Evaluating Solid Waste", November 1986, EPA Publication SW-846, Third Edition, should be followed for the determination of total cyanide. The appropriate approach for alleviating interferences caused by sulfides should be followed because your waste contains these compounds.
- 2) The names and professional qualifications of those personnel conducting any sampling at each facility and any analyses conducted in support of your petition (a brief resume will suffice).
- 3) For each facility, a statement of certification signed by an authorized representative and worded as indicated in 40 CFR §260.22(i)(12).
- 4) For each facility, at least one QA/QC test run for the EP toxic metals, nickel, and cyanide using the method of standard additions.
- 5) For each facility, a description of upset conditions and the frequency of these occurrences.
- 6) For each facility, a description of column overhead storage practices.



action previously requested in our correspondence of June 2, 1988 is still necessary:

- 1) For each facility, an explicit statement explaining why all samples collected and analyzed are thought to be representative of any process or waste variability. In the evaluation of a petition, we need to determine whether data reflect the temporal and spatial variation of waste constituents and fully characterize the petitioned waste.
- 2) For each facility, a description of how the still bottoms samples were collected for analysis performed in 1980. (This information is also required for any new samples collected in response to this letter.)

In order for us to complete the evaluation of your petitions, you must fully respond to this additional information request within six months of the date of receipt of today's correspondence. If we do not receive a response within six months, a proposed denial decision on the basis of lack of information will be published in the Federal Register. Additionally, the effective date of the revocation for the temporary exclusions granted on December 31, 1989 for the still bottoms generated at your facilities was May 17, 1987. As of that date, waste management activities associated with the unmixed still bottom waste must be in compliance with the applicable RCRA hazardous waste management system requirements.

If you have any questions, please contact either myself at (202) 382-4788 or Jennifer Bramlett of our contractor, Science Applications International Corporation (SAIC), at (703) 734-2501.

Sincerely,

15/

Myles Morse, Chief  
Variances Section  
Office of Solid Waste

cc: Jennifer Bramlett, SAIC  
Tricia Herbert, U.S. EPA, Region IV  
Allan Antley, U.S. EPA, Region IV  
Doug McCurry, U.S. EPA, Region IV

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

JUNE 87

6. Solid Waste Classification

An electronics manufacturer uses a wave soldering operation to imprint circuit boards. A "hot tin pot" containing a large mass of molten tin-lead solder is used as the source for the imprinting procedure. Solder from the pot is fed into the wave operation via a gulley or channel, and residual or excess solder is fed directly back into the pot for reuse. The solder becomes contaminated over time with copper and gold from the circuit boards and is no longer usable. The contents of the pot are then solidified in a large block and sent for gold recovery and solder reclamation. Would the block of solder be classified as a spent material, scrap metal, by-product or off specification commercial chemical product?

The contents of the "hot tin pot" would be classified as a spent material. Spent materials, per 50 FR 618, are materials that have been used and are no longer fit for use without being regenerated, reclaimed or otherwise reprocessed. The material would not meet the scrap metal classification because it is not a metal product discarded after consumer use or metal turning or fine. It would also be excluded from the off specification commercial chemical product category due to its prior use.

Source: Steve Silverman (202) 382-7706  
Research: Andy O'Hare



9441.1987(68)  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

August 19, 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. G. Thomas Manthey  
Executive Vice President  
SW Incorporation  
P.O. Box B  
Saukville, WI 53080

Dear Mr. Manthey:

This is in response to your letter of July 22, 1987, regarding classification of mixtures of listed and characteristic hazardous wastes. First, you asked how to classify two waste streams in the "optional" block of the manifest. There are no EPA or other federal regulations mandating what wastes are to be placed in the optional boxes of the manifest. These boxes were purposely left blank so that each State could decide what should be included there. The U.S. Department of Transportation (DOT) does require the EPA waste codes to be placed in the "U.S. DOT Shipping Description" box, along with the waste's proper shipping name, hazard class, and ID number. (See 49 CFR Parts 171 and 172, and the discussion at 52 FR 4824; February 17, 1987.) Each waste in a waste mixture must be described, i.e., in your examples, you have:

- (1) F003 and D001; and
- (2) U239 and D001.

Your second question concerned whether you are conducting treatment. From the information you provided, I do not think you are conducting treatment. Merely placing different wastes into the same tank truck is not treatment. Under RCRA Section 1004(34), "treatment" means:

"... any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste or so as to render such waste nonhazardous, safer for transport, amenable for recovery ..."

In your example, the different wastes that are blended together each appears to be a fuel in its own right. The blending does not appear to accomplish any of the purposes set out in the Statute, and therefore does not appear to be treatment.

If you have further questions in this area, please contact Mike Petruska of my staff at (202) 475-8551.

Sincerely,

*Marcia Williams*

Marcia Williams, Director  
Office of Solid Waste



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

AUG 28 1987

MEMORANDUM

SUBJECT: Preliminary Interpretation on Derived From/Mixture  
Rule Application to Refinery Wastewater Treatment  
Systems

FROM: Marcia Williams, Director *Marcia*  
Office of Solid Waste (WH-562B)

TO: Karl Bremer, Chief  
Technical Programs Section (5HS-13)

We are providing a preliminary response to your request for review of Sun Refining and Marketing's "Workplan to Demonstrate Equivalency of Aqueous Waste Streams." Our response has been delayed while awaiting the receipt of analytical data from the sampling of similar streams at another refinery. Subsequent to that activity, we retained a statistician to evaluate the data and assist us in the development of an appropriate test for discerning the presence of hazardous waste in the return stream. As you are no doubt aware, this is a rather difficult task, given the transitory nature of hazardous waste return in an improperly operating unit and the one time test which we have recommended. Nevertheless, my staff is finalizing some explicit guidance, which should be forwarded to you within a month.

Generally speaking, the guidance will recommend development of process control charts for each target analyte that define the analyte's plausible levels in the appropriate wastewater treatment unit influent. Individual values of the return stream constituent levels will then be compared to the upper bound of the influent values for the corresponding analyte. These return stream values will be collected by the stratified, random sampling of the return stream from each hazardous waste management unit over at least three unit cycles. Any values in excess of the control chart limits would be considered a failure of the equivalency test.

The exact application of the above mentioned test to the Sun facility will be discussed in our follow-up guidance. However, as was indicated to Gerald Lenssen of your staff several months ago, the Sun tests should involve the evaluation of a minimum of twelve samples of each of the streams under consideration. If Sun has been advised of the Agency's information needs and sampling has been conducted, we would appreciate your forwarding the results to us for use as an illustrative example in the final guidance. Regardless of the availability of the sampling information, we will be providing guidance within a month.

Ben Smith and Jim Craig of my staff have been assigned to the preparation of the guidance. They may be reached on FTS numbers 382-4791 and 382-2791, respectively. Do not hesitate to contact them, if you require additional information, in advance of the final guidance.

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

AUGUST 87

7. Manufacturing Process Units

A manufacturing process unit that holds methylene chloride is located within a building that is slated for demolition. If the owner/operator (o/o) of the unit closes the building and ceases to operate the unit, how long does the o/o have before the methylene chloride must be shipped off-site?

First, the owner/operator of the unit should determine if the methylene chloride would be regulated as a hazardous waste. If the methylene chloride is a spent material it would be regulated as a solid waste if disposed of, used in a manner constituting disposal, burned for energy recovery, reclaimed, or accumulated speculatively (Section 261.2(c)(1), (2), (3), and (4)). If the spent methylene chloride solution contained, before use, ten percent (10%) or more methylene chloride, it would meet either the F001 or F002 listings in Section 261.31 and subsequently would also be regulated as a hazardous waste, assuming the methylene chloride regulated was utilized for its solvent properties. If the methylene chloride is a commercial chemical product and not a spent material, it would be regulated as a solid waste if used in a manner constituting disposal, disposed of, or burned for energy recovery (Section 261.2(c)(1) and (2)). If the product is reclaimed or accumulated speculatively it would not be regulated as a solid waste (Section 261.2(c)(3) and (4)). If the solvent is disposed of, used in a manner constituting disposal, or burned for energy recovery it is a solid waste and, due to the fact that it would meet the U080 listing in Section 261.33(f) it would also be regulated as a hazardous waste.

8/31/87

MEMORANDUM

SUBJECT: Regulatory Status of Spent Acids Used as a  
Flocculant in Irrigation Water

FROM: Robert Scarberry, Acting Chief *RS*  
Waste Characterization Branch

TO: Bill Taylor, Chief  
Enforcement Section (6H-CE)  
Region VI

This is in response to your memo of August 14, 1987, requesting guidance on the regulatory status of spent acids used as a flocculant in irrigation water. Spent acids used in this manner are essentially a type of water conditioner, and as such, are not solid waste. (See 50 FR 619 and 628, January 4, 1985; and 48 FR 14485, April 4, 1983.)

If you have additional questions in this area, please contact Michael Petruska of my staff at PTS 475-6676.



SEP 2 1987

John J. McDonnell, P.E.  
District Engineer  
Waste Management of Illinois, Inc.  
P.O. Box 1309  
Calumet City, IL 60409

Dear Mr. McDonnell:

This letter responds to a request from Waste Management of Illinois to provide an interpretation on the regulatory status of lime-stabilized sludge generated during the treatment of waste pickle liquor from the iron and steel industry. In particular, it was asked whether this sludge is exempted from the hazardous waste regulations under 40 CFR 261.3(c)(2)(ii) (i.e., exemption for lime-stabilized waste pickle liquor sludge). Based on my understanding of the process, spent pickle liquor (K062) is received from the iron and steel industry at the CID-Calumet City facility and is stored and treated separately from other wastes. The treatment consists of neutralizing the spent pickle liquor with lime and landfilling the stabilized sludge generated. As you are aware, the treatment (as described above) of K062 waste requires a RCRA permit.

Under these conditions, the stabilized sludge generated by the treatment of spent pickle liquor at the CID-Calumet City facility is covered under the lime-stabilized waste pickle liquor sludge exemption. However, you should be aware that this waste may still be hazardous if it exhibits any of the hazardous waste characteristics, and Waste Management of Illinois is still responsible for making this determination.

Please feel free to give Ed Abrams of my staff a call at (202) 382-4787 if you have any further questions.

Sincerely,

Matthew A. Straus, Chief  
Waste Characterization Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON D.C. 20460

9441.1987(75)

SEP 4 1987

MEMORANDUM

SUBJECT: Regulatory Interpretation Regarding Status of Coal Tar  
Decanter Sludge Waste Pile at Toledo Coke Corp., Toledo, OH

FROM: Marcia Williams, Director (WH-562)  
Office of Solid Waste

TO: Judy Kertcher, Acting Chief (5HS-13)  
Solid Waste Branch

This memo is in response to your request for assistance in interpreting 40 CFR 261.6(a)(3)(vii), as it applies to the storage of coal tar decanter sludge in a waste pile prior to recycling at the Toledo Coke plant in Toledo, Ohio. Toledo Coke is claiming that the waste pile, which once existed on site, qualifies for exemption under 40 CFR 261.6(a)(3)(vii). Region V does not concur with the claim for exemption.

40 CFR 261.6(a)(3)(vii) exempts the products coke and coal tar made from recycled decanter tank tar sludge (EPA Hazardous Waste K087) from Subtitle C regulation. This exemption does not pertain to the decanter tank tar sludge stored for recycle. Furthermore, the exemption under 40 CFR 261.2(e)(1)(iii) "Returned to the original process from which they are generated, without first being reclaimed .....", also does not pertain to this waste pile because the manufacture of coke is producing a fuel. This fuel is used as a reducing agent during the production of iron. Therefore, in accordance with 40 CFR 261.2(e)(2)(ii) the waste pile (EPA Hazardous Waste K087) at Toledo Coke's plant is subject to the federal hazardous waste regulations.

If you require additional information, please feel free to contact Ed Abrams of my staff at (202) 382-4787.

MEMORANDUM

SUBJECT: Applicability of Bevill Amendment to the  
American Natural Gas Coal Gasification Facility

FROM: Marcia E. Williams, Director  
Office of Solid Waste

Christina Kaneen  
Assistant General Counsel for RCRA

TO: Robert L. Duprey, Director  
Region VIII, Waste Management Division

We have reviewed your memorandum of May 1, 1987, your undated memorandum received June 17, 1987, and the Planning Research Consultants (PRC) report, regarding the applicability of the RCRA mining waste and the combustion ash waste ("utility waste") exclusions (which are both part of the "Bevill Amendment") to the American Natural Gas (ANG) coal gasification facility. We have also reviewed ANG's May 13, 1987, letter on this subject and our staff met with Larry Wapensky of your staff.

Regarding the applicability of the combustion ash waste exclusion (Section 3001(b)(3)(A)(i)) to the ANG operation, ANG's operations include controlled oxygen-starved combustion of coal. Coal ash produced in the gasifiers from this combustion is equivalent to coal ash (from the same coal type) produced in utility operations. In Gary Dietrich's letter to Paul Emler, dated January 13, 1981, he stated that combustion wastes were excluded from Subtitle C regulation by the Bevill Amendment providing fossil fuel constituted at least 50 percent of the fuel mix. Assuming that coal constitutes at least 50% of ANG's fuel mix, the combustion ash waste exclusion would apply to the ash from the ANG operation.

Regarding the applicability of the mining waste exclusion to ANG's operations, we agree with you that the exclusion for "solid waste from the extraction, beneficiation, and processing

of ores or minerals" (the "mining waste exclusion") in RCRA Section 3001(b)(3)(A)(ii), applies to the coal gasification process. This is consistent with the position taken in the January 21, 1981, memorandum from Alfred Lindsey to Terry Thoem in which Mr. Lindsey stated that the mining waste exclusion clearly extends to retorting of shale and "to direct gasification and liquefaction of coal or the wastes produced by those operations."

Analyzing ANG's wastes under the mining waste exclusion, we agree with your conclusion that wastes from the following units are generated from the primary beneficiation or processing of a mineral (i.e., coal), and are, therefore, excluded from regulation under RCRA Subtitle C by the mining waste exclusion:

- The Gasification Units
- The Raw Gas Cooling and Shift Conversion Units
- The Rectisol Unit
- The Methanation Unit

However, we disagree with your analysis of the regulatory status of wastes resulting from operations that are not in the direct line of producing synthetic natural gas. We believe that the ANG operations that treat the gas liquor, the waste gases, and the cooling tower blowdown are also exempt from Subtitle C. We note that EPA has previously recognized that residues are excluded from regulation if they derive from treatment of wastes generated from mining waste. For instance, EPA suspended the listings of several such wastes when Congress enacted the mining waste exclusion. See 46 FR 4614 (January 16, 1981) and 46 FR 27473 (May 20, 1981). See also the attached letter from James Scarbrough, EPA Region IV, to John Stubbs.

We do not believe the wastes from these units become subject to RCRA Subtitle C if the treatment yields a useful by-product. Certain units at ANG's plant produce, from the liquid waste streams, materials which are to varying extents reused in the plant or sold. These include sulfur, tar oils, phenol and ammonia. In his May 16, 1985, memorandum to Harry Seraydarian, John Skinner stated that leachate generated from slag and clinker wastes was exempt under the mining waste exclusion because the leachate was derived from an exempt waste. He stated further that "the situation would be different if the slag or clinker were used as a raw material for some extractive process and a listed or hazardous waste resulted. Under this scenario, the hazardous waste would fall outside the mining waste exclusion." We feel that this position is contrary to waste reduction goals. It is not environmentally beneficial to create a situation in which treating a waste for recovery of useful materials is subject to Subtitle C regulations whereas disposal of the untreated wastes

would be exempt from RCRA. We believe that wastes from the following units are exempt from Subtitle C because these operations constitute treatment of mining wastes:

- The Stretford Unit
- The Gas Liquor Separation Unit
- The Phenosolvan Unit
- The Phosam W Unit

Similarly, we believe the cooling tower blowdown and related wastes are also exempt as wastes from ore processing. The January 21, 1981, memorandum from Alfred W. Lindsey regarding the RCRA status of wastes from synfuels processes, including coal gasification, states that the mining waste exclusion "extends to wastes produced from the process ... provided they are unique to the 'ore' processing operation. [However the] ... exemption does not extend to wastes... which are not unique to synfuels operations like spent cleaning solvents, cooling tower blowdown, and ion exchange regeneration wastes."

We believe Mr. Lindsey's statement regarding cooling tower blowdown is best interpreted as only applying to blowdown from industrial cooling apparatus which is incidental to making synfuels. The composition of the blowdown from such cooling towers is not dictated by (i.e., is not "uniquely associated with") the extraction, beneficiation, and processing of ores and minerals. ANG's cooling tower receives the liquid treated waste stream from a mining process. The blowdown procedure is used to remove from the cooling tower contaminants contributed by this liquid waste stream. In the case of the ANG operation, the ANG cooling tower blowdown is a pollution control residue which is derived from waste produced in the coal gasification process (and is thus "uniquely associated" with the coal gasification process). As such, it is excluded from regulation.

This is consistent with our position on other large volume wastes. For example, cooling tower blowdown from fossil-fuel fired electric utility cooling towers is currently exempt and is under study in a forthcoming Report to Congress. Thus, the ANG units listed below treat an excluded waste, i.e., cooling tower blowdown, so the wastes from these units are also excluded from regulation:

- The Cooling Tower Unit
- The Multiple Effect Evaporator Unit
- The Liquid Waste Incineration Unit
- The Gasifier Ash Handling System

From this analysis, we conclude that two of the ten wastes you list on page 2 of your May 1, 1987, memorandum attachment as "potentially regulated" are not excluded from potential regulation under RCRA Subtitle C:

1. Wastes from cleaning operations, vehicle maintenance operations, container storage areas and laboratory areas, and wastes from the oily water separation system.
2. Spent methanol catalyst from the methanol plant.

Regarding the flue gas and ash wastes from the steam generation system, insufficient data are available from the PRC report to determine the status of these wastes.

Finally, you requested our view on the reinjection of the Multiple Effect Evaporator liquid waste concentrate into the gasifiers. Since the vast majority of the input to the gasifier is an ore or mineral (i.e. coal), the waste from this unit would remain excluded from regulation even if the MEE waste was were not exempt from Subtitle C. This is consistent with our position in previous correspondence regarding the status of ore processing with mixed feedstocks (e.g., memorandum from Marcia Williams to David Wagoner, dated June 10, 1986; memorandum from John Lehman to Phil Bobel, dated April 4, 1984; and letter from John Lehman to D.M. Friedman, dated August 22, 1983 (all attached)).

In conclusion, we recognize the ANG facility is essentially a sevilla operation producing sevilla wastes which are currently excluded from RCRA Subtitle C regulations. The two exceptions listed above are still potentially subject to Subtitle C regulation.

We do want to stress that the exemption from Subtitle C may be temporary. The exemption of any wastes from processing an ore or mineral can be lifted by EPA after providing a Report to Congress that addresses the factors identified under Section 6002(f) of RCRA. Further, we have serious reservations as to whether the operations at the ANG facility would remain exempt, were the facility to be reconfigured to conduct significant organic chemical synthesis with the synthetic natural gas or the gas liquor as a feedstock.

While we hope the above discussion clarifies our review of the legal status of the various units at the facility, we recognize that exempt wastes can be of environmental concern. There are other authorities under RCRA for obtaining information and for taking corrective actions as appropriate. We encourage you to use these authorities to investigate and address health or environmental impacts.

If you have any questions, please contact: Ben Haynes (PTS/475-7242) of OSW or Meg Silver (PTS/382-7706) of OGC.

#### Attachments

cc: Regional Administrator, Regions I-X  
J. Winston Porter  
Jack McGraw  
Ben Haynes  
Meg Silver

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

SEPTEMBER 87

3. Waste Identification

A company generates aerosol paint and solvent cans from painting and cleaning operations. The cans are empty as per common industry practices used to empty such devices to less than 3% by weight of the total capacity of the container (40 CFR 261.7(b)(1)(i) & (iii)). The cans may still contain propellant, making the cans reactive if put in contact with a strong initiating force (i.e., intense pressure or heat). Since for all practicable purposes the cans are free of contents that might have been hazardous wastes, would this be regulation of the aerosol cans themselves? RIL #43 specifically excluded the regulation of the cans, and solely addressed only the potentially hazardous contents. Therefore, would aerosol cans free of hazardous waste, but still potentially reactive because of contained propellant be regulated as hazardous waste?

Irrespective of the lack of contained waste, the aerosol cans would be a RCRA hazardous waste because they demonstrate the hazardous characteristic of reactivity (40 CFR 261.23(a)(6)).

Source: Mike Petruska (202) 475-6676  
Research: Andy O'Hare



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OCT 8 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. J. Patrick Nicholson, Director  
National Kiln Dust Management Association  
P.O. Box 68106  
Toledo, Ohio 43636

Dear Mr. Nicholson:

Thank you for your letter of September 11, 1987, concerning cement kiln dust. The Environmental Protection Agency (EPA) has not conducted the study on cement kiln dust as described in the 1980 amendments to the Resource Conservation and Recovery Act (RCRA). We are aware, however, of the U.S. Bureau of Mines Finding that dust poses a relatively low hazard.

In response to your question regarding the environmental problems attributed to the burning of hazardous waste in cement kilns, I would like to describe the following studies we have conducted. In a June 3, 1987, report, "Hazardous Waste Combustion in Industrial Processes: Cement and Lime Kilns," EPA studied the burning of hazardous waste fuel (HWF) in cement kilns. Results show that as the metal content of HWF and the amount of HWF increase, the metal levels in kiln dust increase. The principal metal that exhibits this increase is lead. However, the highly oxidizing environment of cement kilns convert most metals to the oxide form, including lead to lead oxide (PbO). The very low solubility of PbO, coupled with the high concentrations of calcium compounds, result in a minimal leaching of lead from the kiln dust. Tests have shown that kiln dust generated during the use of HWF contains elevated lead levels, but the lead is not extracted to levels above the maximum permissible concentrations specified by the Extraction Procedure Toxicity test. (See 40 CFR 261.24.)

EPA has also studied the impact on air quality by lead emissions when HWF is used in cement kilns. From the above-referenced report, EPA concluded the following:

"Lead emissions and the lead content of process dust increase when hazardous waste, contaminated with significant quantities of lead, are burned. However, baseline emissions (no waste being burned) of lead are very low to begin with and, although emissions do increase with waste burning, more than 99 percent of the lead emissions entering the process is captured by the process materials, and the resulting emission rates are not significant."

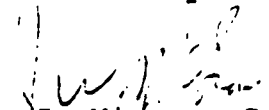


Moreover, on May 6, 1987, EPA proposed a regulation to control emissions of toxic metals, organic compounds, and hydrogen chloride from cement kilns and other industrial furnaces and boilers that burn hazardous waste. The final rule is scheduled to be promulgated in Fall, 1988.

With respect to issuing guidance on cement kiln dust, we do not plan on issuing specific guidance because we still consider this substance as non-hazardous and, therefore, out of the purview of EPA hazardous waste regulations. However, we will refer your letter to the Bureau of Mines for possible assistance.

Thank you for your interest in cement kiln dust. If I can be of any further assistance, please let me know.

Sincerely

  
J. Winston Porter  
Assistant Administrator

13 1987

Mr. Michael McLaughlin  
Vice President  
SCS Engineers  
11260 Roger Bacon Drive  
Reston, VA 22090-5282

Dear Mr. McLaughlin:

This is in response to your letter of September 1, 1987, to Matt Straus, concerning regulation of supernatant liquid resulting from treatment of spent pickle liquor (EPA waste K062).

In the situation you have described, the impoundment would be a regulated unit under RCRA if it stores any supernatant liquid from the lime-stabilization of waste pickle liquor. The supernatant forms during clarification of the lime-stabilized mixture. The preamble to the June 5, 1984 Federal Register (49 FR 23284) states that "... sludge from the treatment of spent pickle liquor (K062) is generated by a well known technique involving lime neutralization, flocculation, clarification, and, in most cases, dewatering of the resultant sludge.

According to Agency policy (see OSWER Directive number 9441.12184) attached), the exclusion under 40 CFR 261.3(c)(2)(ii) applies to the sludge generated from the treatment process, but not the supernatant liquid. Because Section 261.3(c)(2)(ii) does not address the supernatant portion arising from lime stabilization of waste pickle liquor, that liquid portion would be derived from K062, and thus a hazardous waste, per Section 261.3(c)(2)(i). A surface impoundment holding this supernatant portion would be subject to regulation under RCRA Subtitle C.

If you have further questions in this area, contact Mike Petruska of my staff at (202) 382-7729.

Sincerely,

Marcia E. Williams  
Director  
Office of Solid Waste

Enclosure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

DEC 10 1987

Eric J. Dougherty  
8409 H. Morven Road  
Parkville, MD 21234

Dear Mr. Dougherty:

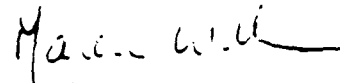
This is in response to your November 13, 1987 letter to Robert Scarberry concerning land disposal of solvents. The answers to your questions are as follows.

First, you are correct that industrial wastewater discharges subject to the Clean Water Act (CWA) are excluded from the hazardous waste regulations, and it does not matter how the wastewater was generated. You should note, however, that only the discharge is excluded. If hazardous wastewaters are collected, stored, treated, or disposed of prior to discharge, this prior management is subject to the hazardous waste regulations (including the land disposal restrictions of 40 CFR Part 268).

Second, EPA does not have groundwater discharge guidelines per se. Facilities that have RCRA interim status or that seek a RCRA hazardous waste facility permit are subject to a number of requirements designed to protect groundwater in 40 CFR Parts 264, 265, 266 and 268, as well as the corrective action provisions of RCRA Sections 3004(u) and 3008(h). Facilities that generate hazardous waste but which are exempt from interim status and permitting requirements under the accumulation provisions of 40 CFR Section 262.34 (this is likely the case for the automotive maintenance facilities you asked about) are subject to container and tank management standards designed to prevent releases to groundwater. When releases do occur, EPA or the appropriate State agency can take enforcement action under RCRA Sections 3008(a) and 7003 to require the facility owner or operator to stop the discharge and to clean-up contaminated soil and groundwater.

If you have further questions in this area, please contact  
Michael Petruska at 9202) 475-8551.

Sincerely,

A handwritten signature in dark ink, appearing to read "Marcia E. Williams", with a long horizontal flourish extending to the right.

Marcia E. Williams  
Director,  
Office of Solid Waste



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

DEC 24

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Regulatory Interpretation Regarding Status of Coal  
Tar Decanter Sludge Waste Pile at Toledo Coke  
Corp., Toledo, Ohio

FROM: Marcia Williams, Director (WH-562)  
Office of Solid Waste

*Miner Will*

TO: William H. Miner, Acting Chief (5HS-13)  
Solid Waste Branch

This memo is in response to your request for an interpretation of the status of Toledo Coke's coal tar decanter sludge waste pile based upon the April 13, 1987 Federal Register notice which clarified 40 CFR 261.6(a)(3)(vii), and the July 31, 1987 court decision (American Mining Congress v. EPA). Our understanding of the situation at Toledo Coke (formerly Koppers Corp.) is that at one time, they stored Hazardous Waste No. K087, decanter tank tar sludge from coking operations, in a waste pile. The material in question would be a solid waste per 40 CFR 261.2(c)(2), and would meet the listing for K087 found in section 261.32. Thus, it is a hazardous waste. The exemption for hazardous wastes which are recycled, found in section 261.6(a)(3)(vii), extends to coke and coal products derived from K087, when burned for energy recovery. It does not extend to storage of the K087 prior to recycling. See 50 FR 49171. The April 13, 1987 Federal Register merely clarifies that section 261.6(a)(3)(vii) applies to coke and coal tar produced from K087 and not from other hazardous waste. The clarification therefore, does not have any impact on the situation at Toledo Coke.

With respect to the American Mining Congress Court case, as you are probably aware, we have been preparing a Federal Register notice which will provide the Agency's interpretation of the court's opinion; this notice will describe those portions of the rules that are unaffected by the opinion and will propose to amend those portions of the rules that we believe are required by the court's opinion. Based on this notice, the AMC decision also does not appear to have any impact on this situation.

(We expect this notice to be issued in the near future.)  
However, until this notice is signed by the Administrator, you cannot tell representatives from Toledo Coke of this position. Therefore, you should just inform them that the Agency is preparing a notice that will provide the Agency's interpretation of the court's opinion and that it will be published in the Federal Register in the near future.

I hope this clarifies the additional questions raised. If you have any questions, please feel free to contact Michael Petruska (202) 475-8551.

July 30 1987

MEMORANDUM

SUBJECT: State Program Advisory #2 -  
RCRA Authorization to Regulate Mixed Wastes

FROM: Bruce Weddle, Director  
Permits and State Programs Division  
Office of Solid Waste

TO: RCRA Branch Chiefs  
Regions I- X

The purpose of State Program Advisory (SPA) #2 is fourfold. One, it delineates timeframes by which States must obtain mixed waste authorization. Two, it provides a synopsis of the information needed to demonstrate equivalence with the Federal program in order to obtain mixed waste authorization. Three, it presents information about the availability of interim status for handlers of mixed waste. And four, the SPA presents the Agency's position on inconsistencies as defined by Section 1006 of RCRA.

BACKGROUND

On July 3, 1986, EPA published a notice in the Federal Register (see Attachment 1) announcing that in order to obtain and maintain authorization to administer and enforce a RCRA Subtitle C hazardous waste program, States must apply for authorization to regulate the hazardous components of mixed waste as hazardous waste. Mixed waste is defined as waste that satisfies the definition of radioactive waste subject to the Atomic Energy Act (AEA) and contains hazardous waste that either (1) is listed as a hazardous waste in Subpart D of 40 CFR Part 261 or (2) causes the waste to exhibit any of the hazardous waste characteristics identified in Subpart C of 40 CFR Part 261. The hazardous component of mixed waste is regulated by RCRA. Conversely, the radioactive component of mixed waste is regulated by either the Nuclear Regulatory Commission (NRC) or the Department of Energy (DOE).



In addition, DOE issued an interpretative rule on May 1, 1987 to clarify the definition of "byproduct material" as it applied to actual DOE-owned wastes. The final notice stipulated "that only the actual radionuclides in DOE waste streams will be considered byproduct material." Thus, a hazardous waste will always be subject to RCRA regulation even if it is contained in a mixture that includes radionuclides subject to the AEA. Clarification of the implications of the byproduct rule was previously transmitted to the Regions (see Attachment 2).

#### MIXED WASTE AUTHORIZATION DEADLINES

States which received final authorization prior to publication of the July 3, 1986 PR notice must revise their programs by July 1, 1988 (or July 1, 1989 if a State statutory amendment is required) to regulate the hazardous components of mixed waste. This schedule is established in the "Cluster Rule" (51 FR 33712). Extensions to these dates may be approved by the Regional Administrator (see 40 CFR 271.21(e)(3)).

States initially applying for final authorization after July 3, 1987 must include mixed waste authority in their application for final authorization (see 40 CFR 271.3(f)). In addition, no State can receive HSWA authorization for corrective action (§3004(u)) unless the State can demonstrate that its definition of solid waste does not exclude the hazardous components of mixed waste. This is because the State must be able to apply its corrective action authorities at mixed waste units.

#### PROGRAM REVISION REQUIREMENTS

Applying for mixed waste authorization is a simple, straight-forward process. The application package should include an Attorney General's Statement, the applicable statutes and rules, and a Program Description.

##### 1. Attorney General Statement

The Attorney General will need to certify in the statement that the State has the necessary authority to regulate the hazardous components of mixed waste as hazardous waste. Copies of the cited statute(s) and rules should be included in the State's application. See Item I.G., "Identification and Listing" in the Model AG Statement in Chapter 3.3 of the State Consolidated RCRA Authorization Manual (SCRAM) for additional guidance.

## 2. Program Description

The Program Description should address how the RCRA portion of the mixed waste program will be implemented and enforced, and describe available resources and costs (see 40 CFR §271.6). The State must also demonstrate that staff has necessary health physics and other radiological training and has appropriate security clearances, if needed, or that the State agency has access to such people.

If an agency other than the authorized State agency is implementing the RCRA portion of the mixed waste program, then the application should include a Memorandum of Understanding (MOU) between that agency and the authorized hazardous waste agency describing the roles and responsibilities of each (see 40 CFR §271.6(b)).

Lastly, the Program Description should include a brief description of the types and an estimate of the number of mixed waste activities to be regulated by the State (see 40 CFR §271.6(g) and (h)). Chapter 3.2 Program Description, in the SCRAM provides additional guidance.

### INTERIM STATUS

In authorized states, mixed waste handlers are not subject to RCRA regulation until the State's program is revised and approved by EPA to include this authority. In the interim, however, any applicable State law applies. Treatment, storage and disposal facilities "in existence" on the date of the State's authorization to regulate mixed waste may qualify for interim status under Section 3005(e)(1)(A)(ii) (providing interim status for newly regulated facilities), if they submit a Part A permit application within 6 months of that date. In addition, any such facilities which are land disposal facilities will be subject to loss of interim status, under Section 3005(e)(3), unless these facilities submit their Part B permit application and two required certifications (i.e., groundwater monitoring and financial assurance) within twelve months of the effective date of the State's authorization (i.e., within twelve months of the date facilities are first subject to regulation under RCRA). Note: Federal facilities that handle mixed waste are not required to demonstrate financial assurance.

With respect to facilities treating, storing or disposing of mixed waste in unauthorized States, Headquarters is currently developing a Federal Register notice that will clarify interim

status qualification requirements under Section 3005(e) as they apply to affected facilities that have not notified in accordance with Section 3010(a) or submitted Part A and/or B permit applications. We anticipate issuing the FR notice early this Fall.

### INCONSISTENCIES

Section 1006 of RCRA precludes any solid or hazardous waste regulation by EPA or a State that is "inconsistent" with the requirements of the AEA. If an inconsistency is identified, the inconsistent RCRA requirement would be inapplicable. For example, an inconsistency might occur where compliance with a specific RCRA requirement would violate national security interests. In such instances, the AEA would take precedence and the RCRA requirement would be waived.

The EPA and the Nuclear Regulatory Commission conducted a comparison of existing regulations for hazardous waste management and low-level radioactive waste management under 40 CFR Parts 260-266, 268 and 270 and 10 CFR Part 61, respectively, to ascertain the extent of potential inconsistencies. None were identified as a result of that effort. The comparison did indicate that there were differences in regulatory stringency, however. Thus, in issuing permits or otherwise implementing its mixed waste program, States must make every effort to avoid inconsistencies.

If you have any questions please contact Jim Michael, Chief, Implementation Section, State Programs Branch (WH-563B) at FTS/(202) 382-2231 or Betty Shackleford, Mixed Waste Project Manager, State Programs Branch at FTS/(202) 475-9656.

### Attachments

cc: Elaine Stanley, OWPE  
Federal Facilities Coordinators  
Regions I - X  
Chris Crundler, Federal Facilities Task Force

JAN 13 1988

Mr. Gary D. Strassell  
 Environmental Manager  
 The Sheppard Color Company  
 4539 Oves Drive  
 P.O. Box 465627  
 Cincinnati, Ohio 45246

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 EPA

Dear Mr. Strassell:

This is in response to your November 20, 1987, letter to Michael Petruska of my staff concerning the regulatory classification of your chromium wastes. The remainder of this letter explains the exclusions in 40 CFR Section 261.4(b)(6) for certain chromium wastes, and answers the questions you raised.

The exclusion from the definition of hazardous waste under 40 CFR 261.4(b)(6) presently applies only to those wastes specifically listed in Section 261.4(b)(6)(ii). Those wastes identified in subparagraphs (A) through (H) of Section 261.4(b)(6)(ii) are excluded because members of the leather tanning and titanium dioxide production industries submitted evidence to EPA that successfully demonstrated that their wastes were not hazardous. The October 30, 1980 Federal Register (45 FR 72035) describes this exclusion in greater detail (see Enclosure).

The criteria for excluding a waste under Section 261.4(b)(6) requires that the chromium in the waste must be trivalent or nearly exclusively trivalent, that the industrial process producing the waste use trivalent chromium exclusively or nearly exclusively, and that the waste be typically and frequently managed in a non-oxidizing environment. See Section 261.4(b)(6)(i). Presently, the only wastes that are included in the Section 261.4(b)(6) exclusion are those listed in subparagraphs (A) through (H) of paragraph (ii). The only pigment manufacturing waste exclusion is in subparagraph (H). This exclusion applies to wastewater treatment sludges from the production of  $TiO_2$  pigment using chromium-bearing ores by the chloride process. The chromium in this waste originates from the entirely trivalent chromium in the rutile or ilmenite ores used as

a raw material in the process (45 FR 72036). If your customer generates a waste meeting the description in (H), then that waste would be excluded under Section 261.4(b)(6) provided the waste does not fail the EP toxicity characteristic for any constituent other than chromium or does not fail any other hazardous waste characteristic.

Any individual or group of generators whose waste meet the criteria under Section 261.4(b)(6)(i), but are not specifically designated under paragraph (ii)(A)-(H) may submit a rulemaking petition to EPA in accordance with Section 260.20(a) to demonstrate that their waste is not hazardous. If EPA agrees with the petition, it will amend Section 261.4(b)(6) to exclude those wastes from regulation as well. (As already indicated, wastes meeting the existing descriptions in subparagraphs (A) through (H) of Section 261.4(b)(6) is only non-hazardous if it exhibits no other hazardous characteristics in Subpart C of Part 261.) If you choose to submit a rulemaking petition, you will have to submit data showing that the waste or wastes in question is exclusively (or nearly exclusively) trivalent chromium, that the industrial process producing the waste use trivalent chromium exclusively or nearly exclusively, and that the waste is typically managed in a non-oxidizing environment.

If you have additional questions in this area, please continue to communicate with Mike Petruska at (202) 475-8551.

Sincerely,

Marcia E. Williams  
Director  
Office of Solid Waste

Enclosures

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JAN 14 1988

Mr. Paul D. Sylvestri  
Versar Inc.  
6850 Versar Center  
P.O. Box 1549  
Springfield, VA 22151

Dear Mr. Sylvestri:

This letter is a response to your letter of October 8, 1987 to Robert Scarberry. In it you request clarification of the regulatory status of the waste generated by an incinerator trial burn of sand spiked with reagent grade trichlorobenzene and hexachloroethane. Specifically, you were concerned about the hazardous waste status of the incinerator residue, since hexachloroethane is a commercial chemical product that becomes a hazardous waste when it is disposed (U131).

In determining whether the incinerator residue is a hazardous waste, the threshold question is whether the sand, which was spiked with a commercial chemical product that is listed in 40 CFR 261.33 (as U131), as part of the trial burn, was a solid waste within the meaning of 40 CFR 261.2 at the time it was spiked with the chemicals. When the sand was mixed with the chemicals, the sand becomes a solid waste and the chemical becomes a hazardous waste (U131) because the intent is to incinerate the mixture. 40 CFR 261.2 clearly indicates these materials are solid wastes, unless excluded by 40 CFR 261.4(a) or by a variance under 40 CFR 260.20, 260.22, or 260.31. Accordingly, the mixture of U131 with sand is a hazardous waste by virtue of the "mixture rule", which provides that the mixture of a listed hazardous waste with a solid waste constitutes a hazardous waste. (See 40 CFR 261.3(a)(2)(iv)).

As a result, the residue from the trial burn also would be a hazardous waste (via the "derived-from" rule, 40 CFR 261.3(c)(2)(i)) because the residue is derived from a listed waste.

If you require additional information, please call Edwin F. Abrams at (202) 382-4787.

Sincerely,

Marcia E. Williams  
Director, Office of Solid Waste

FEB 22 1988

MEMORANDUM

SUBJECT: Classification of Wastes Containing  
F001-F005 Constituents

FROM: Jeffery D. Denit *JS*  
Acting Director  
Office of Solid Waste (WH-562)

TO: Phillip L. Bobel  
Chief, Waste Programs Branch  
EPA Region IX (RT2)

This is in response to your memo of December 30, 1987, on waste classification, as per Mr. Sandoval's request. I think the confusion Mr. Sandoval is experiencing is due to imprecise use of terms. A person should not classify a waste that contains an F001-F005 hazardous constituent as an "F" waste for land ban purposes, or on the manifest. However, if a person generates one or more of the specifically listed "F" spent solvents e.g., spent trichloroethylene (F001) and then mixes the spent solvent with another waste, the mixture does in fact contain F001 and therefore is subject to the land disposal restrictions.

When an F001 waste is mixed with another hazardous waste, the proper description of the mixture would include all applicable waste codes. For example, F001 mixed with an ignitable waste (D001) should be described as F001, D001, and the mixture would be subject to the treatment standard in 40 CFR Section 268.41. There is no de minimus amount below which a listed waste need not be identified. (Of course, if the F001/D001 mixture does not exhibit ignitability, the classification for the mixture would not have to include the "D001" descriptor. Further, you should note that when a waste listed only because it exhibits a characteristic, e.g., F003, is mixed with a solid waste and the resultant mixture does not exhibit a characteristic, the mixture is not hazardous waste. See 40 CFR Section 261.3(a)(iii).)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 9 1988

MEMORANDUM

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

SUBJECT: Proposed Best Demonstrated Available Technology (BDAT)  
for K061

FROM: Jeffery D. Denis, Acting Director  
Office of Solid Waste

TO: Robert E. Greaves, Chief  
Waste Management Branch  
U.S. EPA, Region III

This memorandum is in response to the concerns you raised with respect to the determination of BDAT for K061 for the Land Disposal Restrictions Rule (LDRR) and its possible implications for Region III. There seems to be several points that have been apparently misunderstood by your staff.

EPA is not approving the Waelz Kiln as BDAT. The proposed Land Disposal Restrictions for K061 are performance standards that represent a level of performance achievable by High Temperature Metals Recovery (HTMR). We have identified several classes of HTMR systems; they include: rotary kilns (which includes the Waelz Kiln as well as other types currently being marketed), flame reactors, electric furnaces, plasma arc furnaces, slag reactors, and rotary hearth kiln/electric furnace combinations. Many of these systems produce metallic zinc, metallic lead, both for direct sale, metallic iron to be recycled back to the electric arc furnace, and slags requiring land disposal. The restrictions are concentrations of constituents in the waste that must be achieved prior to land disposal of K061 in a Subtitle C facility. EPA is not requiring any specific class of HTMR, nor are we recommending any specific class.

The data used for the development of the proposed Land Disposal Restrictions for K061 were generated by the EPA sampling of the Waelz Kiln process because it was convenient and appeared to provide effective treatment. Your discussions with Bill Myers, our contractor's sampling crew chief, failed to reveal the full extent of our analysis in determining BDAT for K061. Mr. Myers was not involved in the BDAT analysis for K061. As the sampling crew chief on that trip, his



responsibilities and knowledge were limited to taking representative samples of the materials generated by the Waelz Kiln process. The flow diagram of the process considered by EPA, which was not developed by Mr. Myers, is a complete diagram of the K061 treatment system. The calcining process was considered in our analysis of the treatment system prior to the sampling visit, but was rejected because the crude zinc oxide product that is collected in the baghouse is sold as a product. We are aware that the crude zinc oxide product is frequently refined further to remove the lead and cadmium to produce a saleable American grade zinc. However, it also is sold for direct use in product formulation by such industries as fertilizer manufacturing. Therefore, the calcining process was not included as part of the K061 treatment system, since at the point the crude zinc oxide is collected in the baghouse it becomes a product, and ceases to be considered derived from K061 based on the "product rule" (40 CFR 261.3 (c)(2)(i)).

Furthermore, the calcining process historically has been applied to other crude zinc oxides, including those produced by the primary smelting of zinc bearing ores in the Waelz Kiln. If K061 were not used as a feedstock, zinc bearing ores or other scrap material would be necessary. Although calcining residuals from refining of ores are exempted currently by the Bevill Amendments, the calcining residuals from K061 wastes, under certain circumstances, would be regulated as D006 (EP Toxic for Cadmium) and/or D008 (EP Toxic for Lead). Treatment standards for the "D" wastes are expected to be final by May 8, 1990, three months before the effective date of the Land Disposal Restrictions for K061.

In response to your concerns regarding the interpretation of the waste as an "indigenous" waste, we have not interpreted K061 to be indigenous to that type of furnace. Instead, we have determined treatment standards that the residual material must meet prior to land disposal. We will be soliciting additional comment on that subject in the proposal of the LDRR.

The current use of the K061 treatment residual from the Waelz Kiln as roadbed and anti-skid material, however, is considered to be "use in a manner constituting land disposal" and is not exempt from regulation based on 40 CFR 261.2 (c)(1)(A). We have discussed this issue with the Region III RCRA Enforcement Office. However, we do not think this issue is germane to whether BDAT based on recovery is effective, since placement of the residuals in a subtitle C landfill will eliminate any compliance problems.

It is my hope that this additional information will eliminate any concern about the BDAT we intend to propose for K061. If your staff has any additional questions regarding this matter, please contact Mr. John Keenan of my staff, at FTS 755-0356.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 10 1988

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Michel Bouchard, ing.  
Industry Information  
Centre de Recherche Industrielle du Quebec  
333, rue Franquet  
Case postale 9038  
Sainte-Foy (Quebec) CANADA G1V 4C7

Dear Mr. Bouchard:

This is in response to your letter to Jon Greenberg dated January 4, 1988 and your telephone conversations with Ron Josephson on January 22 and 29, 1988. In particular, we are providing a regulatory interpretation concerning the management of stainless steel production residues as they would be controlled under the U.S. Federal hazardous waste regulations. The regulations we are citing below can be found in the U. S. Code of Federal Regulations, Title 40, Parts 260 and 261 (abbreviated as 40 CFR 260 or 40 CFR 261).

Dusts or sludges from the emission control systems of electric arc furnaces used in the primary production of steel, where the furnace is not used solely for casting, are considered listed hazardous wastes with the EPA code K061 under 40 CFR 261.32. Should this waste be processed through the chromium and nickel extraction process that you describe in your letter, the remaining residues are still considered hazardous wastes because they are derived from a hazardous waste. (See 40 CFR 261.3(c)(2)(i).) Other wastes from electric arc furnaces that do not exhibit hazardous characteristics (see 40 CFR 261 Subpart C) are not considered hazardous as long as they are not mixed with dust or sludge from the emission control system.

If the generator feels that the residue from the chromium and nickel extraction is not hazardous (i.e. does not exhibit the hazardous characteristics of ignitability, reactivity, corrosivity, or extraction procedure (EP) toxicity described in 40 CFR 261.20-261.24), then he may apply for an exemption, or "delisting petition." (See 40 CFR 260.20-260.22.) Should such a petition be granted, the residue from these facilities would no longer be considered hazardous.

- 2 -

If you have any further questions, please contact Ed Abrams  
on my staff at (202)382-4787.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffery D. Denit". The signature is fluid and cursive, with a large initial "J" and a stylized "D".

Jeffery D. Denit  
Acting Director  
Office of Solid Waste

## UNIT STATES ENVIRONMENTAL PROTECTIC AGENCY

MAR 22 1988

Mr. Hyman Bzura, President  
Old Bridge Chemicals, Inc.  
P.O. Box 194  
Old Bridge, NJ 08857

Dear Mr. Bzura:

This letter is in response to your February 3, 1988, request for a determination of the regulatory status of the copper chloride and copper ammonium chloride which you purchase as by-products from circuit board manufacturers. Under EPA's hazardous waste regulations (40 CFR Section 261.2(e)(i) promulgated on January 4, 1985), secondary materials used directly as an ingredient or feedstock are not solid waste. This is distinguished from reclamation, where distinct components of the secondary material are recovered as end products; certain types of secondary materials are solid waste when reclaimed. Id. (See 40 CFR Section 261.2(c).)

From the information you provided in your February 3 letter, it appears that the copper-bearing secondary materials you use in the production of copper sulfate and copper hydroxide are being used directly, and so would not be solid waste. The Office of Solid Waste cannot provide you a definitive response, however, because solid waste determinations involve consideration of a number of facility-specific factors. For example, besides the question of whether the secondary materials are used directly, i.e., without prior processing, important questions are whether the activity in question is bonafide recycling and whether the materials you purchase are speculatively accumulated. See the discussion in the January 4, 1985 preamble. ~~See~~ necessarily, these questions are best addressed by EPA's Regional offices or by authorized states. (Please note that under ~~the~~ CFR Section 261.2(f) you are required to provide all documentation necessary to support any claim for a recycling exclusion or exemption.) Also, under RCRA Section 3009, States are free to adopt regulations more stringent than EPA's. Consequently, a facility owner or operator's primary contact on RCRA matters should be the State agency with RCRA responsibilities.

If you have any further questions regarding this matter, you may contact Michael Petruska at (202) 475-9888.

Sincerely,

Sylvia K. Lowrance  
Director  
Office of Solid Waste

[illegible]

cc: Shirlee Schiffman, New Jersey DEP  
Barry Tornick, Region II  
Emily Roth

WH562B/ERoth/tle/rmS242/3/8/88/382-4777/ERoth-8701  
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bc/3/16/88  
bc/3/18/88

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APR 6 1988

R. Todd Grant  
President  
Tomar Services, Inc.  
P.O. Box 233  
Wexford, PA 15090

Dear Mr. Grant:

This is in response to your letter of March 14, 1988, to Michael Petruska, concerning the recycling of nickel, copper, and chromium-containing electroplating sludges. This is a complex area of regulation, and you may have misunderstood some of what Mr. Petruska explained in your March 2 meeting. My understanding of your operation is that you plan to recycle electroplating sludges by recovering certain metal values from dried material produced from sludge dryers. The two key questions in determining RCRA applicability are: (1) whether the sludge is listed in 40 CFR Part 261, Subpart D, and (2) whether the material is processed before use, i.e., "reclaimed".

Although the material will be fed to a metal smelting furnace, please note that such smelters are considered reclamation devices, and therefore the exclusions for direct use or reuse at 40 CFR Section 261.2(e)(1)(i) and (e)(1)(ii) do not apply. (See 50 FR 633; January 4, 1985.) Listed sludges that are reclaimed are solid waste, while sludges that are hazardous only because they exhibit a characteristic are not solid waste when reclaimed. Since electroplating sludges are specifically listed wastes, these wastes when reclaimed (i.e., processed in a metal smelting furnace) are subject to the hazardous waste rules. In particular, the generator and transporter rules apply when the material is shipped (40 CFR Parts 262 and 263) and the reclamation facility is subject to 40 CFR Section 261.6(c). Also, EPA has proposed rules for industrial furnaces in 40 CFR Part 266, Subpart D. (See 52 FR 16982; May 6, 1987.)





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 21 1988

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Anthony R. Sinibaldi  
Senior Vice President  
Standard Chlorine of Delaware, Inc.  
Governor Lea Road  
P.O. Box 319  
Delaware City, Delaware 19706

Dear Mr. Sinibaldi:

This is in response to your December 21, 1987, letter to Marcia Williams, the subsequent meeting here at EPA on January 13, 1988, and your March 16, 1988 letter to Michael Petruska concerning the regulatory status of your distillation or fractionation column bottoms from the production of chlorobenzene. This letter is also to correct certain errors that were made in an October 16, 1987, letter from Marcia Williams to Phil Retallick, Director of Delaware's Division of Air and Waste Management, on the same subject.

K085 Listing Description

First, let me reiterate that we view the bottom stream from chlorobenzene production as a secondary material, i.e., a by-product, not a co-product. The bottoms, although they may have some economic value, must be processed before use. See the discussion in the Federal Register of January 4, 1985, in which EPA stated that:

"...by-products are materials, generally of a residual character, that are not produced intentionally or separately, and that are unfit for end use without substantial processing. Examples are still bottoms..." (50 FR 625.)

The determination that the bottoms are a by-product, however, does not automatically mean that they are the EPA listed waste K085. To meet the listing description, the bottoms must first be a solid waste, defined by 40 CFR Section 261.2.



As explained below, the determination of a material being a solid waste depends on the disposition, or intended disposition, of the material. Any material that is abandoned by being disposed of, burned, or incinerated (or accumulated, stored, or treated in lieu of being abandoned) is a solid waste. (See Section 261.2(b).) Additionally, secondary materials are also solid wastes if they are recycled, or accumulated or treated before recycling, as specified in Section 261.2(c). Further, materials may be designated as "inherently waste-like" by EPA under Section 261.2(d).

The remainder of this letter provides EPA's determinations regarding the processes you have described to us. Please note, however, that these determinations are only accurate to the extent we have all relevant facts. If the State needs further information or documentation on these processes, you are required to provide the information under 40 CFR Section 261.2(f), even for processes that we say here are exempt from regulation.

#### Thermal Oxidation Process

The first question to be answered is whether the gas-fired thermal oxidizer, which we understand uses controlled flame combustion, is an incinerator, a boiler, or an industrial furnace. (See the discussions at 50 FR 625-627, January 4, 1985, for the Agency's basic approach to classifying combustion devices.)

The classification of your oxidizer unit into one of these three categories is central to determining its regulatory status. If your unit is an incinerator, Table 1 in 40 CFR Section 261.2(c) is not relevant, and the unit is not eligible for any exclusions in Section 261.2(e)(1). This is because any burning in an incinerator is waste destruction, subject to 40 CFR Parts 264 and 265, Subpart O, even if material or energy recovery also occurs. (See the discussion at 48 FR 14484, April 1983. "If material or energy recovery occurs, it is ancillary to the purpose of the unit - to destroy wastes by means of thermal treatment - and so does not alter the regulatory status of the device or activity." An example involving recovery of hydrochloric acid is then presented. *Id.*)

Our determinations regarding your thermal oxidation unit are as follows:

- o The unit does not meet the definition of a boiler cited in Section 260.10 (e.g., it does not export thermal energy);
- o Based on the information that has been provided to EPA, we believe the unit is not an industrial furnace. To be an industrial furnace, the unit must be specifically listed in Section 260.10 [cement kilns; lime kilns; aggregate kilns; phosphate kilns; coke ovens; blast furnaces; smelting, melting, and refining furnaces;  $\text{TiO}_2$  chloride process oxidation reactors; methane reforming furnaces; and combustion devices used in the recovery of sulfur values from spent  $\text{H}_2\text{SO}_4$ ];
- o Therefore, since the gas-fired thermal oxidizer is neither a boiler nor an industrial furnace, the unit is classified as an incinerator. Thus, it would be subject to 40 CFR Parts 264 and 265, Subpart O.

EPA considers adding units to the Section 260.10 definition of industrial furnace on a case-by-case basis. Persons may petition the Agency under Section 260.20 to add units to the definition. Dow Chemical, Inc., submitted such a petition in July 1986 for their halogen acid furnaces (HAFs), and EPA proposed to grant the petition on May 6, 1987. (See 52 FR 17018-17019.) Under the May 6 proposal, an HAF would be considered an industrial furnace provided that the unit is used for:

" ...production of acid from halogenated secondary materials generated at chemical production facilities where the furnace is located on-site and the acid product has a halogen acid content of at least 6%." (See proposed Section 260.10, *id.*, at 17033.)

Your thermal oxidation unit appears to meet these conditions. Therefore, at such time as EPA finalizes this proposal, the classification of your unit would change from an incinerator to industrial furnace. The result of this change would be that the unit would be subject to the Part 266, Subpart D, standards for boilers and industrial furnaces, in lieu of the Part 264 and

265, Subpart O, incinerator standards. (See id., at 17019.) In either case, the chlorinated by-product introduced to the unit is the EPA listed waste K085.

#### Hydrodechlorination Process

Based on the information you provided, your hydrodechlorination process does not appear to involve controlled flame combustion; therefore, the above discussion concerning boilers, furnaces, and incinerators is not relevant. Since you are using the chlorinated by-product as an ingredient in production of lower chlorinated feedstocks and muriatic acid, and since no burning, reclamation, or use constituting disposal is involved, the by-product appears to meet the terms of the exclusion in 40 CFR Section 261.2(e)(1)(i), and therefore it is not a solid waste (i.e., it is not K085.) Please note, however, that if the by-product is accumulated speculatively as defined in Section 261.1(c)(8), it would then become solid waste (see Section 261.2(e)(2)(iii)) and would be K085. Further, your unit may be affected by changes EPA is considering to the definition of industrial furnace, discussed in the last section of this letter.

#### Use in Titanium Dioxide Production

Your December 21, 1987, and March 16, 1988, letters state that Standard Chlorine plans to sell a blend of the two higher chlorinated benzene process streams to another company for use in titanium dioxide manufacture. The process streams will be introduced to an oxidation reactor where titanium tetrachloride is converted to titanium dioxide, and will, your letters state, substitute for toluene in the production process.

The oxidation reactor would appear to meet the definition of an industrial furnace in 40 CFR Section 260.10, i.e., see paragraph (8) in the definition. From the information you provided, the chlorinated benzene stream will provide not only chlorinated material but also energy value. The regulatory status of material sent for this use currently depends on its energy value. If the chlorinated benzene stream has significant energy value, e.g., equal to or greater than materials used commercially as fuel--generally around 5000 Btu per pound--and the energy is used in the production process, then the material

is considered to be burned at least partially for energy recovery. Thus, the material is considered to be the listed waste K085 and the standards of 40 CFR Part 266, Subpart D, for hazardous waste burned for energy recovery would apply to the furnace and the material sent to the furnace. The oxidation reactor would also be subject to the standards for industrial furnaces proposed on May 6, 1987. (See 52 FR 16982.) If the chlorinated material is burned without significant energy recovery, however, then the material may not be a solid waste because it is used as an ingredient to make a product. (See 40 CFR Section 261.2(e)(2)(i) and (e)(2)(ii).)

#### Changes Being Considered for Certain Units


As the above discussion indicates, EPA's current rules defining solid waste and the applicability of standards depend on, first, the classification of the unit, and then whether the material is burned (partially) for energy recovery. EPA is considering modifications to this approach in the near future that could affect your processes. First, we are concerned about secondary materials that could be hazardous waste if burned for energy recovery or destruction but that are excluded from regulation when burned as an ingredient in a production process. To deal with the potential health risk from burning such materials as an ingredient, we are considering proposing to designate materials introduced to HAFs, and perhaps other furnaces (possibly including oxidation reactors used in titanium dioxide production) as "inherently waste-like materials" under 40 CFR Section 261.2(d). This would mean that, if your proposed thermal oxidation unit meets EPA's definition of an industrial furnace, the standards proposed on May 6, 1987 would apply to the unit whether or not any energy is recovered from the K085 chlorinated stream. The material sent for titanium dioxide production could also be brought under regulation as K085 if we promulgate such a designation.

Second, EPA is considering proposing to amend the definition of industrial furnace to remove the condition that furnaces must use "controlled flame devices" to accomplish recovery of materials or energy. The impact of this change could be that your non-flame hydrodechlorination unit could be designated as an industrial furnace, and then would be subject to the standards proposed on May 6, 1987.

- 6 -

If you have general questions about this letter, please contact Michael Petruska at (202) 475-9888. If you have questions about the classification scheme for combustion devices, please contact Robert Holloway at (202) 382-7917. Finally, as stated above, your primary contact on RCRA matters should continue to be Delaware Department of Natural Resources and Environmental Control (DNREC). We will be providing copies of this letter to Delaware DNREC as well as EPA Region III.

Sincerely,

  
Jeffrey D. Abbott acting for  
Sylvia K. Lowrance, Director  
Office of Solid Waste

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

APRIL 88

1. Notification Requirements for Recyclable Materials

A gold plating operation generates a spent cyanide solution. The solution is sent to a reclaimer so that the gold content can be recovered. The recyclable material, because of its free cyanide content, is a California listed waste. Does the generator have to send a notification to the reclaimer per Section 268.7?

The requirements for recyclable materials from which precious metals are reclaimed in Section 261.6(a)(2)(IV) subject the generator to regulation under Subpart F of Part 266. However, Section 261.6(a)(2) does not specifically free the generator of Part 268 regulations. Only those recyclable materials specifically listed in Section 261.6(a)(3) are not subject to Part 268 regulations.

Since this waste is a California listed waste, the generator must provide proper notification to the reclaimer.

Contact: Mitch Kidwell (202) 382-4805  
Research: Cheryl McNabb

MAY 18 1988

Mr. Mahmood Kapadia  
Manager Ceramic Engineering  
The Haeger Potteries, Inc.  
Seven Maiden Lane  
Dundee, Illinois 60118-9989

Dear Mr. Kapadia:

This correspondence is in response to your request for information on the proper classification of waste colored glazes collected as part of your pottery manufacturing operation. Specifically, you referred to a mixture of different glaze colors that are collected and treated by a "rotary vacuum" filter. The resultant solid waste produced, which exhibits the characteristic of EP Toxicity for lead (and possibly for cadmium and chromium), is then disposed of at a high cost. I apologize for the long delay in responding to your correspondence. The Agency is under a very tight schedule to meet the statutory deadlines applicable to the land disposal restrictions program.

As you stated in your letter (and have further described during telephone conversations with my staff), it is your desire to place the colored glaze solids into broken or good pottery, fire it in your tunnel kiln, and sell this fired piece at your retail sales outlet. In accordance with the definition of solid waste (40 CFR 261.2), if the colored glaze solids are used in the manner described, they would not constitute a solid waste, and thus would not meet the definition of a hazardous waste. The solid materials would not be a solid waste since the material would be recycled by being "used or reused as ingredients in an industrial process to make a product". 40 CFR 261.2(e)(1)(i). The colored glaze solids in this case would not be considered reclaimed, since you would be using the entire material, and not reclaiming certain constituents from the material.

The information provided above reflects hazardous waste management system regulations covered by Federal rules. Note, however, that compliance with applicable Federal regulations does not relieve an individual from compliance with applicable State environmental requirements. I hope this information adequately addresses your concerns. If you have any further questions, please feel free to contact Wanda LeBleu-Biswas, of the Waste Characterization Branch, at (202) 382-7392.

Sincerely,

Stephen R. Weil, Chief  
Land Disposal Restrictions Branch





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAY 26 1988

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Gary L. Ford  
Assistant Director of Law  
Stauffer Chemical Company  
P.O. Box 0852  
Westport, CT 06881-0852

Dear Mr. Ford:

This letter is in response to your April 5, 1988, letter requesting clarification of the RCRA Subtitle C regulations. These are Federal regulations. The States where your facilities are located may have more stringent regulations which would apply. Consequently, a facility owner or operator's primary contact on RCRA matters should be the State Agency with RCRA responsibilities.

As you note in your letter, spent sulfuric acid which is accumulated speculatively does not qualify for the exclusion in Section 261.4(a)(7). If the person accumulating the material can show that it can feasibly be recycled, and that at least 75% (by weight or volume) is recycled or transferred for recycling in a calendar year, the material is not accumulated speculatively. Once removed for recycling, materials are no longer considered to be accumulated speculatively. The definition of speculative accumulation is found in Section 261.1(c)(8).

Translating the regulations to cover your situation, spent sulfuric acid which is accumulated speculatively is a solid waste per Section 261.2(c)(4). If the acid is a listed hazardous waste, or if it exhibits a characteristic of hazardous waste, it must be handled as a hazardous waste. If it is removed from accumulation for recycling, it ceases to be accumulated speculatively, and the exclusion in Section 261.4(a)(7) may become available. If it is actually recycled by being used to produce virgin sulfuric acid, the Section 261.4(a)(7) exclusion may be exercised in States which recognize the exclusion. However, if it is removed from accumulation for recycling, but the recycling is not the production of virgin sulfuric acid, the Section 261.4(a)(7) exclusion is not exercised, and the regulations in Section 261.2 govern the material's status.

It should also be noted that materials accumulated in land-based storage units may leach into the ground, and thus would be considered to be disposed. Storage of spent sulfuric acid in a surface impoundment, for instance, may result in some portion of the spent acid being disposed. Although the material stored in the surface impoundment might qualify for the exclusion in Section 261.4(a)(7), the portion which leaches into the ground, if not recovered, has been disposed. If the acid is a listed or characteristic hazardous waste, the disposal/storage unit is a hazardous waste management unit.

Please feel free to contact Mike Petruska at (202) 475-9888 if you have further questions.

Sincerely,

*Devereaux Barnes*

Devereaux Barnes, Director  
Characterization and Assessment  
Division

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

MAY 88

1. Hazardous Waste Identification - K111 Listing

During the production of TNT (trinitrotoulene), DNT (dinitrotoulene) is generated as an intermediate chemical via nitration of toulene. Does the K111 listing (i.e., product washwater from the production of dinitrotoulene via the nitration of toulene) cover the product washwaters generated from this intermediate step or does the listing only cover those product washwaters generated from final product DNT?

Product washwaters produced from the intermediate DNT chemical are included in the K111 listing. The October 23, 1985 Federal Register (50 FR 42937) states that the K111 listing includes "any wastes which meet the waste description and are generated by the processes described in the background document, regardless of the end product or industry in which it takes place." In fact, 50 FR 42937 specifically states "product washwaters from the production of DNT by nitration of toluene, as an intermediate to TNT production, also are covered by this listing."

Source: Bob Scarberry (202) 382-4769  
Research: Sue Brugler

JUN 6 1988

Ms. Margaret R. Tribble  
Legal Department  
American Cyanamid Company  
One Cyanamid Plaza  
Wayne, NJ 07470

Dear Ms. Tribble:

This letter is in response to your March 30, and May 3, 1988 request for clarification regarding the regulatory status of used sulfuric acid. Specifically, you requested a clarification of the applicability of the RCRA Subtitle C regulations to certain recycling practices. Examples given in your letter are secondary uses as a fertilizer, a metal oxide removal agent, a scrap iron digester, an ingredient in the production of aluminum sulfate, and using the acid to acidulate phosphate rock. Below is an explanation of the regulations found in 40 CFR 261.2 and 261.4, which determine the regulatory status of a secondary material. Please keep in mind that the discussion below is only a general review of the existing regulations and preamble discussions. Each generator must make his own determination as to whether he has a solid and hazardous waste and must have adequate documentation to support any exemption claims. (See 40 CFR Sections 262.11 and 261.2(f).)

In each of the recycling situations presented in your letter, it is necessary to determine what the material is (spent material, by-product, co-product) and how it is being recycled to determine its regulatory status. The special case of spent sulfuric acid which is recycled to make virgin sulfuric acid was explained in the January 4, 1985 Federal Register (50 FR 642). The exemption found in §261.4(a)(7) refers to the special case where spent sulfuric acid is not a solid waste unless accumulated speculatively. The Agency never intended for the regulated community to infer that because there is such an exemption, all other spent sulfuric acid is always a solid waste. Indeed, a careful reading of the regulations would lead the reader from §261.2(a) to §261.4(a) and then to §261.2(b) [if §261.4(a)(7) does not apply to the reader's situation].

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Section 261.2(a) states that materials which are abandoned or which are inherently waste-like are always solid wastes. Secondary materials which are recycled must be classified according to the type of secondary material and the manner of recycling. It is impossible to make an all-inclusive statement concerning the regulatory status of used sulfuric acid; in addition, insufficient information was provided in your letters to provide a more detailed response. In some cases, used acid is a spent material; in other cases, such as the sulfonation, alkylation, and dehydration reactions described in your letter, used acid is a by-product or a co-product. The regulatory status of used acid will depend on whether the acid is a spent material, a by-product, or a co-product, and the manner in which the used acid is recycled. In general, hazardous secondary materials used as ingredients in production of new products, or as substitutes for commercial products, are not solid wastes. (See 40 CFR Section 261.2(e)(1).) Please note however, that under certain conditions, materials used in this manner are still solid and hazardous waste, e.g., when the product being produced is a fuel or a fertilizer. (See 40 CFR Section 261.2(e)(2).)

Each generator of used or spent acid should evaluate the material in light of the Federal regulations as well as any applicable State laws or regulations. If a generator needs assistance in making a determination, or wishes an official confirmation of his own determination, he should contact the appropriate EPA regional office, or in authorized States, the appropriate State regulatory agency.

Please feel free to contact Michael Petruska at (202)475-9888 if you have further questions.

Sincerely,

Devereaux Barnes  
Director, Characterization and  
Assessment Division

JUN 9 1988

Mr. Fred Tidwell  
U.S. Department of the Interior  
Bureau of Reclamation  
Safety Office, D-160  
P.O. Box 25007  
Denver, Colorado 80226

Dear Mr. Tidwell:

This letter is in response to Mr. William C. Klostermeyer's request of May 20, 1988, to replace methylene chloride in EPA Method 3510 with "...substitute chemicals, procedures, and methods to perform the requested laboratory work".

At the present time, the Agency does not have any other solvent system available for the extraction of semivolatile organic compounds with the powerful solvating properties of methylene chloride. Methylene chloride is sufficiently polar to extract polar organics from a wide variety of matrices as well as having the capability to extract relatively non-polar compounds from these matrices.

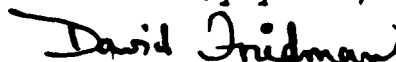
Research into alternative solvent systems to replace methylene chloride as a general solvent for semivolatile organics is being conducted by our research laboratory in Cincinnati. To date, no equivalent alternative solvent system has been developed to satisfactorily replace methylene chloride in removing hazardous substances from difficult matrices and converting them to an analyzable form.

For specific compounds, however, it is possible to substitute other extraction solvents for the methylene chloride. An example would be the use of toluene as an extraction solvent for polynuclear aromatic hydrocarbons. We would be happy to discuss, with you, potential solvents for specific situations.

The Agency will continue to strive to find a replacement solvent system for methylene chloride as the general extraction medium for semivolatile organic compounds. In the meantime, one must continue to use this solvent following all proper safety precautions in order to generate valid data. We will keep you informed as to progress in this area of alternative extraction media and method validation.

If we can be of any further assistance, please feel free to contact Barry Lesnik of my staff at FTS 382-4761.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "David Friedman". The signature is written in a cursive, slightly slanted style.

David Friedman, Chief  
Methods Section (WH-562B)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 15 1988

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. M. Yaori, Product Manager  
Ferrous Raw Materials  
Sumitomo Corporation of America  
2750 U.S. Steel Building  
600 Grant Street  
Pittsburgh, PA 15219

Dear Mr. Yaori:

This is in response to your March 15, 1988 letter to Matthew Hale concerning the recycling of electric arc furnace dust, the EPA listed waste K061. EPA cannot provide a definitive response as to your recycling system at this time. As referenced in your letter, the U.S. Court of Appeals ruled in AMC v. EPA that EPA had exceeded its jurisdiction by regulating, or claiming to regulate, certain in-process recycling streams. EPA proposed regulatory changes on January 8, 1988 to comply with the court opinion. (See 52 FR 519.) The comment period on the proposal closed March 23. We have entered your letter as a comment on the proposal. The remainder of this letter describes how EPA's rules, and the January 8 proposal, apply to your situation. Please note, however, that the following is based only on the limited information provided in your letter. If you actually implement your plans, you should deal with the appropriate EPA Region (or authorized State) to determine your facility's regulatory status. Please also be aware that this letter only addresses potential RCRA regulation of the K061 recycling; air emissions from the cyclone and bag filter may be subject to State or Federal air pollution regulations.

Our understanding of the K061 recycling process outlined in your letter is that K061 would be collected from electric arc furnace emissions in a bag filter. The collected dust would be conveyed to a hopper, mixed with coal or coke, pelletized, mixed with a modifier, and dried in a rotary dryer. After drying, it would be stored, then processed in a load cell reactor with oxygen blown into the bottom. The exhaust from the reactor would be filtered in a bag filter, where the zinc rich metal oxide would be recovered. In the load cell reactor, the process wastes from the electric arc furnace would be combined with the



coal/coke/modifier/K061 mixture; the resulting slag from the load cell reactor would be further processed, and finally would be granulated.

If the above described process is normally associated with primary production of steel, it is possible that the electric arc furnace dust would not be a solid waste. To successfully claim the material is not a solid waste under 40 CFR 261.2(e)(1)(iii), the material must be returned to the original primary production process without prior reclamation; it must not be accumulated speculatively, and it must not be used to produce something which is applied to the land or burned for energy recovery. See the conditions specified in Section 261.2(e)(2) and Section 261.2(f).

Under the current regulatory system, K061 that is reclaimed is a solid waste [Section 261.2(c)(3)], and, because it is listed in Section 261.32, it is also a hazardous waste [Section 261.3(a)(2)(ii)]. Until the point where the coal/coke/modifier/K061 mixture enters the load cell reactor, the storage of K061 would be regulated under RCRA [Sections 262.34 or 264.1]. The reclamation processing steps are not regulated, per Section 261.6(c)(1) [see 50 FR 643]. However, if the facility is located in a State which is authorized to implement RCRA, more stringent State regulations may apply.

At the point where the coal/coke/modifier/K061 mixture is introduced to the load cell reactor, it might cease to be a solid waste under the current EPA rules. The information provided in your letter does not allow a definitive interpretation. However, the principle is explained in the preamble to the January 4, 1985 Federal Register (50 FR 630) and in the preamble to the November 29, 1985 Federal Register (50 FR 49167). Briefly, if the load cell reactor qualifies as an industrial furnace, the K061 mixture may cease to be a solid waste at the point where the material is introduced into the load cell reactor, depending on its similarity to materials ordinarily burned in the unit. It should be noted that the Agency has proposed to amend this interpretation to exclude from RCRA jurisdiction secondary materials generated and subsequently recycled in a process using the same type of industrial furnace (52 FR 16990 and 17034, May 6, 1987).

If the K061 mixture does not qualify for exclusion from RCRA jurisdiction under the above-mentioned interpretation, then the status of the materials recovered from the load cell reactor is dependent on several factors. The recovered zinc rich metal oxide, if processed completely enough to be considered a product, may no longer be a solid waste. See 40 CFR 261.3(c)(2); however, note that if the zinc rich metal oxide is burned for energy recovery or is used in a manner constituting disposal, it would remain a listed hazardous waste until delisted (Section 261.3(c) and (d)). The slag mixture likewise may cease to be a solid waste (and also a hazardous waste) once it has been processed to be considered a product. Some information contained in your letter implies that the slag may be used as base or sub-base course or sand material. If a material is applied to the land, or is used to produce a product which is applied to the land, it is a solid waste by Section 261.2(c)(1). As a solid waste derived from the treatment of a listed hazardous waste, it remains a listed hazardous waste until delisted (Section 261.3(c) and (d)). If our understanding that process wastes from the electric arc furnace are mixed with the K061 mixture in the load cell furnace is correct, all of the slag removed from the load cell reactor, if a solid waste, is a listed hazardous waste by Section 261.3(a)(2)(iv). Please note that under 40 CFR Part 266, Subpart C, hazardous wastes recycled by placement on the land are subject to extensive regulations, unless the recyclable material has undergone a chemical reaction in the course of producing the waste-derived product so as to become inseparable by physical means.

Finally, the January 8, 1988 proposal to modify the regulations in Section 261.2(c)(3) may apply to your recycling situation. The docket materials in support of that rulemaking contain an Item #6 which summarizes the factors the Agency used for deciding whether to list certain wastestreams in Section 261.32. K061 was listed because it is typically disposed, or reclaimed in an unrelated process, and is frequently stored in open piles. The proposed rule would allow case-by-case demonstrations by the generator that the material does not meet the conditions for listing, depending on several factors. It is not possible to make a general statement regarding the status of the electric arc furnace dust being recycled with your system. The preamble to the proposed rule discusses the possibility that the material is not discarded (53 FR 526 and 527, January 8, 1988). From the information in your letter, it does not appear

that the load cell reactor is closely related to the primary production of steel.

Again, if you plan to implement your plan you may wish to discuss the process as proposed with EPA Region or State personnel with regulatory authority in the proposed location for the plant. If you have further questions regarding this letter, please contact Michael Petruska at (202) 475-9888.

Sincerely,

*Devereaux Barnes*

Devereaux Barnes, Director  
Characterization and Assessment  
Division

JUN 24 1988

**MEMORANDUM****SUBJECT: USPCI Drum Shredder****FROM: Jim Michael, Chief  
Disposal and Remediation Section (WH-563)****TO: Lawrence A. Wapensky, Chief  
Utah/North Dakota Section**

This is in response to your May 12, 1988 memorandum addressing questions regarding a drum shredder at the USPCI, Clive, Utah, site. I would like to address your questions in the same order as discussed in your memorandum.

Is the drum shredding operation, as described in the supplied information, regulated under RCRA?

Yes, the drum shredding unit is processing containers filled with hazardous waste in a manner that constitutes treatment of hazardous waste. Since the drum shredder was not designed to contain an accumulation of hazardous waste, it does not meet the regulatory definition of a tank (40 CFR 260.10); this activity will require a RCRA permit as a miscellaneous unit under 40 CFR 264.600 (Subpart X).

Since the operation of the drum shredder poses risks of hazardous waste releases that are similar to releases from tanks (Subpart J), certain requirements for tanks may be appropriate for inclusion in the Subpart X permit. We also recommend that other requirements be imposed to mitigate potential safety and environmental hazards from this unit. Specific controls are suggested, where possible, to control the potential for the following problems:

- \* Explosions and fires within the unit from the accumulation of ignitable or reactive gases;
- \* Generation of hazardous air emissions from the mixing of incompatible hazardous waste during the shredding operation;

- \* Releases to the air, including contaminated dust or hazardous gases;
- \* Releases of liquid hazardous waste from an increase in pressure on the hazardous waste being shredded. Hazardous waste liquids absorbed by a material might pass the paint filter test for free liquids under atmospheric pressure, but release the liquid under pressurized conditions inside the unit. This result (liquid/absorbent material separation) is neither intentional nor desirable and, therefore, should be minimized. Measures should be planned and implemented to collect potential releases from the unit; and,
- \* Releases from precipitation events since the unit is not entirely covered with a roof and hazardous waste will remain in the mechanism after each use. The unit is not designed to trap and control this type of release. Therefore, we suggest channelling releases resulting from precipitation to a sump or other containment device. The water should be analyzed before discharge or disposed of as a hazardous waste.

If it is regulated, does it come under the permitting authority of the State-delegated program, or under Subpart X?

As a Subpart X unit, the Region will be the permitting authority. This authority is provided by 40 CFR 264.1(f)(2). However, since the unit is a miscellaneous unit similar to a tank, the Region may want to check with the State for more stringent requirements under Subpart J that may be appropriate.

If the facility constructed or operated this unit without having it on its Part A application, should EPA or the State proceed with enforcement action?

Given the above determination (i.e., the shredder is a Subpart X treatment unit), the Region was correct to instruct the facility to cease operation of the unit. Operation of a hazardous waste unit without a permit or approval as a change in interim status under 40 CFR 270.72 is not authorized. The Region should call in the Part B application on this unit. The unit can legally begin operation when the forthcoming permit for the other units at the facility is modified to include the shredder.

Since this is a Subpart X unit, Region VIII will maintain enforcement authority after the RCRA permit modification is issued. We recommend that the Region and State discuss their enforcement priorities in order to make a final determination on any enforcement action against the facility.

If you have any questions regarding this information or would like to discuss the issues further, please contact Nestor Aviles at FTS 382-2218.

cc: Bruce R. Weddle, OSW  
Elizabeth Cotsworth, OSW  
Sonya Stelmack, OSW  
Chester Oszman, OSW  
Kent Anderson, OSW  
Frank McAlister, OSW  
Fred Chanania, OGC  
Nestor J. Aviles, OSW  
Terry Brown, Region VIII

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

JUNE 88

3. Household Hazardous Waste

As a part of a consent decree, a firm which caused a plume of ground-water contaminated with RCRA listed waste, is required to install carbon filters in all affected homes with water wells. When the firm returns to change these filters, they wish to collect and ship them for regeneration. Will these filters be covered by the household hazardous waste exclusion in Section 261.4(b)(1)?

Yes, Section 261.4(b)(1) defines "household waste" as any material derived from households. Since the carbon filter was installed in a home, it is household waste when removed. There is no significant difference between filters installed by the firm and ones installed by a homeowner on his own initiative. The household hazardous waste exclusion would apply to the filters when they are sent for regeneration.

Source: Carrie Wehling (202) 382-7706  
Research: Randall Eicher

MEMORANDUM #24:

DATE: July 1988

SUBJECT: Notes on RCRA Methods and QA Activities

FROM: David Friedman, Chief  
Methods Section (WH-562B)

TO: Addressees

This memo will address the following topics:

- o Method 3500- Clarification on Surrogate Standard
- o Extraction System for PCBs in Soil
- o Good Laboratory Practices Work Group
- o Results on the recent Laboratory Proficiency Evaluation Samples
- o Test Method for Total Halogens in Used Oil
- o Contract Laboratory Program - Participation as a Surrogate for Laboratory Certification
- o Methods Section Staff Responsibilities
- o Call for Reviewers

Method 3500-Clarification on Surrogate Standard

We made an error in Method 3500 and a clarification is needed of the direction given on preparing the terphenyl-d14 surrogate standard described on page 2 of Memorandum No. 23. The methanol specified as the dilution solvent is not appropriate. The revised directions are as follows:

- A. Weight out 10 mg terphenyl-d14 into a small beaker (20-50ml) using an analytical balance.
- B. Add 5 to 10 ml of pure carbon disulfide until the terphenyl-d14 completely dissolves.



- C. Transfer this carbon disulfide solution to a 100 ml volumetric flask.
- D. Quantitatively transfer the residual carbon disulfide solution from the beaker to the volumetric flask by washing several times with methanol.
- E. Dilute to the line with methanol. Mix well.

#### Extraction System for PCBs in Soil

We have reviewed the data package submitted by Joseph Stewart of Oak Ridge National Laboratory in support of his request for use of SOXTEC extraction system, in place of the conventional Soxhlet extraction system (Method 3540), for preparation of PCB samples for Method 8080 at ORNL. The PCB data generated from split samples, run concurrently, using the conventional Soxhlet and the SOXTEC extraction techniques for sample preparation, shows that these preparative techniques are equivalent, within allowable standard deviation limits. These data also demonstrate that Method 8080, utilizing either extraction technique, is appropriate for the analysis of PCB's in soil and clay matrices at the low ppm level. The SOXTEC system actually proved to be the superior technique when time constraints were considered, taking only 2 hours for sample preparation vs. 17 hours for Soxhlet.

From the submitted information, OSW believes that the SOXTEC extraction procedure is suitable for determining the PCBs in soil matrices. We recommend that where use of SW-846 methods is not mandated by the RCRA regulations, permit writers approve use of the SOXTEC extraction system for RCRA PCB soil analyses. OSWER is in the process of using the ORNL data to develop a general extraction procedure using the SOXTEC apparatus and after the method has received formal review it will be added to SW-846.

#### GLP Workgroup Meetings

The RCRA Good Laboratory Practices (GLP) taskgroup, (part of the QA Workgroup), has begun the process of developing GLPs for the program. These practices are designed to apply to all laboratories developing data in support of the RCRA program. The second draft has been distributed to both the taskgroup and the full Workgroup for their review prior to the July 11th general workgroup meeting.

### Test Methods for Total Halogens in Used Oil

The Federal Register Notice of November 29, 1985 (page 49189) recommended that ASTM D808-81 be used for total halogens (as chlorine) in used oil until a method is developed for inclusion in SW-846. On March 10, 1986 (page 8207) information in a Federal Register Notice confirmed that the ASTM method, cited previously, is inappropriate for measuring total halogens at levels of regulatory concern. The Agency is working to address this problem and a package of proposed test methods for total halogens in used oil will be submitted for workgroup review next month.

Until these new methods have been reviewed and formally adopted, the Agency cannot give general approval for their use. Pending such approval, however, the Agency will accept, on a case-by-case basis, data using any technique, as long as adequate QA/QC data has been gathered to validate the results.

We believe, based on the data that has been collected so far, that several techniques will be suitable for determining total halogens in used oil at levels of regulatory concern. These include microcoulometry (using Dohrman instrument); Paar bomb combustion with any of the following finishes: mercuric nitrate titration, titrimetric silver nitrate, or ion chromatography; x-ray fluorescence for samples not containing water; and Dextsil's Clor-D-Tect 1000 test kit for pass/fail determinations only.

For additional information, contact Barry Lesnik at 382-7459.

### Use of Contract Laboratory Program Participation as a Surrogate for Laboratory Certification

The Contract Laboratory Program (CLP) provides standardized and specialized analytical services to support OSWER activities. Firm, fixed-price contracts are awarded competitively to the lowest responsible bidders through the Government's Invitation for BID (IFB) process. Laboratories selected as contractors are monitored for adherence to quality control and administrative procedures and, as long as they receive a satisfactory rating, continue to receive analytical work according to EPA needs and the size of their contract. Laboratories not performing satisfactorily, while they still remain in the program, are cut off from further work.

Concerns have been raised by non-CLP laboratories that a number of EPA Regions and States are requiring that facilities conducting corrective action testing employ laboratories that are participating in OERR's CLP program in the erroneous belief

that CLP participation constitutes EPA certification. OSW frowns on this practice since CLP participation does not constitute certification and, more importantly, that for financial or other reasons, many of the nation's best testing laboratories have elected not to be CLP contractors.

#### Methods Section Staff Responsibilities

Many times questions come up dealing with specific methods or testing problems and people do not know who to call for assistance. While calls can always be directed to our general number (202/382-4671), I suggest contacting the subject matter specialists directly for fastest service. You will find the specialists responsible for the major testing and quality assurance subject areas listed below.

<u>Subject</u>	<u>Name</u>	<u>Phone</u>
SW-846	Charles Sellers	382-3282
Quality Assurance	Florence Richardson	382-4778
Inorganic Analysis	Charles Sellers	382-3282
Organic Analysis	Barry Lesnik	382-7459
Mobility Prediction	Gail Hansen	475-6722
(leachability volatility)		
Sampling	Florence Richardson	382-4778
Reactivity		
- Toxic Gas Generation	Gail Hansen	475-6722
- Explosivity	Florence Richardson	382-4778
Ignitability	Florence Richardson	382-4778
Corrosivity	Charles Sellers	382-3282
Bioassay Methods	Gail Hansen	475-6722

I want to emphasize that not only do we want to help answer your questions, but also to hear your ideas for new methods and testing ideas, problems that we need to work on, and any other suggestions or comments you may have to help us improve the program.

#### Call for Reviewers

ASTM and EPA's Office of Solid Waste have a need for qualified individuals to review papers presented at the OSWER Annual Solid Waste Testing and Quality Assurance Symposium and the D34 Symposia prior to publication in ASTM STPs. In order to assist us in this effort, we have established a data base of potential reviewers. If you would be willing to contribute a

few hours annually to this review process, please complete the attached form and return it to me at the address below.

David Friedman  
Environmental Protection Agency  
Office of Solid Waste (SW-331)  
Washington, DC 20460

A short list of general topics is given. Please indicate those topics for which you have special expertise or interest. Additional information concerning your specific areas of expertise is also requested.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

Mr. Marshall R. Turner  
Vice President, Manufacturing  
Racon Refrigerants  
6040 South Ridge Road  
P.O. Box 198  
Wichita, KS 67201

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Dear Mr. Turner:

This letter is in response to your February 1, 1988 petition to change 40 CFR Part 261 to encourage chlorofluorocarbon recycling. It is based on information contained in your petition and in telephone conversations with Michael Petruska of the Office of Solid Waste (OSW) and with our contractor, Becky Cuthbertson of Geo/Resource Consultants, Inc. This response is based on the Federal RCRA regulations; individual states implementing RCRA may have more stringent requirements, or regulations which are broader in scope. The tentative conclusion we have reached is that under Federal rules, the refrigerants you are concerned about are probably not hazardous waste. Therefore, your rulemaking petition may be moot. Our conclusion is explained in detail below.

The Agency understands that the refrigerants manufactured by your company may become contaminated during customers' use. The contamination may occur because atmospheric moisture condenses, because lubricating oil from the compressor is released into the refrigerant, or because the compressor's high temperature may cause small amounts of hydrochloric acid to form. We understand that when servicing the refrigeration system, the service person may either vent the used refrigerant to the atmosphere, or collect the used refrigerant in cylinders to transfer it for reclamation.

Refrigerant that has been used and has become contaminated through use fits the definition of a spent material (40 CFR Section 261.1(c)(1)) if it must be reclaimed prior to its reuse. Spent materials that are reclaimed are solid wastes per Section 261.2(c). Your environmental engineer, Denise Pope, indicated that the used refrigerant is collected from customers in cylinders and transferred to your facility for reclamation, and is not tested to determine whether it can be reused directly

i.e., without processing. Thus, it would fall under the definition of a spent material going for reclamation, which is a solid waste.

The used refrigerant would not be considered a listed spent solvent. The spent solvent listings in Section 261.31 apply to certain materials that have been used for their solvent properties and have become spent. See the December 31, 1985 Federal Register notice (50 FR 53315) which clarifies the scope of the spent solvent listings.

The used refrigerant would not meet the listing description in Section 261.33(e) for trichlorofluoromethane (U121) or dichlorodifluoromethane (U075) because it has been used. The listings in Section 261.33(e) and (f) apply to the commercially pure grades of the listed chemicals, technical grades, and formulations in which the listed chemical is the sole active ingredient, but not to used chemicals.

If the solid waste is not identified as a listed hazardous waste, the generator's responsibility is to test the waste or apply knowledge to determine if the waste exhibits a characteristic. See Sections 261.5(f)(1), 261.5(g)(1) and 262.11(c). "Generator" includes the person whose act or process produces hazardous waste, or whose act first causes the waste to become subject to regulation. In most cases, the generators would be the owner of the refrigeration equipment, as well as the service person who may be involved in determining whether the refrigerant is still useful, or who may be collecting the material for reclamation, i.e., there would be a co-generator situation.

Based on the information available at this time, it seems unlikely that the used refrigerant would exhibit any of the four characteristics of hazardous waste (ignitability, corrosivity, reactivity, or EP toxicity - see Sections 261.20 - 261.24). Corrosivity may be a characteristic of concern, if hydrochloric acid is present due to breakdown of the chlorofluorocarbons at high compressor temperatures. However, the characteristic in Section 261.22 refers to aqueous wastes with a pH less than or equal to 2, or liquid wastes that corrode steel at a rate greater than one-quarter inch per year. The Paint Filter

Liquids test (Test Methods for Evaluating Solid Wastes, Method 9095) is the method that is recommended for generators to isolate the liquid portion of their waste. See 50 FR 18372, April 30, 1985. If the hydrochloric acid is present in the liquid phase, and the waste does exhibit the corrosivity characteristic, it is a hazardous waste.

The generator's responsibility includes determining whether a waste is hazardous using the steps outlined in Section 262.11. If the waste is not listed, the generator has the option of testing or applying knowledge to determine whether the waste exhibits a characteristic. Enclosed is a portion of the background document for the hazardous waste generator regulations. The enclosed portion details the generator's option to apply knowledge "in light of the materials or processes used." Pages I-2.11 and I-2.12 explain that "If operations at different facilities are sufficiently similar as to provide the requisite basis, then nothing in the regulation prevents the use of such information. Persons are cautioned, however, that data from one facility are not necessarily transferrable to another; that subtle differences in the facilities or raw materials may significantly alter the character of the resulting waste."

If your company is interested in testing the used refrigerant that you would normally be reclaiming to see if it exhibits a characteristic of hazardous waste, the data obtained may be quite useful in that equipment owners or service personnel could use the data to make their hazardous waste determinations. If testing shows that these refrigerants never exhibit any of the characteristics, they may be reclaimed without complying with the EPA hazardous waste rules.

Finally, states authorized to implement RCRA are required to have programs that are consistent with the Federal RCRA program. These states' requirements may be more stringent or more extensive than the Federal regulations (Section 270.1(i)(1)), as long as they are consistent according to the criteria in Section 271.4. States may have requirements more stringent than EPA's.

- 4 -

If you have further questions in this area, please contact Michael Petruska at (202) 475-9888.

Enclosure

Sincerely,

A handwritten signature in dark ink, appearing to read "Sylvia K. Lowrance". The signature is fluid and cursive, with a long horizontal stroke at the end.

Sylvia K. Lowrance, Director  
Office of Solid Waste



Ms. Paige Murphy-Young  
Assistant Attorney General  
1275 West Washington  
Phoenix, Arizona 85007

Dear Ms. Murphy-Young:

This is in response to your letter of March 22, 1988, to Mary Cunningham of my staff, requesting clarification as to how the §261.2(c)(2)(ii) exemption for commercial chemical products burned for energy recovery might apply to waste-derived fuel products of a solvent regeneration facility operated by Bud's Oil Service (BOS). We have also reviewed two other letters on this subject sent to my staff--the February 19, 1988, letter from Charles A. Peterson of BOS to Mike Petruska, and the June 21, 1988, letter from David Kimball, an attorney representing BOS, to Bob Holloway. We have conferred with our Regional Office in San Francisco, and they asked that we respond to you directly. We are responding to both Mr. Peterson's and Mr. Kimball's letters by copy of this letter.

#### BOS Solvent Reclamation

We understand that BOS regenerates spent solvents to produce commercial gun wash solvent. We understand that BOS also markets the regenerated solvent as a fuel. BOS asserts that the commercial gun wash product is exempt under §261.3(c)(2)(i), and that the waste-derived fuel is exempt under §261.2(c)(2)(ii). These issues are addressed below.

#### Is the Reclaimed Solvent Excluded Under §261.3(c)(2)(i)?

The reclaimed solvent would be excluded under §261.3(c)(2)(i) if the solvent is reclaimed from solid wastes and is used beneficially and the reclaimed solvent is not reclaimed further, burned for energy recovery, or used in a manner constituting disposal. Thus, the solvent that is reclaimed by BOS and used as a commercial gun wash solvent is not a solid waste.

Are Products Produced by the Reclamation Process Exempt When Used as Fuel?

Reclaimed materials burned for energy recovery are solid waste, and, if hazardous by listing or characteristic, are hazardous waste. See §261.3(c)(2)(i). See also 50 FR 634 (January 4, 1985). Thus, the exclusion at §261.2(c)(2)(ii) would not apply to the solvents BOS reclaims for fuel use. Further, the waste-derived fuel product that is produced by BOS is subject to regulation under Subpart D, Part 266. Subpart D subjects hazardous waste fuels to RCRA storage and transportation standards and places administrative controls on marketers and burners.

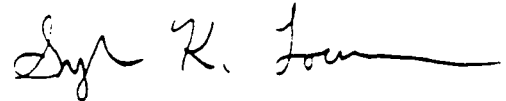
Although the exclusion provided by §261.2(c)(2)(ii) would not apply to the waste-derived fuel, the exclusion could apply to solvent product that was off-specification and, in lieu of its intended purpose, burned for energy recovery. To be exempt under this provision, the off-spec solvent would also have to be a fuel itself. The use of acetone-derived solvents, for example, would be precluded by the fuel requirement.

We note that the statement that is quoted on page 2 of the June 21 letter from Mr. Kimball to Mr. Holloway taken from the "Guidance Manual on the RCRA Regulation of Recycled Hazardous Wastes" is incorrect. That statement is an incorrect summary of preamble discussion provided at 50 FR 634 (January 4, 1985) regarding the regulatory status of reclaimed products. The preamble states that the exclusion for commercial products reclaimed from hazardous waste does not apply when the output of the reclamation process is burned for energy recovery or placed on the land. As discussed above, §261.2(c)(2)(ii) does not provide an exclusion for the waste-derived fuel.

Finally, we think it is important to emphasize the underlying policy of the Agency's rules. If a person could simply purify a waste (by settling, regeneration or blending) and then burn it without being subject to RCRA, then the Agency's rules and Congressional command to control burning of hazardous waste-derived fuels would have little meaning. It was for this reason that EPA explicitly stated that the exclusion in §261.3(c)(2) does not apply to materials ultimately burned for energy recovery.

I hope this addresses your concerns. If you have further questions, please do not hesitate to call Mary Cunningham of my staff at (202) 382-7935.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sylvia K. Lowrance".

Sylvia K. Lowrance  
Director  
Office of Solid Waste

cc: Charles A. Peterson, Bud's Oil Service  
David P. Kimball, Evans, Kitchel & Jenckes, P.C.  
Frances Schultz, Region IX  
Steve Silverman, OGC  
Bob Holloway, OSW  
Mary Cunningham, OSW  
Mike Petruska, OSW  
Matt Straus, OSW

bcc: Joe Carra, OSW  
Dev Barnes, OSW  
Jim Berlow, OSW

JUL 29 1988

Mr. Sol L. Colon  
Environmental Quality Official  
Western Pher Laboratories, Inc.  
P.O. Box 7468  
Ponce, P.R. 00732

Dear Mr. Colon:

I am writing in response to your letter dated June 13, 1988, in which you requested our interpretation of the hazardousness of a waste generated and treated at your facility in Ponce, P.R. Also, you requested confirmation that your treatment process does not require a RCRA permit.

Specifically, you treat a liquid waste containing about 18% acid and 1% organic material by evaporating some of the water (which is condensed and sent to the facility's wastewater treatment plant) and transferring the concentrated acid solution to a concrete mixer where it is mixed with kiln dust to form a dry solid for disposal.

On July 8, 1988, Ed Abrams, a member of my staff, telephoned you to determine the composition of the 1% organic component of your waste and the type of kiln dust. Your response identified the organic materials as organic acids such as oxalic and tartaric acids, and not organic solvents. Also, you identified the kiln dust as cement kiln dust, a solid waste which is not a hazardous waste (see 40 CFR 261.4(b)(8)).

Assuming that your liquid waste being treated is only characteristically hazardous because of corrosivity, the dry waste generated from the treatment would not be considered hazardous if it does not exhibit any of the characteristics of hazardous waste (see 40 CFR 261.20-24), but your operation would be considered treatment of a hazardous waste. However, since it is being done at the site of waste generation in tanks, a RCRA permit would be required only if you stored your waste for periods exceeding 90 days prior to treatment. If treatment was being done off site, a RCRA storage permit would be required in any case.

If you require additional information, please contact either Mr. Angel Chang in EPA Region II, or Mr. Ed Abrams of my staff at (202) 382-4787.

Sincerely,

Devereaux Barnes  
Director,  
Characterization and Assessment  
Division

cc: Mr. Angel Chang, (2AWM-SW Rm 1000)  
EPA Region II  
26 Federal Plaza  
New York, NY 10278



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Regulation and Permitting of Laboratories

FROM: Sylvia K. Lowrance, Director *Sylvia K. Lowrance*  
Office of Solid Waste (OS-300)

TO: Waste Management Division Directors  
Regions I-X

On July 19, 1988, EPA promulgated an exemption for samples used in treatability studies (53 FR 27290). To help increase awareness of the new exemption, and to clarify the regulatory and permitting requirements for laboratories in general, we have prepared the attached decision tree and a summary of the treatability sample rule. This is intended to help lab managers and enforcement personnel understand the regulations. Questions in this area may be addressed to Stephen Cochran at FTS-475-9715.

Attachments

DETAILED FACT SHEET  
SMALL-SCALE TREATABILITY STUDIES SAMPLE EXEMPTION  
Status: Final Rule, effective July 19, 1988 (53 FR 27290)  
OSW Contact: Paul Mushovic

1. Effect of the Rule

The final rule conditionally exempts small quantities of hazardous waste being utilized in small-scale treatability studies from the RCRA hazardous waste regulations. Such testing requires no prior EPA approval. Quantity limitations for treatability studies are set per waste stream per treatment process. Limitations are also being set for quantities shipped, and for treatment rates and storage limitations per facility.

New paragraphs (e) and (f) to 40 CFR 261.4 accomplish the following. First, persons who generate samples are exempted from the generator and transporter requirements when samples are shipped by the generator, or any other person who collects the sample (the "sample collector"), to a laboratory or testing facility for the purpose of conducting a treatability analysis, or when shipped from the facility back to the sample collector, provided that certain packaging and labeling requirements are met. Second, any laboratory or testing facility that conducts treatability studies may store these waste samples and residues generated from the treatability study within the quantity and time limits specified and not be subject to the requirements of 40 CFR, Parts 264, 265, and 270. Third, the actual testing of the samples does not require a permit, provided the laboratory or testing facility complies with the notification requirements in the rule and meets the quantity and time limitations specified in the rule.

Definition and Examples. A treatability study (newly-defined) subjects a relatively small amount of hazardous waste to a treatment process. Its purpose is to determine:

- whether the waste is amenable to a treatment process;
- what pretreatment (if any) is required;
- the optimal process conditions;
- the efficiency of the treatment process; or,
- the characteristics and volume of residuals from a particular treatment process.

A treatability study is not to be used for commercial treatment or disposal of hazardous waste. Examples of the types of treatability studies included in the exemption are:

- physical/chemical/biological treatment;
- thermal treatment (incineration, pyrolysis, oxidation, combustion);
- solidification;
- sludge dewatering;
- volume reduction;
- toxicity reduction; and,
- recycling feasibility.

The rule also allows the following types of waste testing studies:

- liner compatibility studies;
- corrosion studies;
- toxicological and health effects studies; and,
- other material compatibility studies (e.g., relating to leachate collection systems, geotextile materials, other land disposal unit requirements, pumps and personal protective equipment).

## 2. Purpose and Rationale of the Rule

A. Need for Simplified Procedures. The hazardous waste regulations, when applied to waste samples used in small-scale treatability studies, are more comprehensive than is necessary to adequately protect human health and the environment. The Agency needs to promote research and the development of innovative technologies to manage hazardous wastes.

B. Factors Limiting Risk. The Agency believes that the following factors combine to ensure that the risks to human health and the environment are de minimis:

- the various quantity and time restrictions contained in the rule;
- the high cost of collecting and shipping the sample and conducting legitimate treatability studies;
- certain reporting and recordkeeping requirements that will enable the Agency to conduct inspections and bring enforcement actions against persons who abuse this exemption; and,
- Department of Transportation (DOT), U.S. Postal Service (USPS), or other regulations governing the transportation of hazardous materials.

The Agency also believes that sufficient professional and financial incentives are in place to provide for the safe shipment of samples to and from, and proper handling of samples at, laboratories and testing facilities conducting treatability studies.

## 3. Limitations Contained in the Rule

Specific limitations in the final rule ensure de minimis risk to human health and the environment.



A. Waste Quantity Exempted per Waste Stream. There are limits on the amount of waste that can be subject to a treatability study evaluation per generated waste stream. The rule exempts (per waste stream per treatment process):

- 1000 kg of non-acute hazardous waste; or,
- 1 kg of acute hazardous waste; or,
- 250 kg of soils, water, or debris contaminated by acute hazardous waste.

The rule also allows the Regional Administrator to grant requests for waste stream quantity limits in excess of those specified above, up to an additional 500 kg of non-acute hazardous waste, 1 kg of acute hazardous waste, and 250 kg of soils, water, and debris contaminated with acute hazardous waste when it can be demonstrated that an additional quantity of hazardous waste is needed to complete a treatability study when:

- there has been an equipment or mechanical failure;
- there is a need to verify previous results;
- there is a need to study and analyze alternative techniques within a previously evaluated treatment process; or,
- there is a need to determine final specifications for treatment.

B. Transportation Shipment Limits. The Agency has set a single shipment limitation as follows:

- 1000 kg of non-acute hazardous waste; or,
- 1 kg of acute hazardous waste; or,
- 250 kg of soils, water, or debris contaminated with acute hazardous waste.

These shipment limitations, covering the exemption from the RCRA hazardous waste transporter regulations and manifesting requirements, will apply when the materials are being shipped to a laboratory or testing facility or returned to the generator or sample collector.

C. Facility Treatment Rate Limit. The Agency has adopted a treatment rate limit of 250 kg per day of as received waste for the entire laboratory or testing facility. "As received" refers to the waste shipped by the generator or sample collector as it arrives at the laboratory or testing facility.

D. Facility Storage Quantity Limits. The Agency has also adopted an overall storage limitation of 1000 kg of "as received" waste per testing facility. This limitation can include up to 500 kg of soils, water, or debris contaminated with acute hazardous waste or 1 kg of acute hazardous waste. The Agency is making it clear in this rule that the storage exemption only applies to laboratories or testing facilities conducting

treatability studies. The rule does not allow for intermediate storage.

E. Facility Storage Time Limits. Any untreated sample and any residue generated during the treatability study must be returned to the generator within 90 days of study completion or within 1 year from the date of shipment by the generator to the laboratory or testing facility, whichever is earlier. Otherwise, these materials must be managed, by the laboratory or testing facility conducting the treatability study, as a RCRA hazardous waste (unless the waste is no longer hazardous).

MTUs conducting treatability studies may qualify for this exemption. The requirements of the exemption apply to each location where an MTU will conduct treatability studies. When more than one MTU is operating at one location they will be treated as one MTU facility for purposes of applying the limitations.

#### 4. Procedures for Compliance with the Rule

Facilities conducting small-scale treatability studies would not be required to obtain the permit; and the shipment of samples to and from facilities would no longer need to be manifested. There are still certain procedures required to qualify for the exemption.

A. General Reporting and Recordkeeping Requirements. Reporting and recordkeeping requirements are being imposed to facilitate inspector review, and if necessary, to take enforcement action. The generator of the sample (who may also be the shipper or sample collector) and the laboratory or testing facility conducting the treatability study must keep copies of contracts and shipping documents for a minimum of 3 years after the completion of the study.

B. Generator-Specific Requirements. Generators and sample collectors must also maintain records indicating the following:

- the amount of waste (per waste stream and treatment process) shipped under the exemption;
- the name, address, and EPA identification number of the study facility;
- shipment dates; and,
- whether or not any unused sample or any residue generated from the treatability study was returned.

Beginning in 1989, generators must report this information in their biennial reports. In addition, generators and/or sample collectors who seek a variance to submit supplemental sample material from a particular waste stream must indicate the reason

for the request, support the additional quantity requested, account for all sample material previously submitted from the waste stream, and describe any technical or equipment modifications and the corrected results.

C. Facility-Specific Requirements. Owners or operators of a study facility must:

- notify the Regional Administrator or authorized State, by letter, of the intent to conduct treatability studies at least 45 days prior to conducting any such studies;
- obtain an EPA identification number if it does not have one;
- maintain records documenting compliance with the specified time and quantity limits for treatment and storage for 3 years from the completion of each treatability study.

Specific minimum information, by treatability study, that must be maintained includes:

- the name, address, and EPA identification number of the generator or sample collector;
- information on the quantities of and dates that waste materials were received, stored, and tested; and,
- the date the unused sample and residue were returned to the generator or, if sent to a designated facility, the name of the facility and its EPA identification number.

By March 15 of each year, each facility must submit a comprehensive report to the authorized State or Regional Administrator that includes the above information for all studies of the previous calendar year and an estimate of the number of studies and the amount of waste expected to be used in treatability studies during the current year.

Additionally, laboratories or testing facilities that do not return the unused sample or the residues to the generator or sample collector within the specified time limits are subject to appropriate regulation. Facilities must determine if they meet the SQG requirements of Subject 261.5 or the accumulation requirements of Subject 262.34.

## 5. Impact of the Rule

This exemption will reduce the overall costs and economic impact of EPA's hazardous waste management regulations by eliminating permitting requirements for laboratories and testing facilities intending to conduct treatability studies. Facilities and laboratories will be spared the time (as much as 2 years) and the costs (estimated to be between \$100,000 and \$200,000) otherwise necessary to obtain a RCRA permit. The Agency

anticipates that most of the estimated 400 facilities which will be conducting treatability studies will include testing laboratories, research organizations, colleges, universities, technical institutes, and those facilities involved in solid and hazardous waste management.

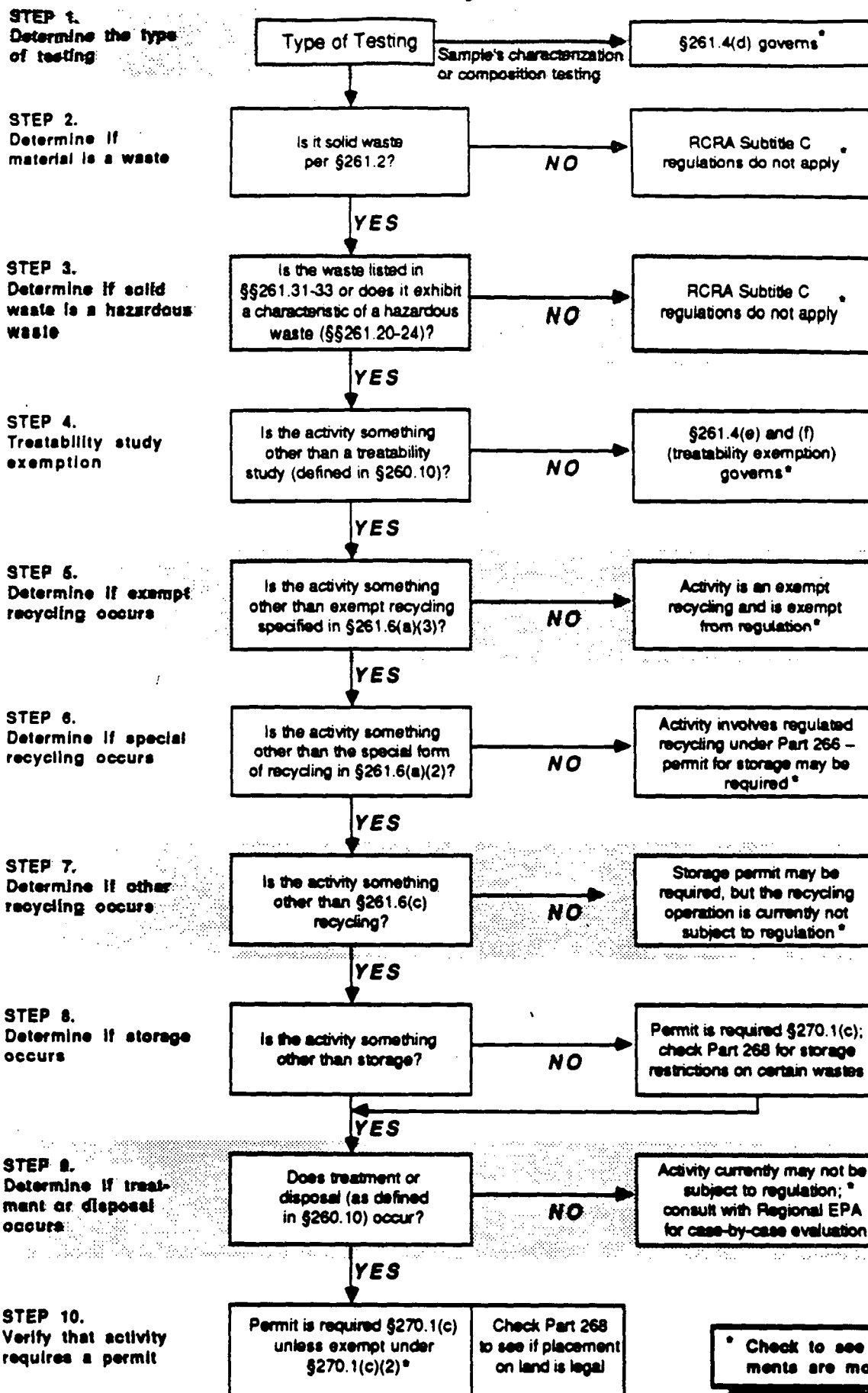
## 6. Effective Date of the Rule

The need for more effective hazardous waste treatment alternatives and the fact that this amendment reduces, rather than increases, the existing requirements for facilities that handle waste samples provide good cause to make this rule effective immediately upon publication notwithstanding Section 4(d) of the Administrative Procedure Act, 5 U.S.C. Section 553(d). This amendment takes effect immediately upon publication in the Federal Register. The regulations will be applicable only in those States that do not have final authorization. Because these changes are less stringent or reduce the scope of the Federal program, States are not required to adopt this rulemaking, although EPA strongly encourages States to do so as quickly as possible. EPA will expedite review of authorized State program revision applications.

## 7. Agency Contact

For further information regarding the Treatability Studies-Sample Exemption, contact Stephen Cochran at EPA Headquarters telephone No. 202-475-9715 or FTS No. 475-9715.

# Office of Solid Waste Laboratory Decision Tree



### Guidance on Laboratory Testing and RCRA Permitting

This guidance addresses only the issue of whether materials received by a laboratory must be handled as a hazardous waste under the federal permit or interim status hazardous waste management standards. It does not address the issue of the laboratory which generates hazardous wastes and whether permitting is required for the laboratory-as-generator.

Individual states (whether authorized under RCRA or not) may also have requirements that are more strict than the federal requirements. Thus, although this guidance may indicate that a particular activity may be conducted without requiring a permit, in all cases the laboratory director must confirm with the appropriate state agency whether a permit is required.

Additional assistance on all aspects of the determination process outlined in this guidance may be obtained by calling the RCRA/Superfund Industry Assistance Hotline ((800)424-9346, commercial (202)382-3000; FTS-382-3000).

Step 1. Determine the type of testing that will occur.

If the testing is solely to determine a waste, soil, water, or air sample's characteristics or composition, the sample's handling may be subject to reduced regulations under 40 CFR §261.4(d).

Step 2. Determine whether the material is a solid waste per §261.2 (or, in the case of contaminated soil or water, contains a solid waste). [Note: The term "solid waste" does not refer to a material's physical form, but to its legal status as a waste vs. commodity.]

This step requires looking at both the status of the material as it is handled in the "outside world" and as it is handled in the laboratory. For instance, an EP toxic wastewater treatment sludge which is landfilled in the "outside world" is a solid waste and a hazardous waste; however, if it is being tested for reclamation possibilities, it would be neither a solid waste nor a hazardous waste until the experimental residues are discarded. Another example would be an off-specification commercial chemical product listed in §261.33. If, in the "outside world", it is sent for reclamation, it is neither a solid waste nor a hazardous waste. However, if the laboratory intends to incinerate it, it is both a solid waste and a hazardous waste. Assistance in this step may be found by referring to the Guidance Manual on the RCRA Regulation of Recycled Hazardous Wastes (EPA 530-SW-86-015), or by calling the RCRA/Superfund Industry Assistance Hotline with details about the specific situation.

Step 3. Determine whether the solid waste is a hazardous waste.

Refer to §261.4(b) to see if it is a "solid waste which is not a hazardous waste." If it is not excluded by §261.4(b), refer to §§261.31-261.33, to determine if it is a listed hazardous waste; if it is not listed, refer to §§261.20-261.24 to determine if it is a characteristic hazardous waste. For assistance, call (800)424-9346.

Step 4. Determine whether the laboratory's activity qualifies for the treatability study exemption at §261.4(e) and (f).

See the July 19, 1988 Federal Register (53 FR 27290). Individual states may not recognize this exemption.

Step 5. Determine whether the laboratory will be performing any of the recycling operations on wastes which are described in §261.6(a)(3). If so, the activity is not subject to federal RCRA regulation.

Step 6. Determine whether the laboratory will be recycling wastes in the manner described in §261.6(a)(2).

[Note: Burning for energy recovery must be legitimate recycling. Current enforcement guidance uses 5000-8000 BTU/lb as generated (not as blended for burning) as the dividing point between legitimate energy recovery and incineration.]

If so, the regulations in §261.6(a)(2) refer the reader to the appropriate sections of Part 266. In some cases, these activities will require permits.

Step 7. Determine whether the laboratory's activity is recycling which may be (currently) exempt from regulation under §261.6(c). A storage permit may be required.

Step 8. Determine whether storage of hazardous waste received from off-site occurs. If so, a storage permit is required (§270.1(c)) unless the activity is specifically excluded from the permit requirement by §270.1(c)(2) and (3). Check Part 268 for additional regulation of storage of certain hazardous wastes. Continue to step 9.

Step 9. Determine whether treatment or disposal (as defined in §260.10) occur. If so, a permit covering these activities may be required (§270.1(c)). Research, Development, and Demonstration activities may be covered by a special type of permit (see §270.65). In addition, the laboratory must refer to Part 268 for restrictions on placement of hazardous wastes on land (if land placement is proposed).

Step 10. Verify that the activity requires a permit. Certain activities are exempt from the permit requirement (see §270.1(c)(2) and (3)). In addition, Part 268 contains the restrictions on land placement of certain hazardous wastes.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

9441.1988(40)

*Barry F42*  
SEP 1

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPO.

MEMORANDUM

SUBJECT: Regulatory Interpretation

FROM: Marcia E. Williams, Director (WH-562)  
Office of Solid Waste

*Marcia Williams*

TO: Judy Kertcher, Acting Director (5HS-B)  
Solid waste Branch, Region V

Our office has reviewed the information you provided in your July 29th memo, in which you requested an interpretation of 40 CFR 261, as it applies to a still bottom waste generated during the production of polystyrene at the Chevron Chemical Company, Marietta, OH. We have decided that toluene is used as a solvent in the process; therefore, the tower 201 still bottoms are a F005 hazardous waste that is generated during the recovery of spent toluene.

The following information was used to make our decision and to address the concerns outlined in your memo.

1. In a document submitted by Squire, Sanders, and Dempsey on behalf of Chevron, it was stated that the toluene is "added as a diluent" in the process. The toluene is also used as a carrier, or diluent, for the additives which are used in the process. The property of a RCRA solvent is the ability to solubilize, or to act as a diluent.
2. Both styrene and toluene are recovered in Tower 201; they are separated from the tars in this column. Therefore, the waste generated at this point in the process are still bottoms from the recovery of spent toluene, an F005 waste.
3. The closed loop recycling process exemption does not apply to this process. (See attached discussion)

4. Chevron made several arguments (e.g., the waste is not ignitable and, consequently, not hazardous; the waste does not contain toluene) that have not been addressed by this decision. We feel that the three determinations above resolve the issue of, whether the material in question is hazardous waste.

Additional discussion on items 1-4:

1. Peter Oxenbol of Chevron Chemical Company commented that the term "diluent" had been used by them before they realized that it has carried with it such a weighty connotation (that use as a diluent constitutes use as a solvent.) He suggested that a different word or description could be used which would not be as sensitive as the word "diluent". The definition of the word "diluent", however, is quite clear, and it was chosen previously as an accurate description of the role that toluene plays in the reaction. Chevron wishes to use a different word now, but toluene's function will not be changed by doing so.
2. Of the feed that enters Tower 201, roughly 83% is unreacted styrene and 4% is toluene. They are both separated, together, from the tars in the column. Toluene may not be the major component in the feed stream to the column, but it is nonetheless being recovered at this point in the separation from the styrene.
3. The Federal Register excerpt on the closed loop recycling process reads as follows: "It should be noted that, under today's rule, although secondary materials stored in closed-loop reclamation processes that fit within the exclusion of §261.4(a)(8) are not solid waste, wastes from their management are solid wastes. Thus, still bottoms from solvent reclamation, if an exclusion applies for another reason, can be hazardous wastes if they are identified or listed. In this regard, the Agency notes that many still bottoms from solvent reclamation are listed wastes, as are the residual spent solvents themselves (Hazardous Wastes F001-005)." (FR Vol. 51, No. 134, 25443).

4. Chevron's other arguments, that toluene is present in the waste in only de minimis quantities, and that toluene "is an essential ingredient in the process from a kinetic standpoint", etc., became moot points because it was decided that the waste was the listed waste, F005.

If you wish to discuss the above in further detail, please call Yvonne Garpe on FTS 475-6679.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

SEP 6 1988

Ms. Jane Magee  
Assistant Commissioner for  
Solid and Hazardous Waste Management  
Indiana Dept. of Environmental Management  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015

Dear Jane:

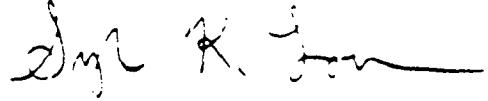
This is in response to your letter on the applicability of Resource Conservation and Recovery Act (RCRA) regulations to shooting ranges. In your letter you indicated that the Indiana University in Bloomington has received a preliminary notice of intent to sue under RCRA, alleging that the university shooting ranges are hazardous waste landfills, fully subject to the requirement for an operating permit and all applicable facility standards.

The discharge of ball and sport ammunition at shooting ranges does not, in our opinion, constitute hazardous waste disposal. This is because we do not consider the rounds to be discarded, which is a necessary criterion to be met before a material can be considered a solid waste and, subsequently, a hazardous waste (see 40 CFR 261.3(a)). Rather, the shooting of bullets is within the normal and expected use pattern of the manufactured product. This interpretation extends to the expended cartridges and unexploded bullets that fall to the ground during the shooting exercise. The situation, in our mind, is analogous to the use of pesticides whereby the expected, normal use of a pesticide may result in some discharge to the soils. This is a discharge incident to normal product use and is not considered a hazardous or solid waste activity falling under the jurisdiction of RCRA.

OSU-213

If you have any questions regarding our interpretation or would like to discuss the issue further, please call Elizabeth Cotsworth (202) 382-3132 or Chet Oszman (202) 382-4499.

Sincerely,

A handwritten signature in black ink, appearing to read "Sylvia K. Lowrance", with a long horizontal flourish extending to the right.

Sylvia K. Lowrance  
Director  
Office of Solid Waste

cc: Elizabeth Cotsworth  
Matt Hale, OSW  
Fred Chanania, OGC  
Karl Bremer, Region 5  
Chet Oszman, OSW

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

SEPTEMBER 88

2. Oil and Gas Exclusion Applicability

A cavern beneath the earth's surface is used to store natural gas that is later consumed for home heating during winter months. Several compression stations that require movement of the natural gas are operated at ground level. A RCRA hazardous waste is generated at each compression station. Is this waste exempt from regulation as a hazardous waste?

Wastes associated with and unique to the exploration, development, or production of natural gas are excluded from regulation as a hazardous waste as per 40 CFR Section 261.4(b)(5). The natural gas stored in this specific instance must be retrieved from storage in much the same manner as when it was originally produced prior to storage, and the wastes generated in both cases will be nearly identical. In EPA's "Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes," 53 FR 25446 (July 6, 1988), the Agency determined that wastes from subsurface gas storage and retrieval are exempt from hazardous waste regulation under RCRA, except for such of those wastes which are not intrinsically associated with the removal of the gas; the Regulatory Determination also lists some of these wastes. See 53 FR at 25454. In addition, wastes associated with manufacturing or transportation, including movement by pipeline off-site, are not exempt from hazardous waste regulation, nor are wastes generated at the gas storage facility that are not uniquely associated with the gas retrieval process.

Source: Mike Fitzpatrick (202) 475-6783  
Research: George Kleevic

October 27, 1988

9441.1988(44)

Mr. Jon Greenberg, Manager  
Environmental Policy  
Browning-Ferris Industries  
1150 Connecticut Avenue, NW  
Suite 500  
Washington, DC 20036

Dear Mr. Greenberg:

This is in response to your August 11, 1988, inquiry about the status of hazardous wastes that are generated at one site and treated at another. Specifically, we are responding to the question of whether treatment residuals of a characteristic hazardous waste under 40 CFR 261.20-261.24 can be a listed hazardous waste under 40 CFR 261.30-261.33.

Determination of the proper EPA Waste Code may be made by a careful examination of the generator's production processes. It is the generator's responsibility to determine if his waste meets the listing descriptions for hazardous wastes listed at 40 CFR 261.30-261.33 or if they exhibit a hazardous characteristic. (See 40 CFR 261.20-261.24.) If the owner/operator of a transportation firm or waste treatment facility determine that a listed waste had been improperly labeled as a characteristic waste by a generator, then the generator should be advised to correct the error (a) on the manifest or receipt of wastes from the generator should be refused. Giving the requirements of the Land Disposal Restrictions regulations (40 CFR 268) both the generator and the treatment facility could face penalties for improperly analyzing and managing a listed hazardous waste. (See 51 FR 40572).

According to the requirements in the derived-from rule (40 CFR 261.3(c)(2)(i)), a residual generated from the treatment, storage or disposal of a listed hazardous waste is itself a listed hazardous waste. A residual generated from the treatment, storage, or disposal of a characteristic hazardous waste (or a waste that has been listed only because it exhibits a characteristic, such as F003) is a hazardous waste only if it exhibits a characteristic. However, if a listed spent solvent, such as F005, is mixed with the characteristic spent solvent before or during treatment (e.g., solvent recovery), the mixture "becomes" a listed waste when the listed waste is first added to the characteristic waste. (See 40 CFR 261.3(a)(2)(iv) and 40 CFR 261.3(b)(2).) Any residual generated from the treatment of this mixture would be the listed hazardous waste F005.

In some cases, characteristic or nonhazardous wastes, when treated, will have treatment residues that are listed hazardous wastes. This will depend in each case on the scope of the listing. An example is rinsewater from electroplating operations. These rinsewaters are not listed and may or may not exhibit the hazardous characteristic of extraction procedure (EP) toxicity. However, once the wastewater treatment sludge precipitates, it meets the listing description for F006 (with the exception of precipitates from rinsewaters from certain excluded electroplating processes). The listing applies whether the sludge is generated at the electroplating facility or a commercial waste treatment facility. Thus, a commercial waste treatment facility must know the electroplating processes to identify the wastewater treatment sludge correctly as F006. This may require the treatment facility to obtain information from the waste generator regarding processes that produced the waste to be treated.

As pointed out in your letter, there is no specific requirement for a generator to identify the processes that lead to the generation of their waste. However, there is nothing to prevent the treatment, storage, or disposal facility from requiring such information before accepting the waste. Once a treatment, storage, or disposal facility accepts the waste, it is their responsibility to accurately characterize any residual resulting from treatment. The Agency has no plans at this time to change the regulations as they relate to this requirement.



-3-

If you have any further questions, please contact David Topping at (202) 382-7737, or the RCRA/Superfund Hotline at (202) 382-3000.

Sincerely,

Sylvia K. Lowrance  
Director  
Office of Solid Waste



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

NOV 2 1988

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPON

Mr. Donald E. Stone  
Manager, Environmental Compliance  
GSX Chemical Services, Inc.  
P. O. Box 210799  
Columbia, SC 29221

Dear Mr. Stone:

This letter is in response to our telephone conversation of October 19, 1988 and your follow-up letter dated October 20, 1988, both dealing with waste listings for commercial chemical products.

When defining a material as a hazardous waste under RCRA Subtitle C, the material must first be defined as a solid waste in accordance with 40 CFR Section 261.3(a). A discarded material that is recycled by being reclaimed may be defined as a solid waste, depending on the type of secondary material (see Table 1, Section 261.2(c)(3)). Since you did not specify in the examples in your letter the disposition of the mercury and mercury-containing material, I am assuming that it is going for reclamation.

In your first example, the mercury is contaminated before being placed in the product (thermometer). If the contaminated mercury is shipped off-site for disposal, it would be a solid and hazardous waste identified as an off-specification commercial chemical product (listed waste U151) in 40 CFR Section 261.33. If, however, the mercury was sent for reclamation, it would not be defined as a solid waste (see 40 CFR Section 261.2(c)(3)(Table 1)). Therefore, the mercury would not be identified as listed waste U151 and a manifest would not be required in this case because Subtitle C of RCRA is not applicable to materials that are not defined as a solid waste (see 40 CFR Section 261.2).

In your second example, the broken thermometer has been used and meets the definition of a spent material in 40 CFR Section 261.1(c)(1). Spent material sent for reclamation is defined as a solid waste in 40 CFR Section 261.2(c)(3)(Table 1). The broken thermometer (mercury and glassware) could then

be further defined as a hazardous waste if it exhibits a characteristic of a hazardous waste (i.e., EP toxic, in which case it is hazardous waste D009). This determination is made either through the generator's knowledge of the characteristics of the waste or by subjecting the waste to the EP toxicity leaching procedure (refer to 40 CFR Section 262.11(c)).

Finally, in your third example, if the mercury-containing batteries and switches can be defined as spent materials as specified in 40 CFR Section 261.1(c)(1), the waste identification process used in example two above would apply.

As is always the case, a RCRA authorized State might have more stringent requirements so you should contact the appropriate state agency to determine what their regulations require.

If you have any additional questions, please contact Steve Cochran at (202) 475-8551.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Dellinger', with a long horizontal flourish extending to the left.

Robert W. Dellinger  
Chief, Waste  
Characterization Branch

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

9441.1988(47)

NOV 7 1988

Mr. Glen Maling  
Mid-Atlantic Regional Manager  
Sun Environmental, Inc.  
Building 11A  
Industrial Highway  
Eddystone, PA 19013

Dear Mr. Maling:

Thank you for your letter dated June 22, 1988, requesting the Agency to justify its reasoning of why your PCB dechlorination treatment process does not qualify for the totally enclosed treatment exemption. In our June 14, 1988, correspondence to you, the Agency stated that your treatment system would not meet the exemption because it was not connected to an industrial process. In your letter, you stated that you consider Phase I and Phase III of the PCBX treatment system and transformers as industrial production processes. Also, you have requested from the Agency:

- (1) Original documents submitted by Grede Foundry which shows a flow diagram of producing reusable metal from scrap material; and
- (2) Technical justification to differentiate between scrap metal material versus the reclamation of mineral oil.

After further reviewing your letter and reviewing the Resource Conservation and Recovery Act (RCRA), as amended, the Agency believes that your treatment system would not be regulated under RCRA because of section 261.6 (a)(3)(iii). This section states that used oil that exhibits one or more of the characteristics of hazardous waste but is recycled in some other manner than being burned for energy recovery is not presently subject to regulation under RCRA. Therefore, the question of whether your treatment system could qualify for the totally enclosed treatment exemption is a moot point.

- 2 -

Also, you requested process flow diagrams of the Grede Foundry's production of reusable metals. The Agency did not receive any process flow diagrams from the Grede Foundry, only the correspondence between Region V and headquarters that I believe you have already received.

In summary, the Agency believes that the treatment system is not subject to RCRA requirements and, therefore, the totally enclosed treatment exemption would not be applicable for your treatment system. I apologize if there was any inconvenience due to our response to your first letter.

Sincerely,

151

Sylvia K. Lowrance  
Director  
Office of Solid Waste

NOV 21 1988

MEMORANDUM

SUBJECT: Possible Applicability of RCRA Regulations to Fluff

FROM: Mitch Kidwell, Environmental Protection Specialist  
Waste Characterization Branch  
Office of Solid Waste (OS-332)

THRU: Robert W. Dellinger, Chief  
Waste Characterization Branch  
Office of Solid Waste (OS-332)

TO: Richard La Shier and Janis Johnson  
Chemical Regulation Branch  
Office of Toxic Substances

This memorandum is written to present the possible applicability of RCRA Subtitle C regulations to contaminated "fluff" residuals from ferrous metals recycling activities (in particular, automobile shredding).

As stated in the background document that was discussed at the October 28th workgroup meeting, the key constituents of concern in the fluff are PCBs and lead. PCBs are normally regulated under TSCA, and lead (and other hazardous metals which may also be found in the fluff) is potentially regulated under RCRA. Assuming the lead is in concentrations equal to or greater than the extraction procedure (EP) Toxicity value of 5.0 mg/l (see 40 CFR 261.24), the waste is a characteristic hazardous waste subject to Subtitle C provisions. The waste may also be characteristically hazardous for other heavy metals at varying concentrations (e.g., cadmium (1.0 mg/l) and chromium (5.0 mg/l)). Once the waste has been determined to be hazardous, it must either be treated until it no longer exhibits the characteristic (at which time it may be disposed in a Subtitle D facility), or it must be disposed in a RCRA Subtitle C facility. There are no exemptions applicable to shredder fluff.

We have been advised by Alec McBride, Chief of the Technical Assessment Branch, OSW, that for certain waste streams, a sampling and analysis method that accounts for the variability of constituents in the waste stream may be appropriate. One such method is presented in the attached draft guidance document for Municipal Refuse Incinerator Ash. This method, if adopted, may be used to determine the average property of the waste to assess whether the waste is hazardous by characteristic. We may want to consider using such a method to characterize shredder fluff because of the high variability of the constituent concentrations, depending on the feed material for any particular batch of fluff.

Also, should the fluff be determined to be hazardous, it may be subject to the Land Disposal Restrictions under 40 CFR 268.32 if it were to contain halogenated organic compounds (HOCs). Appendix III of Part 268 lists the HOCs (including PCBs) subject to the California list prohibitions, provided that the total HOCs are in concentrations of 1000 mg/kg or greater. Should the fluff be determined to be a hazardous waste and contain HOCs in concentrations equal to or greater than 1000 mg/kg, the fluff would have to meet the applicable treatment standard prior to placement on the land. The treatment standard applicable to HOCs is incineration in accordance with the requirements of Part 264 Subpart O or Part 265 Subpart O (or 40 CFR 761.70).

Finally, it should be noted that the so-called "hard hammer" for all hazardous wastes (listed and identified by characteristic as of November 8, 1984) falls on May 8, 1990. Under RCRA Section 3004 (g)(6)(C), unless EPA sets treatment standards that are protective of human health and the environment for a hazardous waste listed or identified (as of November 8, 1984) by May 8, 1990, the waste is prohibited from land disposal. Should the fluff be identified as a hazardous waste, it would have to meet the applicable treatment standard prior to placement on the land. (The treatment standard for lead is expected to be proposed in the Fall of 1989, for the last set of wastes subject to the Land Disposal Restrictions.)

Should you need further information, please contact me at 382-4805.

Attachment

DEC 6 1988

**MEMORANDUM**

SUBJECT: Regulatory Status of Solvent-Contaminated Wastestreams  
from a Pharmaceutical Manufacturer

FROM: Devereaux Barnes, Director  
Characterization and Assessment Division (OS-330)

TO: Arthur Moretta, UIC Control Program  
Water Division, Region V (5WD-TUB-9)

This memorandum is in response to your request for determination of the regulatory status of aqueous wastestreams generated at an Upjohn Company pharmaceutical facility in Kalamazoo, MI. All answers are based on our best understanding of the process flowsheets which you sent and the information which you provided over the telephone to my staff.

The spent solvent listings cover those streams that are used to solubilize or mobilize other constituents (e.g., for degreasing or fabric scouring, as diluents, extractants, reaction and synthesis media, and similar uses) and through such use, have become contaminated to the extent that they must be reclaimed prior to further use or reuse. See 50 FR 53315, December 31, 1985.

Use as a reactant or an ingredient in the manufacture or formulation of a commercial chemical product is not classified as a solvent use for the purpose of the RCRA hazardous waste listings F001 - F005. Therefore, spent materials from these "non-solvent" uses do not meet the listing descriptions for spent solvents. Also, process wastes that become contaminated with small amounts of solvents during processing are not within the scope of the spent solvent listings. An example of this is an aqueous effluent from a liquid-liquid extraction step, in which a solvent has been used to extract a product from the water and the water becomes contaminated with small amounts of solvent. In this example, the solvent is removed with the product and the solvent-contaminated water is not a spent solvent.



Based on our review of the data submitted, we have made the following determinations:

- o All streams being sent to disposal wells from the acetone, methanol, and methylene chloride recovery processes (pp. A, B, C, and D) either meet the listing description for spent solvents or are residuals derived from the treatment of spent solvents and therefore should be designated as an EPA hazardous waste (F001 - F005).
- o Those aqueous streams which result from liquid-liquid extraction steps involving solvents are considered process wastestreams and as such, do not meet the listing description for spent solvent streams (see above).
- o Filter press effluents such as the one exiting the unit designated "ST-110" (p. 2-1) are considered spent solvent streams because they consist of a solvent that was used as a carrier for the product in the filtration step. However, filter press effluents, such as the one exiting the filter designated "VF-" (p. 4-2) are process wastewater streams, not spent solvent streams, because water was introduced into the production process as the carrier for the product in filtration. In this configuration, the solvent was removed prior to filtration; the small quantity of solvent remaining in the system does not render the wastewater filter press effluent a spent solvent.
- o Rinse wastewaters, such as those from product or equipment rinsing steps (pp. 1-3, 2-1) are not considered spent solvents because they are process streams which may have become contaminated with organic solvents.

Although a particular waste stream may not meet the listing description for spent solvents, it may be hazardous if exhibits one or more of the hazardous characteristics described in 40 CFR 261.20-261.24. Certain states may also have special restrictions on the disposal of solvent-contaminated wastestreams.

Thank you for your inquiry. If you have any further questions, please contact Ron Josephson at FTS 475-6715.

Attachments

cc: Eric Callisto, OW/ODW (WH-550)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

DEC 7 1988

OFFICE OF  
SOLID WASTE AND EMERGENCY RESP

Mr. Phillip D. Stapleton  
Stapleton Company  
1350 West 12th Street  
Long Beach, California 90813

Dear Mr. Stapleton:

This letter is in response to your letter dated September 26, 1988 in which you asked several questions pertaining to your OMEGA EN Process.

In general, industrial plating operations vary greatly in layout and processes utilized. Identifying wastes generated from plating operations requires specific details on the individual process steps, which usually include pretreatment of the metal, application of the coating, and post treatment. Identifying applicable RCRA regulations for materials generated from reclamation of plating wastes is directly dependent upon waste identification at the point of generation, as well as specific information about further processing and the end use of the reclaimed material. Determining the RCRA status of units and facilities receiving the material is largely dependent on similar information.

Your letter did not provide sufficient information to specifically answer your questions. Even if you had provided the requisite information, the Agency could only give you hypothetical answers as to the general application of RCRA regulations. For each individual facility, the appropriate Region or RCRA authorized State will have to make the final determination as to the applicability of RCRA regulations based on an analysis of the actual facilities and processes. Regardless of their RCRA authorization status, States may impose regulations more stringent or broader-in-scope than those in 40 CFR Parts 260-270 as a matter of State law.

The following discussion outlines RCRA regulations that might apply to the OMEGA EN process. Where crucial information was not provided, I have made certain assumptions, which may not properly characterize your process, and discuss the applicable RCRA regulations for each assumption.

Whether the filter cake from the APU330 unit meets the F006 listing depends upon the particular plating process or processes at a generator's facility. Assuming that the APU330 device receives only wastes (such as bath solutions and/or rinse waters) from an electroless plating operation, the filter cake will not meet the listing for F006 or any other waste currently listed in 40 CFR Section 261.31 (51 FR 43351, December 2, 1986). However, if the APU330 device also receives bath solutions and/or rinse waters from an electroplating process, the filter cake may meet the F006 listing description, and its subsequent management is regulated under Subtitle C of RCRA. Further, the filter cake may be a listed hazardous waste if the cake meets other listing descriptions or is derived-from listed hazardous waste per 40 CFR Section 261.3(c)(2)(i) (e.g., F008 plating bath residues). The generator of these hazardous wastes must comply with Part 262 for each shipment of waste to Unit 2, and the Unit 2 facility is subject to a RCRA storage permit for hazardous waste storage prior to reclamation in Unit 2 as specified in Section 261.6(c)(1).

#### Solid Waste Identification

In order to determine whether or not the filter cake is a solid waste under Section 261.2, I have assumed that the filter cake is either a sludge or a spent material. Each of these assumptions is discussed below. Additional details are needed to address the regulatory status of the filter cake.

a. Assume the filter cake is a sludge. If the APU330 unit treats "dragout tank" wastewater, the filter cake may be a wastewater treatment sludge. Sludge is defined in Section 260.10. If the sludge meets a listing description or is derived from a listed waste, it is classified as both a solid waste and a listed hazardous waste. Listed sludges are solid wastes even when reclaimed, per Section 261.2(c)(3).

Assuming that the sludge (filter cake) exhibits a hazardous waste characteristic but is not listed, it is classified as a solid waste and is subject to RCRA Subtitle C regulation except when it is being reclaimed (Section 261.2(c)(3), Table 1).

No information was provided as to whether the filter cake exhibits a RCRA characteristic. If the filter cake exhibits no characteristic of a hazardous waste and is not listed, RCRA Subtitle C is not applicable. More stringent and broader-in-scope State laws and applicable Subtitle D regulations, however, will apply to the waste. Reclamation of

the filter cake in Unit 2 will generate new materials (other than products) that may need to be tested to determine whether Subtitle C applies.

b. Assume that the filter cake is a spent material. If the APU330 unit filters the plating bath and not the rinse waters, the filter cake may more properly be classified as a spent material than a sludge. The bath solutions being filtered are spent materials and the filter cake is derived from the spent materials. If the solutions were listed hazardous wastes, the cake would also be a listed hazardous waste (50 FR 619, Note 7, January 4, 1985). Again, if no RCRA characteristic is exhibited and no listing applies, RCRA Subtitle C regulations are not applicable. If the spent material does exhibit a characteristic, or is listed, and is sent for reclamation, it is identified and regulated as a hazardous waste (Table 1, Section 261.2(c)(3)).

#### Regulation of Unit 2

If Unit 2 is a legitimate recycling unit, it will not be regulated under Subtitle C when reclaiming sludges or spent materials, unless the reclamation process is analogous to land disposal or incineration (see 40 CFR 264.1(g)(2), 265.1(c)(6), and 50 FR 643, January 4, 1985). If Unit 2 is an incinerator and material is being recovered from a destruction process, Unit 2 is subject to the incinerator standards in Subpart O of Part 264 or 265 and to the requirement to obtain a RCRA permit, Part 270. Generators and transporters of recyclable materials are subject to the requirements of 40 CFR 261.6(b). Assuming that Unit 2 is a recycling unit, Section 261.6(c) specifies the RCRA requirements for the owner/operator.

#### Status of Calcium Phosphite/Calcium Sulfate

The regulatory status of the calcium phosphite/calcium sulfate reclaimed from Unit 2 will depend upon whether further processing of the calcium phosphite/calcium sulfate must be provided and whether it is a product (40 CFR Section 261.2(e)(ii)). Assuming that a fertilizer market exists, a calcium phosphite/calcium sulfate fertilizer product generated from Unit 2 would result in classifying the recycled materials as solid waste by Section 261.2(c)(1) (use constituting disposal). If Unit 2 were reclaiming a hazardous waste, the waste-derived commercial fertilizer produced for the general public's use out of Unit 2 would not presently be regulated per 40 CFR 266.23(a), provided they met the conditions of Section 266.20(b) (including any applicable treatment standards under 40 CFR Part 268).

If the calcium phosphite/calcium sulfate from Unit 2 were converted to a cooling/heating system corrosion inhibitor, the status of the calcium phosphite/calcium sulfate would depend on whether the material requires further processing. (On the distinction between a product and a waste see 50 FR 634, January 4, 1985.) If the calcium phosphite/calcium sulfate has only been partially reclaimed and must be reclaimed further, the calcium phosphite/calcium sulfate may still be considered a solid waste and a recyclable material. The recyclable materials reclaimed (or partially reclaimed) to form the calcium phosphite/calcium sulfate should be analyzed as described above for the filter cake.

#### Status of Nickel Hydrate

Based on the data provided, the nickel hydrate is partially reclaimed material that may or may not be a waste. If it has been reclaimed and only needs to be refined in the cook unit to form a commercial product, it may be more like a product than a waste (see 50 FR 634, January 4, 1985) and, thus, may not be subject to Subtitle C requirements unless used in a manner constituting disposal or incinerated. If the nickel hydrate is a waste, you may be able to apply for a variance from the definition of a solid waste under Section 260.30.

The above discussion was intended to provide the context in which the RCRA regulations may effect the operation of the OMEGA EN process. Because insufficient information was provided to make accurate determinations, a number of different assumptions had to be made to address each of the relevant issues. In addition, you asked that I respond to the following specific questions:

1) Can EPA issue a document stating that the material is a solid waste?

I have answered this question as best I can based on the information provided.

2) Will each generator of this filter cake require a delisting from each State with more stringent regulations than EPA?

The answer to this question depends on the individual State's requirements and their RCRA authorization status.

Questions about the delisting process can best be answered by referring to an EPA publication entitled Petitions to Delist Hazardous Wastes--A Guidance Manual (EPA 530/SW-85-003). This publication can be obtained by calling the National Technical Information Service (NTIS) at (703) 487-4650 and asking for publication number PB85-194488. Specific questions can be answered by contacting Terry Grogan, Chief, Delisting Section at EPA Headquarters, at (202) 382-4206.

3) What are the provisions for the filter cake to be shipped as a hazardous waste to our facility in Illinois, which is not required to have a hazardous waste treatment permit?

If the filter cake is identified as a hazardous waste, shipment of a hazardous waste off-site for recycling will subject the generator to 40 CFR Part 262 requirements (40 CFR Section 261.6(b)). The Illinois facility (Unit 2) will not be required to have a treatment permit if Unit 2 is a recycling facility (and not an incinerator or an industrial furnace). However, if there is any storage of the hazardous waste received from off-site prior to entering Unit 2, the facility will have to obtain a RCRA storage permit under Section 261.6(c).

4) Will Stapleton be required to become a hazardous waste treatment facility if it only processes its electroless nickel material and returns all the nickel back to the process?

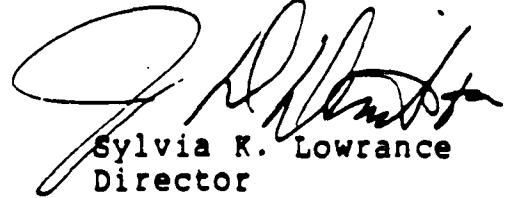
Again, facilities that recycle recyclable materials are not subject to RCRA treatment permit requirements. The storage of hazardous waste prior to recycling, however, subjects the facility to the requirement to obtain a RCRA permit (40 CFR Section 261.6(c)). If storage does not occur, then the general rule is that reclamation is regulated while recycling (without reclamation) is not.

Return of all nickel back to the process is a significant effort in waste minimization/reduction but does not affect the application of RCRA regulations in this instance. State regulations that are more stringent or broader-in-scope than the Federal regulations discussed herein should be addressed by the implementing State agency.

In closing, I would like to reiterate that the final determination as to the applicability of RCRA regulations for any specific facility must be made by the appropriate State and/or EPA Regional Office.

If you have any further questions or need additional information, please contact Steve Cochran at (202) 475-8551.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sylvia R. Lowrance', is written over the typed name and title.

Sylvia R. Lowrance  
Director  
Office of Solid Waste

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

FEB 7 1989

Mr. Robert A. Gallaher  
President  
Allied Aircraft Sales, Inc.  
P.O. Box 11816  
Tucson, Arizona 85734-1816

Dear Mr. Gallaher:

This letter is in response to your letter dated October 27, 1988, in which you request confirmation that dross from secondary aluminum smelting operations is not a solid waste when used as a feedstock in the manufacture of cement. I want to apologize for taking so long to respond. The questions you asked are difficult ones to answer without fairly extensive discussion.

As I understand your letter, you are interested in selling aluminum dross, a by-product of secondary aluminum smelting, for use in the manufacture of cement. The dross would be a surrogate source of  $Al_2O_3$ , which is apparently a necessary constituent in the formulation of cement. The normal source of this  $Al_2O_3$  is alumina-bearing clays. As such, your position is that the dross is not a solid waste, according to 40 CFR Section 261.2(e)(i) and (ii), because the dross is used or reused as an ingredient in an industrial process to make a product and is not being reclaimed and/or is used or reused as an effective substitute for commercial products. As you accurately state in your letter, if the dross is not a solid waste, it is not regulated as a hazardous waste.

There are several factual considerations that must be addressed before a determination can be made as to whether the dross is a solid waste when recycled in this manner. They include:

- the status of the secondary material (i.e., is the dross a listed or characteristic by-product);
-



- factors in Section 261.2(e)(i) and (ii) that must be considered, including whether reclamation occurs before use/reuse, whether the dross functions effectively as a raw material, and other factors indicative of legitimate recycling; and
- the end use of the cement (i.e., is the cement used in a manner constituting disposal by being placed on the land).

Each of these questions/factors will be discussed in the following paragraphs. Please be advised, however, that the discussion is theoretical in the sense that a final determination as to the regulatory status of the dross and whether it is subject to RCRA regulation, must be made by the appropriate EPA Regional Office or State based on the circumstances associated with the specific site(s) where the activities occur. It may also be the case that an individual State may have more stringent or broader-in-scope regulatory requirements.

The aluminum dross is a by-product as stated in your letter. There are no hazardous waste listings in 40 CFR Part 261 that would apply to aluminum dross, including the recently promulgated process mining waste listings (see 53 FR 35412, September 13, 1988). The assumption made herein is that the dross exhibits a characteristic of hazardous waste, probably EP toxicity for metals. If this assumption is not made, the dross is not regulated under Subtitle C of RCRA and further interpretation is not needed.

Regarding the existing mining waste exclusion in Section 261.4(b)(7) (i.e., solid wastes which are not hazardous wastes), Allied Aircraft Sales, Inc. describes the dross as being from secondary aluminum smelting. The existing exclusion covers certain wastes from the processing of ores and minerals, but only covers situations where the feedstock to the smelter is at least 50% ore or mineral (see 53 FR 41290, October 20, 1988). It is assumed that most of the feedstock is scrap aluminum (greater than 50% scrap); therefore, the mining waste exclusion would not apply to the dross.

In order for Allied Aircraft Sales, Inc. to claim that the dross is not a solid waste per Section 261.2(e)(i) or (ii), the dross must be directly used as an ingredient or substitute without being reclaimed (see 50 FR 619, January 4, 1985). Since you state that the cement manufacturer will "introduce aluminum dross directly into the raw kiln feed", I assume no prior reclamation will occur. Assuming that the dross is being

directly used as a feedstock, it must be determined if the aluminum dross functions as an ingredient in the cement and if use of the dross to produce cement yields distinct components as separate end products, and thus constitutes reclamation. You have indicated that the dross is used to replace  $Al_2O_3$  used in the clay, but have not indicated whether distinct components are formed.

Another consideration in determining whether Section 261.2(e) applies is how contaminated the dross is relative to the clay for which it substitutes. An example of sham use may be using sludges containing high concentrations of heavy metals to form cement (see 50 FR 638). You provided no data on the hazardous constituents in the aluminum dross. It would also be important to know how much variability there might be in different batches of dross and whether the dross is used only in amounts necessary for the production process.

Assuming that the dross does not contain high levels of hazardous constituents relative to the clays normally used, and is used only in necessary amounts, I would likely conclude that Section 261.2(e)(i) or (ii) applies (as claimed in your letter), and that the dross is not a solid waste when so used. However, EPA makes it clear that hazardous secondary materials (e.g., spent materials, sludges, by-products, and scrap metal) used as ingredients in waste-derived products that will be placed on the land are solid wastes (Section 261.2(c)(1) and 50 FR 619). It is conceivable that Portland cement might be used in situations where it is applied directly to the land (e.g., building foundation materials, see 50 FR 628). A characteristically hazardous secondary material would be regulated as a solid and hazardous waste up until the formation of product (50 FR 647).

It may be difficult to ascertain the end uses of the cement each time a hazardous secondary material is used as an ingredient. The preamble to the January 4, 1985 Federal Register states clearly, however, that if a secondary material is to be ultimately used in formulating a product to be placed on the land, then it is a solid waste from the point of generation, through transportation, and including any storage prior to being used in formulating a product. The Agency has temporarily deferred regulation of these waste-derived products applied to the land (50 FR 646), provided the product used in a manner constituting disposal meets applicable land disposal restriction standards (Section 266.20(b)). Although the product is not regulated, the use as disposal on land continues to subject the secondary material used to form the product to regulation as a solid and hazardous waste, notwithstanding the fact that Section 261.2(e)(i) or (ii) would otherwise classify qualifying dross as not being solid waste.

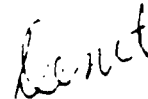
As a final note, in your letter you referred to "fly ash as a constituent in cement" (from 50 FR 619) as an example given by EPA of using or reusing secondary materials as feedstocks in production processes. According to the description given in the May 6, 1987 Federal Register (52 FR 16987), cement kilns produce large amounts of particulate emissions (fly ash) which are often returned to the kiln. Not only is this ash probably very similar to what is already in the kiln, it is specifically exempt from RCRA as well (Section 261.4(b)(8)). Thus, the fly ash example may not be directly applicable to the use/reuse of aluminum dross.

In summary, Section 261.2(e) is likely to be applicable to the dross if it is not reclaimed, if it is an effective substitute, and if the product formed is not applied to the land. No data is provided on the amount or type of hazardous constituents in the dross. If toxic metals are involved, you should determine how the levels of toxic metals in the dross differ from those found in the clays normally used.

In closing, I would like to reiterate that the final determination as to the regulatory classification of the dross and the extent of regulation under RCRA, if any, for a particular site or operation must be made by the appropriate EPA Regional Office or State.

If you have any additional questions or need further clarification, please call Steve Cochran at (202) 475-9715.

Sincerely,



Sylvia K. Lowrance  
Director  
Office of Solid Waste



## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

FEBRAURY 89

**1. Coke and Coal Tar Recyclable Material Requirements**

A facility owner/operator "blends" decanter tank tar sludge from coking operations (K087) with purchased creosote (a diluent) to use as a fuel in an open hearth furnace to produce steel. Since creosote is derived from coal tar, would this K087/creosote fuel meet the exclusion in 40 CFR Section 261.6(a)(3)(vii) for coke and coal tar from the iron and steel industry that contains K087?

No. The exclusion in Section 261.6(a)(3)(vii) applies only to the coke and coal tar fuels that are derived from K087 waste. Coke is the residue from the destructive distillation of coal. The coke serves as both a fuel and a reducing agent in iron and steel production processes. Some coke plants recover by-products given off or created during the coke production process. The recovery of the by-products generates the tar decanter sludge, K087.

During the recovery of the volatile organics in the by-product coke production process, tar separates by condensation from coke oven gas and drains into a decanter tank. The tar sludge settles to the bottom of the tank

FEBRUARY 89

**1. Coke and Coal Tar Recyclable Material Requirements (Cont'd)**

and is regulated as K087 (see Figure 1). K087 is considered hazardous because of the high levels of phenol and naphthalene which are toxic to humans and aquatic life (see *Listing Background Document for K087*).

Some coke plants use the decanter tank tar sludge (K087) as a raw material in either the sintering process or open hearth furnace operations. The sludge can be recycled by mixing it with coal before it is charged to a coke oven to produce coke (Figure 1). The coke product is then used as a fuel in steel blast furnaces. Additionally, the sludge is sometimes mixed back into the coal tar by-product which is also frequently used as a fuel.

In the January 11, 1985 Federal Register (50 FR 1684), the EPA proposed to exempt coke and coal tar fuel derived from K087 if sufficient data was provided to EPA to demonstrate that contaminants in the recycled waste did not add significant concentrations of contaminants to the coke fuel product (50 FR 1689-1690). The exemption was proposed to be applied narrowly and only to fuel products containing hazardous waste that was generated by the production process itself. The exemption would only apply to the coke and coal tar hazardous waste fuel. It would not apply to fuels containing other wastes and would not apply to wastes before they are reintroduced into the production process. Thus, generators would have to comply with the storage requirements of 40 CFR 262.34 or the facility standards per 40 CFR 264/265 (50 FR 1689-1690).

In the November 29, 1985 Federal Register, the EPA finalized the exemption for K087 waste derived coke (a hazardous waste fuel) and the exemption of coal tar produced from coal tar decanter sludge (see Figure 1). Coke and coal tar fuels derived from K087 are excluded from regulation when used to produce coke because the contaminants levels in the coke do not appreciably increase by recycling the tar sludge (K087). Both of these waste derived fuels are exempt per 40 CFR 261(a)(3)(vii) (see 50 FR 49170- 49171).

Therefore, in this situation, where the decanter tank tar sludge (K087) is mixed or blended with purchased creosote, the exemption would not apply because coal tar is not being recycled and no coke fuel is derived (see Figure 2). The owner or operator of the process in question is mixing hazardous waste (K087) with creosote. The burning of this hazardous waste would be subject to the incinerator regulations under 40 CFR Part 264/265 Subpart O.

Source: Dwight Hlustick (202) 382-7926  
Research: Renee Pannebaker (202) 382-3000

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

FEBRUARY 89

**2. Drip Gas Exclusion**

Drip gas is collected from a natural gas line located at the production site. Is this condensate exempt from being a hazardous waste pursuant to 40 CFR 261.4(b)(5)?

According to 40 CFR 261.4(b)(5), "Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy..." are not subject to regulation as hazardous wastes under Subtitle C of RCRA. Therefore, if the drip gas is collected from lines that are associated with movement of the natural gas on-site (i.e. the exploration, development, or production site) then the drip gas is exempt from being a hazardous waste. An example is drip gas from gathering lines on the production site that lead to an on-site central storage tank.

On the other hand, if the drip gas is collected from lines that are used for the off-site movement of natural gas, the drip gas is not excluded under 40 CFR 261.4(b)(5). For example, drip gas collected from lines used to transport natural gas from the production site to an off-site distribution center would not be excluded under 40 CFR 261.4(b)(5).

The rationale behind this on-site/off-site distinction arises from the legislative history of RCRA Section 3001(b)(2)(A) which is directed to "...drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas...." The legislative history discusses "other wastes" as follows:

The term "other wastes associated" is specifically included to designate waste materials intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil, natural gas or geothermal energy. It would cover such substances as: hydrocarbon bearing soil in and around related facilities; drill cuttings; and materials (such as hydrocarbons, water, sand, and emulsion) produced from a well in conjunction with crude oil, natural gas or geothermal energy; and the accumulated material (such as hydrocarbons, water, sand and emulsion) from production separators, fluid treating vessels, storage vessels, and production impoundments.

The phrase "intrinsically derived from the primary field operations" is intended to differentiate exploration, development, and production operations from transportation (from the point of custody transfer or of production separation and dehydration) and manufacturing operations.

FEBRUARY 89

## 2. Drip Gas Exclusion (Cont'd)

EPA has outlined 3 criteria as a test of whether a particular waste qualifies for the exemption.<sup>1</sup> The criterion that addresses the on-site/off-site issue is as follows:

Drilling fluids, produced waters, and other wastes intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil, natural gas or geothermal energy are subject to exemption. Primary field operations encompass production-related activities but not transportation or manufacturing activities. With respect to oil production, primary field operations encompass those activities usually occurring at or near the wellhead, but prior to the transfer of oil from an individual field facility or a centrally located facility to a carrier (i.e., pipeline or trucking concern) for transport to a refinery or to a refiner.

With respect to natural gas production, primary field operations are those activities occurring at or near the wellhead or at the gas plant but prior to the point at which the gas is transferred from an individual field facility, a centrally located facility, or a gas plant to a carrier for transport to market. Primary field operations encompass the primary, secondary, and tertiary production of oil or gas.

Wastes generated by the transportation process itself are not exempt because they are not intrinsically associated with primary field operations. An example would be pigging waste from pipeline pumping stations. Transportation (for the oil and gas industry) may be for short or long distances....

Thus, drip gas collected from lines associated with transport of natural gas from the production site to an off-site distribution center would not be covered by the exemption.

<sup>1</sup>See "Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy," Report to Congress, December 1987, pp. 7-8. A listing of wastes covered by the exemption appears in EPA's "Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes," 53 FR 25446 (July 6, 1988).

Source: Mike Fitzpatrick (202) 475-6783  
Research: Kenneth Leigh Mitchell, Ph.D. (202) 382-3000



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 27 1989

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Ronald B. L. Jones  
Environmental Consulting  
15 Hollow Road  
Watertown, Connecticut 06795

Dear Mr. Jones:

This letter responds to your February 13, 1989 letter (and subsequent phone call) regarding the regulatory status of flue dust and metal hydroxide sludge under Subtitle C of the Resource Conservation and Recovery Act (RCRA). Specifically, you request a clarification concerning the regulatory status of flue dust and metal hydroxide sludge being recycled by two different methods: 1) reclamation for metal content, and 2) use as a micronutrient in fertilizer.

It is my understanding that your client, a brass mill, generates two EP toxic characteristic waste sludges. These are: 1) a flue dust generated by an air pollution control device (defined as a "sludge" in 40 CFR 260.10), and 2) a metal hydroxide sludge generated by an on-site wastewater treatment unit. Neither waste is a RCRA listed hazardous waste and your client has concerns about the proper management for the characteristic hazardous wastes.

As the table at 40 CFR 261.2(c) states, a characteristic sludge is not a solid waste (and thus, not a hazardous waste) when reclaimed. This status applies at the point of generation (i.e., if the sludge is to be reclaimed, it is not a solid waste and, therefore, not regulated under RCRA Subtitle C, unless it is accumulated speculatively). You should note that section 261.2(f) requires the generator to document his/her claims that a certain material is not a solid waste.

On the other hand, the same table states that both listed and characteristic sludges that are placed on the land or incorporated into a product that is applied to the land (i.e., used in a manner constituting disposal) are solid wastes (and thus are hazardous wastes). As section 261.2(e)(2) states, even materials that are recycled by use or reuse as ingredients to make a product are solid wastes (and if applicable, hazardous wastes) when such recycling involves use constituting disposal. This status applies at the point of generation (and, thus, storage of the wastes prior to such use or reuse is subject to



regulation under RCRA Subtitle C). [NOTE: For characteristic sludges, if the product placed on the land no longer exhibits a hazardous characteristic, the product would not be a hazardous waste (a solid waste derived from the treatment of characteristic hazardous waste, such that it no longer exhibits a characteristic, ceases to be a hazardous waste).]

You should also be aware that State and local regulations are also applicable, and may differ from Federal regulations. You should contact the State regulatory agency, as well as the appropriate EPA Regional office to determine the applicable regulations.

Should you require further information, you may call the RCRA Hotline at 1-800-424-9346, or Mitch Kidwell, of my staff, at (202) 475-8551.

Sincerely,

A handwritten signature in dark ink, appearing to read "R. W. Dellinger", with a stylized flourish at the end.

Robert W. Dellinger  
Chief  
Waste Characterization Branch

MAR 27 1989

James E. Johnson  
President  
SAFCO Environmental  
1255 South 188th  
Seattle, Washington 98148

Dear Mr. Johnson:

This letter responds to your February 13, 1989 letter concerning the regulatory requirement for a Resource Conservation and Recovery Act (RCRA) storage permit for facilities engaged in hazardous waste recycling activities. In particular, you ask whether a storage permit is required for your recycling of hazardous wastes by blending, mixing, physical separation, or distillation without prior storage of the hazardous wastes.

The Agency does not require a storage permit for activities where no storage occurs. For example, if a hazardous waste is received at the recycling facility and immediately fed directly into the recycling process (i.e., no storage occurs), then a RCRA storage permit would not be required. In your letter, you state that you have heard that a holding time of 24 hours is allowed prior to the waste being directly fed into the recycling process. Federal regulations do not specify an allowable "holding time" prior to the waste being introduced to the recycling process; however, the appropriate EPA Regional office or authorized State regulatory agency may specify such a holding time on a site-specific basis, defining a time at which storage begins. As you stated, some States and Regions do allow up to 24 hours for the off-loading of a hazardous waste into the recycling process before the waste is considered to be stored, thus requiring a storage permit.

I should also point out to you that hazardous waste fuel blending tanks are subject to storage regulations. As the April 13, 1987 Federal Register notice specifically states, tanks used for blending hazardous waste fuels or for settling out impurities are subject to regulation as storage tanks, and are not exempt recycling units (see 52 FR 11820).

In your letter, you also raised a question on the possibility of case-by-case regulation of recycling activities under 40 CFR 261.6(c). As you noted, case-by-case regulation of

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certain recycling activities is already provided for under 40 CFR 260.40. The Agency is not currently planning to modify these regulations; however, EPA is reevaluating the regulations applicable to recycling activities and may determine that regulatory amendments are necessary to encourage environmentally protective recycling.

Finally, you should be aware that local and State governments may have applicable regulations that differ from Federal regulations. You should contact your State regulatory agency, as well as the appropriate EPA Regional office for specific answers about your recycling activities.

Sincerely,



Matthew A. Straus  
Deputy Director  
Characterization and  
Assessment Division

Dr. Peter Landrum  
Research Chemist  
Great Lakes Environmental  
Research Laboratory  
2205 Commonwealth Boulevard  
Ann Arbor, MI 46105-1593

Dear Dr. Landrum:

This letter is in response to your letter of January 4, 1989 to Dr. Southerland regarding the disposal of sediment samples. As I understand, most samples are only tested with a bioassay, and the chemical composition is often unknown.

According to 40 CFR 261.4(d)(1), samples collected for the sole purpose of testing are not subject to any requirements under the regulations for hazardous waste management. In addition, under 40 CFR 261.5(a), if the waste generated is less than 100 kg per month, the generator is conditionally exempt as a small quantity generator and may accumulate up to 1000 kg of waste on the property without being subject to the requirements of the hazardous waste regulations.

These two exclusions are for the Federal regulations; state regulations may be more stringent. In those cases, state requirements must also be met.

I hope this addresses your concerns. If you have any questions on this issue, please call Ossi Meyn at 202/382-6977.

Sincerely,

Devereaux Barnes, Director  
Characterization & Assessment  
Division



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 2 1989

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPON

Wm. Roger Truitt  
Schmeltzer, Aptaker and Sheppard, P.C.  
2600 Virginia Avenue NW, Suite 1000  
Washington, D.C. 20037-1905

Dear Mr. Truitt:

This letter responds to your April 4, 1989 request for clarification of the regulatory status under Subtitle C of the Resource Conservation and Recovery Act (RCRA) of your client's metal galvanizing process residues.

As I understand your client's process, metals parts are placed in a kettle of molten zinc (the first step in the galvanizing process) and then placed in a chromic acid quenching bath for chrome passivation. During this process, zinc and charcoal residues are carried over from the molten zinc bath into the chromic acid bath (the passivation solution). As a result of this continuous process, fine particles of chrome-coated zinc and charcoal accumulate in the passivation solution. These particles settle out of the passivation solution and are then partially dewatered and reintroduced to the molten zinc kettle as a substitute for raw material feedstock for the process. These chrome-coated zinc and charcoal particles would otherwise be considered hazardous wastes because they exhibit a hazardous characteristic (chromium).

You presented three different regulatory interpretations that would exclude these secondary materials from regulation as a hazardous waste. Based on the information you supplied in your letter, I concur that these secondary materials are not solid wastes; however, I will only respond with the most straightforward regulatory provision that excludes these materials from regulation as a solid waste, namely, 40 CFR 261.2(c)(3), which states that a by-product exhibiting a characteristic of hazardous waste that is being reclaimed is not a solid waste.

Based upon the information in your letter, the particles of chrome-coated zinc and charcoal meet the definition of a by-product found at 40 CFR 261.1(c)(3). The dewatering process of the accumulated by-product is defined as reclamation (see 40 CFR 261.1(c)(4)). Thus, the chrome-coated particles are reclaimed from the liquid portion of the by-product to make those particles available for use in the zinc kettle (or, as

- 2 -

stated in your letter, more amenable for reintroduction into the process). As 40 CFR 261.2(c)(3) states, a by-product, hazardous solely because it exhibits a characteristic of a hazardous waste, that is reclaimed, is not defined as a solid waste and, therefore, is not a hazardous waste.

You should be aware that State and local regulatory agencies may have applicable regulations that differ from the Federal regulations. Also, you should contact the appropriate EPA Regional Office or State regulatory agency for a more specific determination regarding your client's facility. Should you have further questions, please contact the RCRA Hotline at (202) 382-3000, or Mitch Kidwell, of my staff, at (202) 475-8551.

Sincerely,



Robert W. Dellinger  
Chief  
Waste Characterization Branch

APR 5 1989

Adrienne J. Bzura  
Corporate Counsel  
Old Bridge Chemicals, Inc.  
P.O. Box 194  
Old Bridge, New Jersey 08857

Dear Ms. Bzura:

This letter responds to your March 21, 1989 correspondence requesting a written determination on the regulatory status of material known as "drove" by the brass industry. Specifically, you requested a statement that drove is considered a "scrap metal" under the Resource Conservation and Recovery Act (RCRA).

Based on the description of drove provided in the National Association of Recycling Industries (NARI) Circular, I cannot conclusively state that drove, in the generic sense, is a scrap metal as defined in 40 CFR 261.1(c)(6), although some components of drove may meet the regulatory definition of scrap metal.

Similarly, based on the NARI description and information gathered in phone conversations, drove would not be considered a "spent material" under RCRA. And, provided that the drove is not derived from a pollution control device (e.g., the drove is not mixed with bag house dust), it would also not be a "sludge." Drove most clearly fits the description of either a co-product or a by-product. Because the distinction between the two classifications is not always clearly defined, I will only address the scenario of drove being classified as a by-product.

As stated at 40 CFR 261.2(c)(3), a non-listed by-product (i.e., a by-product that exhibits a characteristic of hazardous waste defined at 40 CFR Part 261 Subpart C) that is reclaimed is not a solid waste under RCRA. As you stated in our phone conversation, all of the drove is reclaimed and, therefore is not defined as a solid waste (and, thus, not a hazardous waste). [NOTE: Because the regulatory status is the same whether a material is a reclaimed non-listed by-product or a co-product, the distinction is moot.]

You should note that State and local regulatory agencies may have applicable regulations that differ from Federal regulations. You should also contact your State regulatory agency, as well as the appropriate EPA Regional office for further information on the regulatory status of the drive.

For more information, please contact the RCRA Hotline at 1-800-424-9346, or the EPA Region II office. You may also call me at (202) 382-4805.

Sincerely,

Mitch Kidwell  
Environmental Protection Specialist  
Review Section





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 14 1989

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Elizabeth W. Rovers  
Project Engineer  
C.T. Male Associates, P.C.  
50 Century Hill Drive  
P.O. Box 727  
Latham, New York 12110

Dear Ms. Rovers:

This letter responds to your March 15, 1989 request for clarification of the regulatory status of your client's plastic packing media removed from an air stripping tower that is treating groundwater contaminated with the F001 solvent trichloroethylene (TCE). In particular, you asked how the "derived from" rule applies to the plastic media (i.e., is the media a hazardous waste?) and whether the media, even when treated to non-detectable levels, would have to be delisted to lose its status as a hazardous waste.

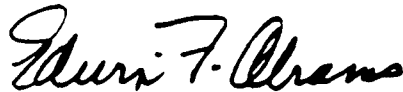
The plastic packing media, when removed from the air stripping tower for disposal, is considered a spent material that is subject to regulation as a hazardous waste because it contains a hazardous waste (i.e., F001). The "derived from" rule (40 CFR 261.3(c)(2)) is not directly applicable because the plastic packing media is considered to be an integral part of the treatment process, not a solid waste residue derived from the treatment of a hazardous waste. Therefore, when the media no longer contains the hazardous waste, it no longer is considered to be a hazardous waste and may be disposed in a Subtitle D landfill. The plastic packing media does not need to be delisted; however, the burden of demonstrating that the media no longer contains a hazardous waste remains.

You also stated that your client intends to treat the TCE-contaminated plastic packing media to non-detectable levels by volatilization. You did not provide enough information on this aspect of the process for me to determine whether a permit is required; however, I can state that volatilization does constitute treatment, as defined at 40 CFR 260.10. I urge you to contact the appropriate EPA Regional office, as well as the State

regulatory agency to determine whether a permit is required. Also, you should be aware that State and local governments may have applicable regulations that differ from Federal regulations. You should contact the State regulatory agency to determine whether other regulations are also applicable.

Should you need further general information, you may contact the RCRA Hotline at 1-800-464-9346, or Mitch Kidwell, of my staff, at (202) 382-4805. For questions specific to your client's facility, you should contact the appropriate EPA Regional office and the State regulatory agency.

Sincerely,

*for*   
Robert W. Dellinger, Chief  
Waste Characterization Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 26 1989

OFFICE OF  
SOLID WASTE AND EMERGENCY ACTION

MEMORANDUM

SUBJECT: F006 Recycling

FROM: Sylvia K. Lowrance, *[Signature]* Director  
Office of Solid Waste (OS-300)

TO: Hazardous Waste Management Division Directors  
Regions I-X

It has come to the attention of EPA Headquarters that many of the Regions and authorized States are being requested to make determinations on the regulatory status of various recycling schemes for F006 electroplating sludges. In particular, companies have claimed that F006 waste is being recycled by being used as: (1) an ingredient in the manufacture of aggregate, (2) an ingredient in the manufacture of cement, and (3) feedstock for a metals recovery smelter. The same company may make such requests of more than one Region and/or State. Given the complexities of the regulations governing recycling vs. treatment and the definition of solid waste, and the possible ramifications of determinations made in one Region affecting another Region's determination, it is extremely important that such determinations are consistent and, where possible, coordinated.

Two issues are presented. The first issue is whether these activities are legitimate recycling, or rather just some form of treatment called "recycling" in an attempt to evade regulation. Second, assuming the activity is not sham recycling, the issue is whether the activity is a type of recycling that is subject to regulation under sections 261.2 and 261.6 or is it excluded from our authority.

With respect to the issue of whether the activity is sham recycling, this question involves assessing the intent of the owner or operator by evaluating circumstantial evidence, always

a difficult task. Basically, the determination rests on whether the secondary material is "commodity-like." The main environmental considerations are (1) whether the secondary material truly has value as a raw material/product (i.e., is it likely to be abandoned or mismanaged prior to reclamation rather than being reclaimed?) and (2) whether the recycling process (including ancillary storage) is likely to release hazardous constituents (or otherwise pose risks to human health and the environment) that are different from or greater than the processing of an analogous raw material/product. The attachment to this memorandum sets out relevant factors in more detail.

If the activity is not a sham, then the question is whether it is regulated. If F006 waste is used as an ingredient to produce aggregate, then such aggregate would remain a solid waste if used in a manner constituting disposal (e.g., road-base material) under sections 261.2(c)(1) and 261.2(e)(2)(i) or if it is accumulated speculatively under section 261.2(e)(2)(iii). Likewise, the F006 "ingredient" is subject to regulation from the point of generation to the point of recycling. The aggregate product is, however, entitled to the exemption under 40 CFR 266.20(b), as amended by the August 17, 1988, Land Disposal Restrictions for First Third Scheduled Wastes final rule (see 53 FR 31197 for further discussion). However, if the aggregate is not used on the land, then the materials used to produce it would not be solid wastes at all, and therefore neither those materials nor the aggregate would be regulated (see section 261.2(e)(1)(i)).

Likewise, cement manufacturing using F006 waste as an ingredient would yield a product that remains a solid waste if it is used in a manner constituting disposal, also subject to section 266.20(b). There is an additional question of whether the cement kiln dust remains subject to the Bevill exclusion. In order for the cement kiln dust to remain excluded from regulation, the owner or operator must demonstrate that the use of F006 waste has not significantly affected the character of the cement kiln dust (e.g., demonstrate that the use of F006 waste has not significantly increased the levels of Appendix VIII constituents in the cement kiln dust leachate). [NOTE: This issue will be addressed more fully in the upcoming supplemental proposal of the Boiler and Industrial Furnace rule, which is pending Federal Register publication.]

For F006 waste used as a feedstock in a metals recovery smelter, the Agency views this as a recovery process rather than use as an ingredient in an industrial process and, therefore, considers this to be a form of treatment that is not currently regulated (see sections 261.2(c) and 261.6(c)(1)). Furthermore, because this is a recovery process rather than a production process, the F006 waste remains a hazardous waste (and must be

managed as such prior to introduction to the process), and the slag from this process would normally be considered a "derived from" F006 waste. However, for primary smelters, the slag may be considered subject to the Bevill exclusion provided that the owner or operator can demonstrate that the use of F006 waste has not significantly affected the hazardous constituent content of the slag (i.e., make a demonstration similar to the one discussed above for the cement kiln dust). [NOTE: In the supplemental proposal of the Boiler and Industrial Furnace rule noted above, the Agency will be proposing a definition of "indigenous waste" based on a comparison of the constituents found in the waste to the constituents found in an analogous raw material. Should the F006 waste meet the definition of an "indigenous waste," the waste would cease to be a waste when introduced to the process and the slag would not be derived from a hazardous waste.]

Also, you should be aware that OSW is currently reevaluating the regulations concerning recycling activities, in conjunction with finalizing the January 8, 1988 proposal to amend the Definition of Solid Waste. While any major changes may depend on RCRA reauthorization, we are considering regulatory amendments or changes in regulatory interpretations that will encourage on-site recycling, while ensuring the protection of human health and the environment.

Headquarters is able to serve as a clearinghouse to help coordinate determinations on whether a specific case is "recycling" or "treatment" and will provide additional guidance and information, as requested. Ultimately, however, these determinations are made by the Regions and authorized States. Attached to this memorandum is a list of criteria that should be considered in evaluating the recycling scheme. Should you receive a request for such a determination, or should you have questions regarding the criteria used to evaluate a specific case, please contact Mitch Kidwell, of my staff, at FTS 475-8551.

Attachment

## CRITERIA FOR EVALUATING WHETHER A WASTE IS BEING RECYCLED

The difference between recycling and treatment is sometimes difficult to distinguish. In some cases, one is trying to interpret intent from circumstantial evidence showing mixed motivation, always a difficult proposition. The potential for abuse is such that great care must be used when making a determination that a particular recycling activity is to go unregulated (i.e., it is one of those activities which is beyond the scope of our jurisdiction). In certain cases, there may be few clear-cut answers to the question of whether a specific activity is this type of excluded recycling (and, by extension, that a secondary material is not a waste, but rather a raw material or effective substitute); however, the following list of criteria may be useful in focusing the consideration of a specific activity. Here too, there may be no clear-cut answers but, taken as a whole, the answers to these questions should help draw the distinction between recycling and sham recycling or treatment.

- (1) Is the secondary material similar to an analogous raw material or product?
  - o Does it contain Appendix VIII constituents not found in the analogous raw material/product (or at higher levels)?
  - o Does it exhibit hazardous characteristics that the analogous raw material/product would not?
  - o Does it contain levels of recoverable material similar to the analogous raw material/product?
  - o Is much more of the secondary material used as compared with the analogous raw material/product it replaces? Is only a nominal amount of it used?
  - o Is the secondary material as effective as the raw material or product it replaces?
- (2) What degree of processing is required to produce a finished product?
  - o Can the secondary material be fed directly into the process (i.e., direct use) or is reclamation (or pretreatment) required?
  - o How much value does final reclamation add?

- 3) What is the value of the secondary material?
- o Is it listed in industry news letters, trade journals, etc.?
  - o Does the secondary material have economic value comparable to the raw material that normally enters the process?
- (4) Is there a guaranteed market for the end product?
- o Is there a contract in place to purchase the "product" ostensibly produced from the hazardous secondary materials?
  - o If the type of recycling is reclamation, is the product used by the reclaimer? The generator? Is there a batch tolling agreement? (Note that since reclaimers are normally TSDFs, assuming they store before reclaiming, reclamation facilities present fewer possibilities of systemic abuse).
  - o Is the reclaimed product a recognized commodity? Are there industry-recognized quality specifications for the product?
- (5) Is the secondary material handled in a manner consistent with the raw material/product it replaces?
- o Is the secondary material stored on the land?
  - o Is the secondary material stored in a similar manner as the analogous raw material (i.e., to prevent loss)?
  - o Are adequate records regarding the recycling transactions kept?
  - o Do the companies involved have a history of mismanagement of hazardous wastes?
- (6) Other relevant factors.
- o What are the economics of the recycling process? Does most of the revenue come from charging generators for managing their wastes or from the sale of the product?
  - o Are the toxic constituents actually necessary (or of sufficient use) to the product or are they just "along for the ride."

These criteria are drawn from 53 FR at 522 (January 8, 1988); 52 FR at 17013 (May 6, 1987); and 50 FR at 638 (January 4, 1985).

**APR 27 1989**

Mr. Gene Rideout  
Systems Manager  
Dangerous Goods Consultants  
P.O. Box C.P. 283  
Roxboro, Quebec H8Y 3E9

Dear Mr. Rideout:

This response addresses your letters dated August 30, 1988, February 7, 1989, and March 15, 1989, regarding the lab sample exclusion found in 40 CFR Section 261.4(d). It is our understanding that you wish to transport via private or company vehicle samples of hazardous waste from Canada into the United States for analysis. You question whether the samples that you are shipping must be managed as hazardous waste in the United States. You would also like to know if it is acceptable to use a personal or company automobile to transport the sample material in the United States.

Based upon the information that you have provided, it appears that the samples are being handled and shipped in a manner that is outlined in the lab sample exclusion (40 CFR 261.4(d)). Therefore, these samples are exempt from the federal hazardous waste regulations including the hazardous waste import requirements as outlined in 40 CFR 262, Subpart E and 40 CFR 264.12. In addition, as long as each shipment is in compliance with the lab sample exclusion, including the documentation and packaging requirements of 261.4(d)(2)(ii), as well as U.S. Department of Transportation regulations, that may apply, and any other applicable regulations, the mode of transportation used is at your discretion.

Please be aware that the applicability of the Resource Conservation and Recovery Act in a particular State may be different; therefore, you should contact any RCRA authorized State through which you may travel.



- 2 -

If you have any further questions or need additional information, please contact Emily Roth of my staff at (202) 382-4777.

Sincerely,

Matthew Straus, Deputy Director  
Characterization and  
Assessment Division

!!  
OSW-332-ED-RSCC-8801-LM-4/12/89-RIDEOUT  
LM-4/14/89 RIDEOUT  
LM-4/24/89 RIDEOUT

MAY 17 1989

Mrs. Phyllis A. Shay  
3700 Petre Road  
Springfield, OH 45502

Dear Mrs. Shay:

Thank you for your letter of April 7, 1989 to the Administrator. We understand your concerns about the disposal of scrap amalgam fillings from dentists in the United States and the health effects of amalgam on dental patients. We appreciate your bringing to our attention your personal experience with amalgam.

The Agency defines as hazardous any solid waste which has been listed as a hazardous waste or meets any of four hazardous characteristics; ignitability, corrosivity, reactivity, and extraction procedure (EP) toxicity. Dental amalgam contains mercury and silver. If discarded, dental amalgam can be a hazardous waste if mercury and silver are extracted by the EP test, and are present above certain concentrations. The maximum permitted concentration of mercury in the extract is 0.2 milligrams per liter (Mercury has been assigned EPA hazardous waste number D009.). The maximum permitted concentration of silver in the extract is 5.0 milligrams per liter (Silver has been assigned EPA hazardous waste number D011.).

- 2 -

The hazardous waste regulations (promulgated under the Resource Conservation and Recovery Act (RCRA)) also provided special, reduced regulations for generators of small quantities of hazardous waste. The regulations define "small quantity generator" as one generating less than 1,000 kg of hazardous waste in a month and "conditionally exempt small quantity generator" as one generating less than 100 kg of hazardous waste in a month. Most dentists would probably generate much less than 100 kg (about 220 pounds) of dental amalgam a month and be classified as a conditionally exempt small quantity generator.

Thus, your concerns are about generators who are most likely exempt from the hazardous waste regulations. Some dentists presently send their unused and waste dental amalgam to scrap metal dealers for recycling. I suggest that you contact your local health department to see if they could coordinate with dentists to send amalgam to a central location or locations for recycling.

Sincerely,

Robert W. Dellinger  
Chief  
Waste Characterization Branch  
Office of Solid Waste (OS-332)

cc: (AX)

Administrator's correspondence office  
disk:f chau 8801:"amalgam":5/15/89

MAY 31 1989

John R. Sims, Jr.  
Sims, Walker & Steinfeld, P.C.  
Suite 875  
1275 K Street, N.W.  
Washington, D.C. 20005

Dear Mr. Sims:

This is in response to your letter of May 2, 1989, in which you ask for a determination of the regulatory status of the absorbent rags that have been used to wipe up the crude oil resulting from the spill of crude oil from the Exxon tanker Valdez. We cannot conclude that the rags are not a hazardous waste from the information provided. We can advise you on the process whereby you determine the status of your waste. Furthermore, our Region X office in Seattle, Washington, may be able to provide assistance in confirming your determination should that be necessary.

As you mention in your letter, you discussed the contaminated rags with Ms. Roth of this office via telephone on several occasions. Ms. Roth referred you to the Code of Federal Regulations (CFR) governing the determination and regulation of hazardous waste, specifically, 40 CFR Part 261 - Identification and Listing of Hazardous Waste. The crude oil contaminated rags are not listed in 40 CFR Part 261, Subpart D, as a hazardous waste; therefore, you must determine whether they meet any of the characteristics of hazardous waste as presented in Part 261, Subpart C. Ms. Roth indicated that the characteristic that the rags would likely exhibit is that of ignitability as defined in Section 261.21; however, you must determine if the rags meet any of the characteristics as defined in Part 261, Subpart C. If they do not exhibit any of the characteristics, then the absorbent rags would not be considered a hazardous waste under federal regulation.

You also indicate that you have discussed the regulatory status of the rags with the appropriate authorities in each of the three states involved in the transport of the contaminated rags. If the waste is determined not to meet the definition of hazardous waste according to the Federal regulations as described above and is managed in accordance with all state regulations, then the method of containment and transportation is at your discretion.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D C 20460

AUG 16 1989

MEMORANDUM

SUBJECT: Final Monthly Report—RCRA/Superfund Industry Assistance  
Hotline and Emergency Planning and Community Right-To-Know  
Information Hotline Report for May 1989

FROM: Thea McManus, Project Officer  
Office of Solid Waste

*Thea McManus*

TO: See List of Addressees

This report is prepared and submitted in support of Contract #68-01-7371.

I. SIGNIFICANT QUESTIONS AND RESOLVED ISSUES—MAY 1989

A. RCRA

1. Medical Waste-Household Medical Waste

According to Section 259.30(b)(1)(ii) of the Medical Waste Tracking regulations (54 FR 12374), household waste is not regulated as medical waste. Would this exemption apply to household waste generated by health care providers in private homes?

Household waste, as defined in Subtitle C regulations (40 CFR Section 261.4(b)), is excluded from the definition of medical waste in RCRA Section 1004(40), and is not subject to the requirements of the demonstration program. The November 13, 1984 Federal Register (49 FR 44978) stated that the exclusion is limited to waste generated by individuals on the premises of a residence, for individuals and composed primarily of materials found in waste generated by consumers in their homes. Thus, if domestic waste is generated by individuals at a residence, it is "household waste" and thus excluded from this program. Medical waste generated in homes by home health care providers thus is "household waste." Because the household wastestream is excluded, the waste generated by a health care provider in private homes would not be subject to the tracking or management requirements even when the waste is removed from the home and transported to the physician's place of business.

Source: Becky Cuthbertson (202) 475-6713  
Research: Kim Jennings (202) 382-3112

JUN 6 1989

Julie Wanslow  
Hazardous Waste Section  
NMEID  
1190 Saint Francis Street  
Santa Fe, N.M. 87503

Dear Ms. Wanslow:

In response to your phone conversation of March 22, 1989, with Mike Fitzpatrick of my staff, we have prepared the following explanations to clarify the boundaries of the oil field RCRA exemption as discussed in the December 1987 EPA Report to Congress (RTC) and given final definition in the July 1988 regulatory determination.

The scope of the exemption as defined in the RTC and regulatory determination is based on the legislative history and Sections 3001(b)(2)(A) and 8002(m) of RCRA. Using these sources the Agency has identified three separate criteria to be used when defining specific waste streams that are exempt. These criteria are listed on pages II-18 and II-19 of the RTC (enclosed.)

In regard to pipeline or gathering line-related wastes, the following excerpts from the criteria in the RTC may prove helpful:

"Primary field operations encompass those activities occurring at or near the well head, but prior to the transport of oil from an individual field facility or a centrally located facility to a carrier (i.e., pipeline or trucking concern) for transport to a refinery or to a refiner.... Waste generated by the transportation process itself are not exempt because they are not intrinsically associated with primary field operations.... Transportation for the oil and gas industry may be for short or long distances." [emphasis added].

According to the Manual of Oil and Gas Terms (sixth edition) there are many terms in common usage within the industry and applied to the various pipelines associated with oil and gas production and transportation (see enclosed definition of "pipeline"). Feeder lines may or may not be exempt depending on the point of custody transfer or other

site-specific factors relating to transportation from the primary field operation as defined in the RTC. Although the Agency used the term "gathering line" in the RTC in reference to a generally small diameter pipe within a primary field operation, the term "gathering line" itself should not be used as the determining factor in defining the scope of the exemption. Rather, the applicability of the criteria in the RTC to the particular line in question should be used in determining the scope of the exemption.

As for gas plant cooling tower wastes, the July 6, 1988, regulatory determination identifies "cooling tower blowdown" as exempt and "gas plant cooling tower cleaning wastes" as non-exempt. The difference between the two is that blowdown is comprised only of water, scale or other wastes generated by the actual operation of the cooling tower; whereas cleaning wastes include any solvents, scrubbing agents or other cleaning materials introduced into the process solely to remove buildup or otherwise clean the equipment and are not included as part of the functional operation of the cooling tower. Since these cleaning wastes can come from any cooling tower, they are not intrinsically derived from primary field operations for natural gas production. The determining factor for defining the exemption is not the frequency with which the cooling tower is blown down, either with or without cleaning agents, but whether the resulting waste is solely derived from the normal operation of the tower for natural gas production or from any added cleaning materials.

I trust these explanations will enable you to better determine the scope of the RCRA exemption as applied to the specific waste streams within your jurisdiction. If you have any further questions please contact Mike Fitzpatrick at (202) 475-6783.

Sincerely,

Dan Derkics  
Chief  
Large Volume Waste Section

Enclosure

cc: Mike Fitzpatrick  
Ivy Main, Office of General Counsel

June 15, 1989

Michael Lodick  
President  
North Coast Associates, Inc.  
361 Delaware Avenue, Suite 405  
Buffalo, New York 14202

Dear Mr. Lodick:

This letter responds to your March 20, 1989 letter to Ms. Wendy Grieder in the Office of International Activities. In your letter, you requested confirmation from U.S. EPA that the export of a secondary material not deemed to be a waste is not subject to notice requirements under the U.S.-Canadian Bilateral Treaty. The secondary materials of concern in this case are spent abrasives from sandblasting which may or may not exhibit the hazardous characteristic for lead (D008) as found at 40 CFR 261.24. You claim that these secondary materials are used, without prior reclamation, as a substitute for silica, aluminum and iron in the manufacture of Portland cement and that these materials contain only contaminants that are similar to and no greater than those found in the analogous raw materials.

The regulatory status of these secondary materials depends upon several factors. If indeed these secondary materials are legitimate substitutes for an analogous raw material, the next consideration is how these materials are being recycled. In this case, the secondary materials most likely are being used in a manner constituting disposal (i.e., the Portland cement manufactured from these secondary materials will be, or is likely to be, placed on the land). As stated at 40 CFR 261.2(e)(2)(i), materials used in a manner constituting disposal are solid wastes (and thus, if hazardous, hazardous wastes). Therefore, if these secondary materials do, in fact, exhibit a hazardous characteristic, they must be managed as a hazardous waste, including manifest requirements.

As a hazardous waste requiring a manifest, such secondary material is subject to the export notification requirements under the U.S.-Canadian Bilateral Treaty, even though such materials may not be considered a waste in Canada. Were such materials to be recycled in the same manner in this country, the recycling facility (i.e., the cement manufacturer) would be



- 2 -

required ~~have~~ a RCRA storage permit. However, assuming the cement ~~no~~ exhibited a characteristic, the cement would not be a hazardous waste. If the cement did exhibit a hazardous characteristic, it would be subject to 40 CFR Part 266 Subpart C.

On the subject of the responses you received from Michigan and Pennsylvania, States are required to provide equivalent (i.e., at least as stringent) regulations as the Federal program to obtain authorization. Therefore, authorized State requirements must cover, at a minimum, all hazardous wastes covered by the Federal program. If the appropriate personnel in the State regulatory agencies wish to discuss the conclusions presented in this letter, I would be happy to accommodate them. Also, should you have any further questions regarding the Federal regulatory status of the spent abrasive material, you may contact me at (202) 382-4637.

Sincerely,

Matthew A. Straus  
Deputy Director  
Characterization and  
Assessment Division

JUN 19 1989

Mr. Thomas C. Jorling  
Commissioner  
Department of Environmental Conservation  
State of New York  
Albany, New York 12233-1010

Dear Mr. Jorling:

I am writing in response to your letter of May 5, 1989, in which you ask numerous questions concerning the regulatory status, under the Resource Conservation and Recovery Act (RCRA), of environmental media (ground water, soil, and sediment) contaminated with RCRA-listed hazardous waste.

As you point out in your letter, it is correct that the Agency's "contained-in" interpretation is that contaminated environmental media must be managed as if they were hazardous wastes until they no longer contain the listed waste, or are delisted. This leads to the critical question of when an environmental medium contaminated by listed hazardous waste ceases to be a listed hazardous waste. In your letter, you discuss three possible answers (based on previous EPA positions and documents) which you believe address this question, and request the Agency to clarify its interpretation. Each of these is discussed below.

The first possible answer you cite would be that the contaminated media would be a hazardous waste unless and until it is delisted, based on the "mixture" and "derived-from" rules. As you correctly state in your letter, a waste that meets a listing description due to the application of either of these rules remains a listed hazardous waste until it is delisted. However, these two rules do not pertain to contaminated environmental media. Under our regulations, contaminated media are not considered solid wastes in the sense of being abandoned, recycled, or inherently waste-like as those terms are defined in the regulations. Therefore, contaminated environmental media cannot be considered a hazardous waste via the "mixture" rule (i.e., to have a hazardous waste mixture, a hazardous waste must be mixed with a solid waste per 40 CFR 261.3(a)(2)(iv)). Similarly, the "derived-from" rule does not apply to contaminated media. Our basis for stating ~~contaminated environmental media must be managed as hazardous wastes~~ is that they "contain".....

listed hazardous waste. These environmental media must be managed as hazardous waste because, and only as long as, they "contain" a listed hazardous waste, (i.e., until decontaminated).

The second possibility you mention is that environmental media contaminated with a RCRA listed waste no longer have to be managed as a hazardous waste if the hazardous constituents are completely removed by treatment. This is consistent with the Agency's "contained-in" interpretation and represents the Agency's current policy.

The third possibility you discuss comes from Sylvia Lowrance's January 24, 1989, memorandum that you cited in your letter. This memorandum indicates that OSW has not issued any definitive guidance as to when, or at what levels, environmental media contaminated with listed hazardous waste are no longer considered to contain that hazardous waste. It also states that until such definitive guidance is issued, the Regions may determine these levels on a case-specific basis. Where this determination involves an authorized State, such as New York, our policy is that the State may also make such a determination.

Related to such a determination, you ask whether a risk assessment approach that addressed the public health and environmental impacts of hazardous constituents remaining in treatment residuals would be acceptable. This approach would be acceptable for contaminated media, but would not be acceptable for "derived-from" wastes under our current rules. Additionally, consistent with the statute, you could substitute more stringent standards or criteria for contaminated environmental media than those recommended by the Federal EPA if you determined it to be appropriate.

The Agency is currently involved in a rulemaking effort directed at setting de minimis levels for hazardous constituents below which eligible listed wastes, treatment residuals from those wastes, and environmental media contaminated with those listed wastes would no longer have to be managed as hazardous wastes. The approach being contemplated in the De Minimis program would be similar to that used in the proposed RCRA Clean Closure Guidance in terms of the exposure scenario (direct ingestion), the management scenario (not in a waste management unit), and the levels (primarily health-based).

Your final question related to whether the "remove and decontaminate" procedure set forth in the March 19, 1987 Federal Register preamble to the conforming regulations on closing surface impoundments applies when making complete removal determinations for soil. These procedures do apply when one

chooses to clean close a hazardous waste surface impoundment by removing the waste. The preamble language states that the Agency interprets the term "remove" and "decontaminate" to mean removal of all wastes, liners, and/or leachate (including ground water) that pose a substantial present or potential threat to human health or the environment (52 FR 8706). Further discussion of these requirements is provided in a clarification notice published on March 28, 1988, (53 FR 1144) and in OSWER Policy Directive # 9476.00-18 on demonstrating equivalence of Part 265 clean closure with Part 264 requirements (copy enclosed).

I hope that this response will be helpful to you in establishing and implementing New York's hazardous waste policies on related issues. Should you have additional questions, please contact Bob Dellinger, Chief of the Waste Characterization Branch at (202) 475-8551.

Sincerely yours,

Jonathan Z. Cannon  
Acting Assistant Administrator

OS-305/DELLINGER/D.BARTOSH - 382-4646/SLD/6-2-89/CONTROL  
NO: AX891796/DUE DATE: 6-5-89/CONTROL #26(WORDPERFECT)/NAME:  
JORLING

JUN 30 ---

Dr. William H. McBeath  
Executive Director  
American Public Health Association  
1015 Fifteenth Street, N.W.  
Washington, D.C. 20005

Dear Dr. McBeath:

Thank you for your letter of June 7, 1989, in which you requested information regarding the disposal of dental amalgam. More specifically, you requested that the Environmental Protection Agency (EPA) send you information on:

1. "a recent EPA ruling concerning dental amalgam";
2. how EPA determined that amalgam is a hazardous substance;
3. the extent of improper recycling of amalgam; and
4. any plans EPA may be making to develop rules for the disposal of amalgam and to educate dentists about "the environmental technology that is applicable and effective in the recycling and disposal of dental amalgam."

First, we believe that your reference to a recent EPA ruling concerning dental amalgam may be explained by the enclosed letter of May 17, 1989, from Robert W. Dellinger of EPA to Phyllis A. Shay.

As a secondary material that is being disposed of, amalgam is defined as a solid waste under the Resource Conservation and Recovery Act (RCRA). EPA defines as hazardous any solid waste that has been listed as a hazardous waste or that meets any of the four hazardous characteristics: ignitability, corrosivity, reactivity, and extraction procedure (EP) toxicity. Dental amalgam is not specifically listed as a hazardous waste under

14

Federal regulations. Therefore, the generator of waste dental amalgam is responsible for determining whether it exhibits any of the four hazardous characteristics. Since dental amalgam contains mercury and silver, it may exhibit EP toxicity.

Please bear in mind that many State and local regulatory agencies have their own hazardous waste regulations, which may differ from Federal regulations. We strongly encourage generators of waste to contact their State regulatory agencies to determine what, if any, State regulations are applicable.

We have neither received information on nor examined the extent of improper recycling of dental amalgam that may be occurring. At this time, we do not plan to develop specific rules for the disposal of dental amalgam. We believe that the past enclosed guidance on the hazardous waste regulatory requirements provides sufficient information to enable small quantity generators to comply with the requirements.

Thank you for your interest in hazardous waste management. If you have further questions about the identification of waste, you may call the RCRA Hotline at 1-800-424-9346, Edwin Abrams, of my staff, at (202) 475-8551.

Sincerely yours,

Jonathan Z. Cannon  
Acting Assistant Administrator

Enclosures

OS-305/DELLINGER/J.OCALLAGHAN - 382-4646/LS/6-26-89/CONTROL  
NO: AX892155/DUE DATE: 6-23-89/DISK #29/NAME: MCBEATH  
FOLLOW-UP RESPONSE



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 6 1989

Michael S. Giannotto  
Shea & Gardner  
1800 Massachusetts Avenue, Northwest  
Washington, D.C. 20036

Dear Mr. Giannotto:

This is in response to Magma Copper Company's petition of December 16, 1988, requesting a clarification of the K064 hazardous waste listing, acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production. You contend that the K064 listing does not apply to Magma's waste which is generated during primary smelting operations.

In your petition you state that Magma's acid plant blowdown (APB) is a wastestream that results from the processing of off-gases from the flash furnaces and converters used to smelt copper. The APB is piped to a totally enclosed tank called a "tailings agitator" where it is mixed and neutralized with large volumes of alkaline tailings from Magma's beneficiation process. The tailings/blowdown mixture is then piped to on-site tailings ponds. You state that there is no stage or operation at Magma where acid plant blowdown is thickened. Also, you state that the blowdown is never sent to dedicated lagoons for settling and no portion of Magma's blowdown becomes a slurry/sludge which is recycled back to the smelter for processing. You further state that the APB does not undergo any process that concentrates potentially hazardous constituents in a sludge or slurry. Finally, although this fact does not effect whether the waste in question meets the listing description, you provided information on the concentration of hazardous constituents in the APB and APB/tailings mixture which indicate that these wastes do not fail the EP toxicity test.

Based on the information provided in your petition as described above, and assuring its accuracy the Agency does not believe that Magma's APB or APB/tailings mixture meets the K064 listing description. Therefore, the Agency does not formally need to rule on your petition. It is our understanding that

based on this representation Magma will voluntarily discontinue its  
petition for review (No. 89-1266) in the United States Court of  
Appeals for the District of Columbia Circuit.

I hope this letter has addressed your concerns.

Sincerely,

Jonathan Z. Cannon  
Acting Assistant Administrator

cc: Eldon D. Helmer, Magma Copper Company  
Andrew A. Brodkey, Magma Copper Company



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 6 1989

Mr. Kenneth A. Rubin  
Morgan, Lewis, and Bocklious  
1800 M Street, Northwest  
Washington, D.C. 20036

Dear Mr. Rubin:

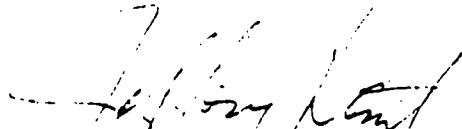
This is in response to your letter dated May 22, 1989, regarding Tri-State Mint, Inc. and whether the spent cyanide solution they disposed of onto C Avenue in an industrial park area of Sioux Falls, South Dakota is EPA Hazardous Waste No. F007 (Spent cyanide plating bath solutions from electroplating operations). In making this determination, it is first necessary to determine whether the process used by Tri-State Mint in generating this waste is an electroplating operation.

In a previous memorandum to the Denver Regional Office, it was indicated that the process used by Tri-State Mint was an electroplating process. However, upon further evaluation, we believe that the process is not an electroplating operation within the scope of the F007 listing, but a metals recovery operation. While the operation appears similar and the residues contain similar constituents, it is materially quite different. In particular, electroplating includes those operations where the metal is plated or coated with a thin surface onto a base material by electrode decomposition to provide protection against corrosion, to increase wear or erosion resistance, or for decorative purposes. The solutions that are used generally contain low concentrations of the metal ions. At Tri-State Mint, the operation is not designed to coat or plate a base material per se, but to recover silver ions selectively from other impurities in the cyanide bath. These solutions are usually more concentrated with metal ions than those used in an electroplating process. In your letter, you compare the process used at Tri-State Mint to electrowinning which is a metal refining process defined as the recovery of rather pure forms of metal from a solution by means of electrolysis. To the extent that Tri-State in fact uses a process for recovering silver, we agree that the operation used by Tri-State Mint that generated the waste in question is not electroplating within the scope of the F007 listing. As a result, the waste that was disposed of by Tri-State Mint would not be EPA Hazardous Waste No. F007.

In making this determination, it should be noted that the waste in question may still be hazardous if it exhibits any of the hazardous waste characteristics; if this is the case, the disposal of the cyanide solution onto C Avenue would have to comply with the interim status or permit requirements of Subtitle C of the Resource Conservation and Recovery Act (RCRA). It should also be noted that the determination made today is solely an interpretation of an existing listing regulation; EPA is not providing Tri-State with an exemption from any liability under RCRA, the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), or the Emergency Planning and Community Right to Know Act. Finally, you should also be aware that States may impose regulations that are more stringent than the Federal regulations. Thus, the State of South Dakota may consider Tri-State Mint Inc's cyanide solution to be listed hazardous waste.

If you have any questions on this matter, please feel free to call Mr. Matthew A. Straus at (202) 382-4637.

Sincerely,



Jeffery Denit, Deputy Director  
Office of Solid Waste



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 3 1 1989

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Joe Haake  
Hazardous Waste Coordinator  
Dept. 441C, Mail Code 0801800  
McDonnell Douglas  
P.O. Box 516  
Saint Louis, Missouri 63166-0516

Dear Mr. Haake:

This responds to your May 9, 1989 request for a regulatory interpretation regarding the "recycling" of unused off-specification jet fuels into new jet fuel. You state in your letter that the waste fuel is not a spent material because it has never been used, resulting instead from the overflow during fueling and from fuel drained from tanks/lines following testing. However, because of the stringent military fuel specifications, it cannot be used as jet fuel without reclamation or reprocessing.

Although you currently manage the off-spec fuel as a hazardous waste (D001), you intend to sell the fuel to a refining company as a feedstock to produce jet fuel. You therefore believe that as an ingredient in an industrial process, the off-spec fuel would not be a solid waste. However, as I understand from your letter, the Missouri Department of Natural Resources (MDNR) believes that as a material used to produce a fuel, the off-spec fuel would remain a solid waste.

EPA Headquarters does not agree with either interpretation. In particular, we believe that the "recycling" activity described in your letter is not "use as an ingredient in an industrial process." Although the off-spec fuel may go through a manufacturing process, the activity is best characterized as reclamation (i.e., the jet fuel that does not meet the purity specifications is reprocessed into jet fuel meeting the required purity specifications).

Also, MDNR's regulatory interpretation, as stated in your letter, differs from the Federal interpretation. While MDNR states that because the material is being used to produce a fuel (i.e., burning for energy recovery) it remains a solid waste, the Agency considers the material's original intended purpose when commercial chemical products are involved. Under the existing regulations, commercial chemical products (or off-spec commercial chemical products) that are reclaimed are not solid waste even if the material is used to produce a fuel if that is the materials intended purpose. Thus, this off-spec jet fuel, if used to produce jet fuel, is not a solid waste (i.e., an off-spec fuel is being reclaimed to be used as a fuel -- its intended purpose). Although the regulatory language found at

40 CFR 261.2(c)(2)(ii), which states that in such cases a commercial chemical product is not a solid waste if it itself is a fuel, only addresses commercial chemical products listed in section 261.33, it is implicit in the rules that the same reasoning applies to commercial chemical products that are not listed. A clarifying discussion of this is found in the April 11, 1986 Federal Register notice (50 FR at 14219), the technical correction notice to the January 4, 1985 Definition of Solid Waste final rule (50 FR 614).

The Agency's interpretation is that you are reclaiming an off-specification commercial chemical product (which would otherwise be a hazardous waste because it exhibits a characteristic of a hazardous waste) for its intended purpose and, therefore, is not a solid waste. Although the reclaimed commercial chemical product is burned for energy recovery, it is not a solid waste because this was its intended purpose.

The State of Missouri is authorized to implement the hazardous waste program under RCRA and may promulgate State regulations or make regulatory interpretations that are more stringent than Federal regulations or interpretations. You must also comply with MDNR's regulations.

Should you have further questions of a more general nature, you may contact the RCRA Hotline at 1-800-424-9346, or Mitch Kidwell, of my staff, at (202) 475-8551. For questions of a more site-specific nature, you should contact the Missouri Department of Natural Resources and the EPA Region VII office.

Sincerely,



Devereaux Barnes  
Director  
Characterization and  
Assessment Division

cc: Kenneth J. Davis  
Missouri Department of Natural Resources

Lynn Harrington, Chief  
Permits Branch  
Region VII



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

AUG 2 1989

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

James T. Allen, Ph.D.  
Chief  
Alternative Technology Section  
Toxic Substances Control Division  
Department of Health Services  
714/744 P Street  
P.O. Box 942732  
Sacramento, California 94234-7320

Dear Mr. Allen:

This letter responds to your February 6, 1989, correspondence requesting written confirmation of the regulatory status of chlorofluorocarbons (CFCs) used as refrigerants under the Resource Conservation and Recovery Act (RCRA).

As a spent material being reclaimed for reuse, the spent CFCs meet the definition of solid waste under Federal regulations (see 40 CFR 261.2). However, to meet the definition of hazardous waste and, thus, be subject to Subtitle C of RCRA, the spent CFCs must either be specifically listed as a hazardous waste, or must exhibit one or more of the characteristics of a hazardous waste.

Certain CFCs that are used for their solvent properties are listed as hazardous wastes when spent (see EPA Hazardous Waste Nos. F001 and F002 at 40 CFR 261.31). Also, certain CFCs that are unused commercial chemical products are listed hazardous wastes when discarded (see 40 CFR 261.33). However, CFCs used as refrigerants, do not meet any of the hazardous waste listings. Thus, a used CFC refrigerant is a hazardous waste only if it exhibits one or more of the characteristics of a hazardous waste.

On July 28, 1989, published a Federal Register notice (54 FR 31335) that clarified the applicability of RCRA Subtitle C regulations to CFC refrigerants (see enclosure). This notice also announced the availability of data relating to whether CFC refrigerants exhibit a characteristic of a hazardous waste. In determining whether the CFC refrigerant to be recycled is a hazardous waste because it exhibits a characteristic of a hazardous waste, a generator may cite the Federal Register notice to demonstrate that such materials do not exhibit a hazardous characteristic under normal operating conditions.

- 2 -

Should you have any further questions regarding the applicability of RCRA Subtitle C regulation to the recycling of CFC refrigerants, you may contact Mitch Kidwell, of my staff, at (202) 475-8551.

Enclosure

Sincerely,

A handwritten signature in black ink, appearing to read "MJP", is written over the typed name.

Michael J. Petruska  
Acting Chief  
Waste Characterization Branch

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

9441.1989(42)

AUG 4 1989

Donald G. Everist, P.E.  
Cohen, Dippell and Everist, P.C.  
1015 15th Street, N.W.  
Suite 703  
Washington, D.C. 20005

Dear Mr. Everist:

Thank you for your letter of June 5, 1989, requesting a finding on whether depleted mixtures of ethylene glycol and water from heat exchangers are regulated by the Environmental Protection Agency (EPA). If these mixtures are intended for disposal, they are regulated as "solid waste" by the Resource Conservation and Recovery Act (RCRA).

Per authority provided by RCRA, EPA has developed a Federal regulatory scheme for the proper treatment, storage, and disposal of hazardous waste, a subset of solid waste. We have enclosed a copy of the Federal hazardous waste regulations as found in the Code of Federal Regulations (CFR).

The waste coolant you have described is not listed as a hazardous waste under EPA's hazardous waste regulations (40 CFR 261.30). However, as a generator of a solid waste, you are still obligated to determine either from knowledge of the waste coolant or by appropriate testing of the waste (40 CFR 261.20) whether your waste exhibits sufficient properties of ignitability, corrosivity, reactivity, or EP toxicity to render them characteristically hazardous and thus subject to control under the Federal hazardous waste regulations.

If your waste coolant fails to exhibit one or more of the hazardous characteristics, then your waste is deemed to be a nonhazardous, solid waste. There are no Federal regulations for nonhazardous waste generators. You should, however, inquire about State and local regulations that may apply to your waste coolant.

We appreciate your efforts to dispose of these wastes responsibly. If you have any further questions about Federal regulations applicable to the coolant mixture, please contact Robert Dellinger of my staff at (202) 475-8551.

Sincerely yours,

Jonathan Z. Cannon  
Acting Assistant Administrator

Enclosure

OS-305/DELLINGER/J.OCALLAGHAN - 382-4646/SLD/7-10-89/CONTROL  
NO:SWER-89-0810/DUE DATE: 7-10-89/DISK #27/NAME: EVERIST



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

9441.1939(43)

AUG 17 1989

Joseph E. Micucci, D.D.S.  
Bellevue Medical Building  
660 Lincoln Avenue  
Pittsburgh, Pennsylvania 15202

Dear Dr. Micucci:

This letter responds to your July 30, 1989, request for information regarding the regulatory status of scrap dental amalgam under the Resource Conservation and Recovery Act (RCRA) and potential liability under section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). These issues will be addressed separately.

Dental amalgam is not specifically listed as a hazardous waste under RCRA. The burden on the generator is to then determine whether the amalgam exhibits a characteristic of a hazardous waste. You indicated in your letter that the American Dental Association (ADA) has conducted research that indicates that amalgam does not exhibit the characteristic of EP toxicity. If true, the amalgam would not be a hazardous waste. However, the responsibility for determining the regulatory status of a waste is borne by the individual generator (who may cite the ADA research as applying knowledge of his waste in determining the regulatory status).

You also state that your collections of amalgam for recycling or refining are not expected to exceed 100 kg per month. A generator (in this case, the dentist or dental supply house) of less than 100 kg per month of total hazardous waste (not any one particular hazardous waste) or 1 kg per month of acute hazardous waste is considered a conditionally exempt small quantity generator. The wastes generated by such a generator is exempt from regulation provided the generator complies with the provisions found at 40 CFR 261.5. If, however, the amalgam is not a hazardous waste, this exempt status would not apply since there would be no need for the exemption.

Regarding your potential liability under section 107 of CERCLA, ~~this~~ liability is not dependent upon a material's RCRA regulatory status. Rather, section 107 states that in the event of a release or threatened release of a hazardous substance, any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment of hazardous substances owned or possessed by such person shall be liable for the costs of response. This liability is based upon a person's

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

- 2 -

contribution to the release or threatened release of hazardous substances, not necessarily "wastes," although hazardous wastes are certainly included) as defined under section 101(14) of the CERCLA statute. Should your dental amalgam be composed of any constituents that meet the definition of CERCLA hazardous substances, and there is a release from the reclamation facility (or disposal facility) that received your amalgam, you may be subject to joint and several liability in an enforcement action. However, each enforcement action is case-specific and liability would be determined by the implementing agency in coordination with the principle responsible parties.

The regulatory status of amalgam provided in this letter applies to Federal regulations. State regulations may be more stringent, and I encourage you to contact your State regulatory agency for an interpretation of the applicable State regulations. Should you have any further questions regarding the status or CERCLA liability of your scrap amalgam, you may contact the RCRA/CERCLA Hotline at 1-800-424-9346, or may contact Mitch Kidwell, of my staff, at (202) 475-8551.

Sincerely,

Michael J. Petruska  
Acting Chief  
Waste Characterization Branch

!!  
OS-332-MITCH-PDISK-MK-8/16/89-WCB023

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

9441.1989(47)

AUG 25 1989

Mr. Jack H. Goldman  
Manager, Environmental Services  
The Aluminum Association, Inc.  
900 19th Street, Northwest  
Washington, DC 20006

Dear Mr. Goldman:

This is in response to your letter of August 4, 1989 concerning your request that the Agency: (1) adopt your November 9, 1988 proposed exclusion for spent potliner in place of the Agency's definition in the March 3, 1989 letter to Kaiser Aluminum; and (2) adopt the characteristic test per your November 1988 petition for those portions of spent potliner that are not excluded from Subtitle C regulation by your proposal.

In your letter you state that you partially agree with the Agency's March 3, 1989 letter to Kaiser in which EPA determined that only the carbon portion of the material contained inside the electrolytic reduction cell constituted the "potliner" and that the K088 listing did not include the six other materials identified by Kaiser Aluminum as contained in the "pot" (i.e., the cell's steel shell, steel collector bars, cast iron used to place steel collector bars in pre-baked carbon blocks, thermal insulation composed of insulating brick or alumina, the silicon carbide brick side walls and end walls of the pot, and frozen aluminum metal pad and electrolytic bath). However, you indicated that by excluding the insulation from the scope of the potliner listing, this material would "thereby not be regulated as a hazardous waste under Subtitle C of RCRA". It appears that you have misinterpreted the March 3, 1989 letter to Kaiser Aluminum.

The purpose of the March 3, 1989 letter was to clarify the scope of the K088 listing only and provided no interpretation regarding the regulatory status of these other materials under Subtitle C. In fact, these wastes would be considered hazardous if they exhibit any of the characteristics of hazardous wastes as defined in 40 CFR 261. Specifically, the Agency's clarification of the K088 listing would not exclude portions of the pot containing "significant levels of free cyanide" since such waste <sup>CONCURRENCE</sup> be expected to exhibit the

SYMBOL	characteristic for reactivity.CAD					
SURNAME	OS-433	OS-333	Marshall	DB		
DATE	8/23/89	8/23/89	8/23/89	8/23/89		

Your request for adoption of the Association's proposed exclusion under §261.4 and a characteristic test for materials not covered by the exclusion was made in your comments to the September 13, 1988 final rule to list six smelting wastes as hazardous. This request will be addressed in the near future in a Federal Register notice in which we will respond to all of the issues raised in petitions submitted on the smelting waste listing rule. To address these issues, however, the Agency must propose to grant or deny the petitions and take public comment on our proposed response before a final action can be taken.

I hope this letter has clarified our earlier determination on the scope of K088 and the status of materials not covered by the listing. Should you have any additional questions, please feel free to call Denise Wright at 245-3519.

Sincerely,

Sylvia K. Lowrance  
Director  
Office of Solid Waste



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

**MEMORANDUM**

SEP 12 1989

SUBJECT: Laclede Steel Company, Alton, Illinois  
(ILD 006 280 606)

FROM: *S* Matthew Straus, Deputy Director *DB*  
Characterization and Assessment Division

TO: David A. Ullrich, Associate Director  
Office of RCRA  
Waste Management Division

This memorandum is in response to your memorandum dated July 25, 1989 in which you request our review and determination of the regulatory status of waste produced by Laclede Steel Company, which manufactures specialty carbon and alloy steel from scrap iron.

Based on the information provided, the characterizations of the particulates generated in the furnaces during the melt down process, which are collected in a baghouse, as electric arc furnace dust (Hazardous Waste No. K061) and the spent pickle liquor as Hazardous Waste No. K062 are correct. There appears to be little question in this regard. The issues in question and on which this memorandum focuses relate to the exclusions claimed by Laclede Steel Company with respect to their K062 waste.

Laclede Steel has claimed three separate exclusions from the definition of solid waste for its K062 waste. The Agency believes each of these claims to an exclusion are unfounded, at least under Federal regulations. Each of the exclusions is discussed below.

The first exclusion claimed is the "closed-loop recycling" exclusion found at 40 CFR 261.4(a)(8). This exclusion, promulgated in the July 14, 1986 Federal Register notice (51 FR 25422), states that a material is not a solid waste if it is recycled and returned to the original process from which it was generated provided that: 1) only tank storage is involved; 2) the entire process is closed by being entirely connected by pipes; 3) the reclamation does not involve combustion; 4) there is no speculative accumulation of the material; 5) the

reclaimed material is not used to produce a fuel; and 6) the reclaimed material is not used to produce a product that will be placed on the land.

Laclede is not eligible for this exemption. The reason is that the K062 is trucked (not piped) to the recycling site. While the closed-loop exclusion does allow for the use of "other comparable enclosed means of conveyance," the Agency would not deem trucks to be comparable. The preamble discussion found at 51 FR 25443 clearly states EPA's intent that the closed nature of the process is a decisive factor and further defines that "closed" refers to "hard connections from point of generation to point of return to the original process." Trucks do not meet this definition. In addition, if the recycled materials are used to produce a product (such as fertilizer) that is applied to the land (i.e., used in a manner constituting disposal per Section 261.4(a)(8)(iv)), the solid waste exemption would not apply. There may also be some question as to whether the storage unit Laclede uses meets the definition of a tank or a surface impoundment. There was not enough information provided to make that determination; the Region or State must define the storage unit.

The second exclusion that Laclede is claiming is found at section 721.104(a)(7) of the State regulation (which is assumed to be equivalent to 40 CFR 261.2(e)(ii), involving use/reuse of a material as a substitute for a commercial product). While this exclusion may apply to the iron sulfate by-product from the reclamation activity, it would definitely not apply to the K062 waste. This exclusion applies to materials which are used or reused without reclamation (see the January 4, 1985 Federal Register notice, 50 FR 637, 638). The K062 is clearly being reclaimed and, therefore, is not eligible for this exclusion. Again, the exemption would not apply if use constituting disposal is involved (see Section 261.2(e)(2)(i)).

The third exclusion Laclede claims is under section 721.102(e)(1)(B) of the State regulation (which is assumed to be equivalent to 40 CFR 261.4(a)(7), involving the exemption of spent sulfuric acid used to produce virgin sulfuric acid from the definition of solid waste). Apparently, Laclede is confusing reclamation of a spent material with the production of virgin material. The K062 is definitely being reclaimed (i.e., contaminants are being removed to make it reusable). The preamble discussion found at 50 FR 642 (January 4, 1985) clearly describes the process of using spent sulfuric acid as an ingredient in the production of virgin sulfuric acid. Nothing in the reclamation process indicates that virgin sulfuric acid is being produced with K062 used as an ingredient. Therefore, this exclusion is also not applicable to Laclede.

The regulatory determination of concern associated with the Laclede facility is that K062 is a hazardous waste being reclaimed. The residues of the reclamation process (which itself is not regulated) are also hazardous waste K062 (although the sulfuric acid that is recovered is an effective substitute for a commercial chemical product) and must meet the treatment standards (and notification requirements) under the land disposal restrictions program (40 CFR Part 268) prior to placement on the land (i.e., before a fertilizer produced from the iron sulfate can be applied to the land). Also, the iron sulfate (after reclamation) may be demonstrated to be an effective substitute for a commercial chemical product for uses other than those constituting disposal and, if so, would cease to be a K062-derived hazardous waste.

If you have any additional questions, please contact Mitch Kidwell at FTS 475-8551.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

SEP 28 1989

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

**MEMORANDUM**

SUBJECT: Waste Identification for a Bottling Facility

FROM: Devereaux Barnes, Director *DB*  
Characterization and Assessment Division

TO: Conrad Simon, Director  
Hazardous Waste Compliance Branch (2AWM-HWC)

This memorandum is in response to your memorandum dated September 11, 1989, in which you requested waste identification clarification on two issues concerning Fisher Scientific, Inc.

The first issue revolves around the containerizing of commercial chemical products. The facility takes product in bulk form and containerizes it in smaller vessels via a process line. During the process, some residual material from commercial chemical product number one (e.g., toluene) remains in the process line after purging with pressurized nitrogen gas. When the next bulk order is processed, which involves a chemically different product (e.g., trichloroethylene) commercial chemical product number one contaminates the first few vessels of commercial chemical product number two. This impure product is emptied into a common holding tank (i.e., becomes waste). You ask for the regulatory status of this waste. This waste is an off-specification commercial chemical product and as such is a listed hazardous waste. In the above example, commercial chemical product number two clearly is not used for its solvent properties and, because it is mixed with commercial chemical product number one, the resulting mixture would be correctly designated as an off-specification commercial chemical product.

The second issue concerns characteristic waste (nitric acid). The characterization of solid waste as hazardous is dictated by the regulations under RCRA and appropriate State regulations. The Department of Transportation regulations do not overlap in this particular instance; thus it is correct to state that 49 CFR Section 172.101 has no correlation to, and does not supersede, 40 CFR Section 261.21. If the waste meets the description under Section 261.21, then the waste is classified as Hazardous Waste No. D001; if the waste meets the



description under Section 261.22, then it is classified as Hazardous Waste No. D002.

If you have any additional questions on these issues, please feel free to contact Mr. Stephen Cochran of my staff at FTS 382-4769.

OCT 20 1989

Mr. Kevin Anthony  
Environmental Assistant  
MagneTek Ohio Transformer  
1776 Constitution Avenue  
Louisville, OH 44641

Dear Mr. Anthony:

Thank you for your letter of September 11, 1989, in which you requested information concerning the handling of "F" series solid wastes. More specifically, you requested that we send you information on handlers and alternate disposal or reclamation processes for rags and similar materials, which have absorbed various volatiles and "F" wastes through wipe down and cleaning processes. In general, the EPA Regional Offices are responsible for this type of inquiry. However, because you have indicated that Region 5 referred you to my office, my staff has coordinated with them to prepare the following response for you.

Rags and similar materials may be incinerated and the residue landfilled. Laundering these rags is an alternative to incineration, for those rags which can be laundered. Dan Patulski of Region 5 did not have any additional information on handlers and alternate disposal or reclamation processes for rags and similar materials.

If you have any further questions, you can contact Mr. Patulski at (312) 886-0656. He has your letter and will be given a copy of this reply.

Sincerely,

Sylvia K. Lowrance, Director  
Office of Solid Waste



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C

9441.1989(51)

OCT 5 1989

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Travis P. Wagner  
Labat-Anderson Incorporated  
2200 Clarendon Boulevard  
Suite 900  
Arlington, VA 22201

Dear Mr. Wagner:

I am writing in response to your letter requesting written clarification of the Resource Conservation and Recovery Act (RCRA) definition of a liquid as it applies to ignitable and corrosive wastes.

There are three RCRA definitions which include the term "liquid". The definitions vary depending on the specific regulatory application. For hazardous waste identification by means of the three relevant characteristics (Ignitability, Corrosivity or Extraction Procedure Toxicity), the general term liquid applies. "Liquid" is defined as the material (liquid phase) that is expressed from the waste in Step 2 of Method 1310 (the Extraction Procedure).

As Mr. Friedman indicated, only those wastes that contain a liquid component are subject to testing against the flash point criteria of Section 261.21. Therefore, if a waste does not yield a liquid phase when subjected to Method 1310, it cannot be an ignitable waste under the criteria of Section 261.21(a)(1).

Similarly, Section 261.22(a)(2) states that a liquid waste is a corrosive waste if it exhibits a pH less than or equal to 2 or greater than or equal to 12.5. If a waste does not yield a liquid when subjected to Method 1310, it is not evaluated against this criteria and is not a corrosive waste.

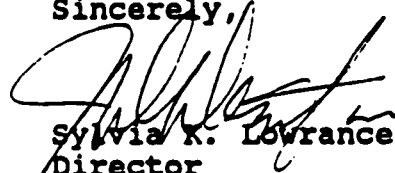
A second definition of liquids which is applied to determine whether a drummed waste is prohibited from land disposal because it contains "free liquid", is found in Method 9095 (the Paint Filter Test). If any material drips from the filter during the test, the waste is deemed to contain "free liquid" and is banned from land disposal.

Many people have used the Paint Filter Test to evaluate wastes for ignitability or corrosivity. This is done to save time and effort. Since liquids that separate out of the waste using Method 9095 are generally also liquids using Method 1310 wastes that contain ignitable or corrosive liquids using Method 9095 can generally be considered to be ignitable or corrosive wastes.

The third definition of liquids was developed when the 1984 amendments to RCRA prohibited the use of adsorbents to solidify liquid wastes if the adsorbents would release the contained liquids under landfill pressures. Prohibited adsorbents are those that contain "releasable liquids". While the Agency has not yet promulgated a specific test procedure for defining when a waste contains "releasable liquid", a draft procedure has been developed and proposed - Method 9096 (the Liquid Release Test).

I trust that this explanation clarifies the RCRA definitions. Please contact us if you need further assistance.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Sylvia K. Lowrance', is written over the typed name.

Sylvia K. Lowrance  
Director  
Office of Solid Waste

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OCT 6 1989 *Signature*

Mr. Daniel Threlfall  
Chemviron, Inc.  
P.O. Box 15598  
Pittsburgh, Pennsylvania 15224

Dear Mr. Threlfall:

This letter is in response to your letter of September 19, 1989 concerning the wastewater treatment sludges generated at Witco's Petrolia, Pennsylvania facility. As I understand the situation, these sludges are considered hazardous by the Pennsylvania Department of Environmental Resources (PADER), because the sludges may contain small amounts of methanol. I also understand that you are currently awaiting a decision from PADER on a petition requesting the exclusion of these sludges from consideration as hazardous waste. As part of their decision-making process, PADER has requested that EPA document its regulatory classification of these sludge wastes. Our classification of these wastes, which assumes that the information provided in your letter is correct, is discussed below.

EPA's listed hazardous wastes from non-specific and specific sources are presented in 40 CFR Part 261.31 and 261.32, respectively. The wastewater treatment sludges generated at Witco's facility are not described in either of those lists. Furthermore, the analyses you conducted on samples of the waste indicate that the waste is not hazardous with respect to the hazardous waste characteristics listed in 40 CFR Part 261.20. Thus, EPA does not consider the wastewater treatment sludges you describe to be listed hazardous wastes or characteristically hazardous wastes. Please note, however, that a change in the kind or concentration of hazardous constituents present in the sludge could effect the determination as to whether the sludge would fail one or more of the characteristics of a hazardous waste.

As you are probably aware, however, the State of Pennsylvania has been authorized by EPA to conduct its own hazardous waste program. Any state authorized by EPA must conduct a program which is at least equivalent to the Federal program; states may, however, choose to operate a hazardous waste program which is more stringent or broader-in-scope than the Federal program. With respect to the sludges discussed herein, it appears to be the case that State regulations classify these sludges as hazardous waste.

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**6. Clarification of F019 Listing and Applicability to Other Wastewater Treatment Sludges**

A manufacturing process involves the chemical conversion coating of aluminum. Wastewaters from this process are treated and a sludge results that meets the F019 listing in 40 CFR Section 261.31. Treatment of the wastewaters generates a less dense liquid supernatant overlying the listed sludge. Will this supernatant carry the F019 waste code as well?

The resulting supernatant will not be considered F019 because it is the wastewater from which the sludge was formed, and because the wastewater is not itself listed. The F019 listing applies to the sludge produced from treating wastewaters from the chemical conversion coating of aluminum. The hazardous constituents present in the influent wastewater settle out and concentrate in the sludge. Therefore, it is this sludge which the Agency regulates as listed hazardous waste F019. The treatment of any wastewaters may preserve an aqueous supernatant from the wastewater. The supernatant will be considered a hazardous waste if it exhibits one or more of the characteristics of hazardous waste set forth in 40 CFR Part 261 Subpart C, or if some relevant act of mixing of the wastewater with the listed sludge occurs.

A discussion of F006 sludge and supernatant in the August 17, 1988, Federal Register (53 FR 31153) has direct applicability to this situation. The discussion states that "filtrate from F006 sludges could be hazardous under the derived-from rule" as could be the case with filtrate from F019 sludges, and any other listed wastewater treatment sludges. There may be cases during wastewater treatment in which hazardous constituents that have settled out of wastewaters into a listed sludge become recombined and resuspended in the supernatant, resulting in a derived-from hazardous waste. This uncommon situation will generally occur due to improper design or malfunction of a wastewater treatment system. In these cases, the burden of proof will be on the Agency to prove that hazardous constituents in the sludge have become commingled with the supernatant. The preamble goes on to say that if the filtrate is similar in identity and constituent concentration to the influent wastewater to the wastewater treatment process, it is not considered to be a derived-from hazardous waste. Rather, it will be viewed as the original influent wastewater. These situations will be addressed by the Agency on a case-by-case basis.

Source:	Bob Scarberry	(202) 382-4770
	Denise Wright	(202) 245-3519
Research:	Jenny Peters	

## **2. Manufacturing Process Unit**

**An owner/operator of a military facility manufacturing explosives is in the process of cleaning out his manufacturing units (tanks). They are cleaned by rinsing and then by flashing or torching the inside of the unit. Is this tank required to be permitted under RCRA as a treatment tank, i.e., is this activity classified as open burning/open detonation?**

**This tank is classified as a manufacturing process unit and therefore is not subject to RCRA regulation. Because it is not a hazardous waste storage tank, it will not be regulated under the Subpart J standards of 40 CFR Parts 264 and 265. The waste inside a manufacturing process unit is not regulated until it exits the unit or until it remains in the unit (which has ceased operation) longer than 90 days, per 40 CFR Section 261.4(c). In this case, once the waste is removed by rinsing, it should be handled according to RCRA Subtitle C regulations, if it is hazardous waste.**

**The subsequent activity of cleaning out the manufacturing process unit by torching is not regulated under RCRA, if it takes place promptly. Once the unit ceases operation, the removal of residues must occur before 90 days are up; otherwise, removal could be regulated. Also, regardless of timing, if the operator removes any residues from the tank after burning, the residues may be subject to regulation if they are hazardous per RCRA Subtitle C.**

**Source: Ed Abrams  
Research: Mary Stevens**

**(202) 382-4787**

### 7. Clarification of Spent Solvent Listing

A foam manufacturer uses 100% CFC - 11 (trichlorofluoromethane) in the production of flexible foam. The trichlorofluoromethane acts as a blowing agent by physically opening the foam cell. It is then released into the ambient environment and is captured by a vapor recovery system. Once collected, the spent trichlorofluoromethane is sent off-site for recycling. Should this material be managed as F002?

The spent trichlorofluoromethane is a solid waste because it is a spent material being reclaimed. In order for the spent trichlorofluoromethane to be considered F002, the trichlorofluoromethane must have been used as a solvent. The December 31, 1985 Federal Register (50 FR 53316) clarifies that "only solvents that are used for their 'solvent' properties -- that is, to solublize (dissolve) or mobilize other constituents" would be covered by the F001 - F005 spent solvent listings. Specific examples include "solvents used in degreasing, cleaning, fabric scouring, as diluents, extractants and reaction and synthesis media." In the case of foam production, the trichlorofluoromethane is not being used to solublize or mobilize, rather, it is simply opening the form cell by a physical mechanism. Therefore, the spent trichlorofluoromethane would not meet the F002 listing. Since the use of trichlorofluoromethane in this manner does not meet a hazardous waste listing, this spent material would be a hazardous waste under Subtitle C of RCRA only if it exhibits a hazardous waste characteristic under 40 CFR 261.21 - 261.24.

Source: Ron Josephson  
Research: Mary Beth Clary

(202) 475-6715



NOVEMBER 1989

**I. SIGNIFICANT QUESTIONS AND RESOLVED ISSUES—NOVEMBER 1989****A. RCRA****1. Treatability Studies Sample Exemption**

The treatability studies sample exclusion in 40 CFR 261.4(e) and (f) conditionally exempts generators of waste samples and owners or operators of laboratories or testing facilities conducting certain defined treatability studies from Subtitle C hazardous waste requirements. Is it within the scope of 40 CFR 261.4(e) and (f) for the testing facility to return the samples to the generators of the samples after the treatability study is completed?

Yes; 40 CFR 261.4 (f)(10) states, as one of the conditions of the test facility exemption, as follows: "The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under Section 261.3 and, if so, are subject to Parts 261 through 268, and Part 270 of this Chapter, unless the residues and unused samples are returned to the sample originator under the Section 261.4(e) exemption." 40 CFR 261.4(e) is analogous to the sample exclusion in 261.4(d) in that its intent is to exclude samples from all regulations under Subtitle C as long as all provisions in the exclusion are complied with. This is restated in the preamble to Sections 261.4(e) and (f), July 19, 1988 Federal Register (53 FR 27292, 27295),

which states that, upon completion of the treatability study, the owner or operator of the laboratory can return the unused samples and residue to the generator or sample collector who is remaining excluded from Subtitle C hazardous waste regulations.

Source: Michael Petruska, OSW (202) 475-8551  
Research: Renee T. LaValle



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

9441.1990(01)

FEB 9 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

**MEMORANDUM**

SUBJECT: RCRA Status of Dinoseb Formulations

FROM: Devereaux Barnes, Director *DeBarn*  
Characterization and Assessment Division  
Office of Solid Waste (OS-330)

TO: Steve Johnson, Director  
Field Operations Division  
Office of Pesticide Programs (H7506C)

This is in response to your memorandum of July 7, 1988 requesting clarification of the RCRA status of four Dinoseb formulations.

In order for materials to be hazardous wastes under the RCRA program, and therefore subject to RCRA regulation, they must first be classified as solid wastes. Materials become solid waste when they are discarded or are intended for discard (40 CFR 261.2). Thus, Dinoseb formulations which are disposed of or are intended for disposal are solid wastes. They become hazardous wastes if they are "listed" in 40 CFR Part 261, Subpart D, or exhibit one or more of the hazardous waste characteristics: ignitability, corrosivity, reactivity, or extraction procedure (EP) toxicity (40 CFR 261.20-261.24).

Based upon a consideration of the regulations identified above, we have made a determination as to the regulatory status of the four Dinoseb formulations identified in your memorandum and these are provided below.

**1.) DINOSEB TECHNICAL PRODUCT**

In this formulation the compound (Dinoseb) is the major constituent (95%). The compound known as Dinoseb is listed in 40 CFR 261.33(e) when it "consists of the commercially pure grade of the chemical, any technical grades [emphasis added] of the chemical that are produced or marketed, and all formulations in

When this material is discarded, or is intended for discard, it may become a hazardous waste by virtue of exhibiting one or more of the hazardous waste characteristics and must, therefore, be evaluated with respect to the characteristics outlined in 40 CFR 261.20-261.24.

Formulations 1 and 2 listed above are acutely hazardous wastes when discarded or intended for discard and generators must comply with the requirements of RCRA with respect to generation, transportation, treatment, storage, and disposal as provided in 40 CFR Parts 261 through 264. These sections identify the specific requirements for generators, transporters, and operators of treatment, storage, and disposal (TSD) facilities.

Formulations 3 and 4 above are not acute hazardous wastes; however, they will be hazardous wastes if they exhibit any of the hazardous waste characteristics specified in 40 CFR 261.21-261.24. If these formulations are found to be characteristic hazardous wastes, they must be managed in accordance with the RCRA regulations outlined above. If these formulations are found not to be hazardous wastes, then they must be managed and disposed of in accordance with the solid waste regulations of the state in question.

If a holder or generator of the material elects to treat and/or dispose of any hazardous Dinoseb formulations on site, he will have to comply with the standards and requirements of 40 CFR Parts 264, 265 and 270 for obtaining a permit to operate a TSD facility, except to the extent that storage in containers or tanks, and treatment in tanks is allowed for 90 days under 40 CFR 262.34. (See 51 FR 10168, March 24, 1986.) Further, farmers may dispose of these wastes on site under 40 CFR 262.70, subject to appropriate label instructions.

Finally, depending upon the amount of the waste generated, a generator may be eligible for the small quantity generator exemption(s) specified in 40 CFR 261.5. Under this section, a generator who generates less than one kilogram per calendar month of acute hazardous waste, or no more than 100 kilograms of hazardous wastes per calendar month, may qualify as a conditionally exempt small quantity generator. A conditionally exempt small quantity generator's wastes are not subject to regulation under 40 CFR Parts 262 through 266, 268, Part 270, and the notification requirements of Section 3010 of RCRA provided the generator complies with requirements specified in 40 CFR Sections 262.5(f), (g), and (j).

If you have any questions pertaining to the above, please contact Ron Josephson at 475-6715.

cc: Waste Management Division Directors, Regions I - X



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

FEB 12 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Thomas A. Corbett  
Environmental Chemist I  
New York State DEC  
600 Delaware Avenue  
Buffalo, New York  
14202

Dear Mr. Corbett:

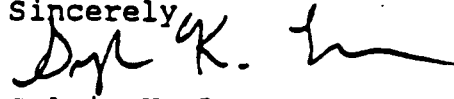
This letter is in response to your letter of October 31, 1989, in which you requested clarification of the domestic sewage exclusion of 40 CFR 261.4 (a)(1)(i) and (ii) as it may relate to excavated sludge from a sewer line. We understand that you have spoken with Region II personnel who referred you to the Office of Solid Waste (OSW). We have enclosed a copy of the memorandum you mentioned in your letter from Marcia Williams to David Stringham dated December 12, 1986. You have related to Emily Roth of OSW your request for a written response from EPA on this issue.

The situation as described in your letter involves waste removed from the low points of storm sewer lines by excavation. Apparently, the sewer occasionally becomes blocked as a result of the settling of solids from the sewage. The plan is to place the waste material in waste hauling vehicles and transport it to the publicly-owned treatment works (POTW), where it will be discharged into the system for processing. The waste is EP toxic for lead. Your letter asks if the waste: (1) retains its non-hazardous status under the domestic sewage exclusion after excavation from the sewer line or (2) is subject to regulation as a hazardous waste.

The domestic sewage exclusion of Section 261.4(a)(1)(i) states that neither domestic sewage nor any mixture of domestic sewage and other wastes that "passes through a sewer system to a publicly-owned treatment works for treatment" are solid waste. In the situation you describe, the sludge is removed from the sewer line and, therefore, does not pass through the sewer system to the POTW. The waste, upon removal, loses its "excluded" status under the domestic sewage exclusion and becomes subject to regulation as a solid waste. If the waste exhibits any of the characteristics of hazardous waste as described in 40 CFR Part 261, Subpart C, it must be regulated as a hazardous waste. In order for a POTW to receive hazardous waste, the POTW must be in compliance with the requirements of 40 CFR Section 270.60(c).

If you have any questions or comments regarding this letter,  
you may contact Emily Roth of my staff at (202) 382-4777.

Sincerely

A handwritten signature in black ink, appearing to read "Sylvia K. Lowrance", with a long horizontal flourish extending to the right.

Sylvia K. Lowrance  
Director  
Office of Solid Waste



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

FEB 13 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

**MEMORANDUM**

**SUBJECT: Recycling of Electric Arc Furnace Dust (K061) as an Ingredient in the Manufacture of Cement**

**FROM:** Sylvia K. Lowrance, Director  
Office of Solid Waste

**TO:** Robert L. Duprey, Director  
Hazardous Waste Management Division  
Region VIII

This responds to your December 6, 1989, memorandum requesting a regulatory determination regarding the use of K061 electric arc furnace (EAF) dust as an ingredient in the manufacture of cement. Included with your memorandum was a November 17, 1989, letter from Mr. Stephen Wistar of Ferrous American Company, which claims that the EAF dust used in such a manner is excluded from the definition of solid waste (and, therefore, not subject to RCRA) under 40 CFR 261.2(e). In your memorandum you do not specifically address the status of the EAF dust, but rather state that such use of K061 waste may be legitimate recycling subject to regulation under 40 CFR 261.6(a) and 266.20(b) and you seek our approval of this view. Several members of my staff also met with Mr. Wistar on December 21, 1989 to discuss his plans to "recycle" K061 wastes. The following is our evaluation of the pertinent issues you should consider in making the case-specific determination.

Mr. Wistar's claim that the K061 waste is not subject to RCRA under the exclusion at 40 CFR 261.2(e) is not supported by any information we have seen. Cement is considered to be a product that is typically applied to the land (although this is a rebuttable presumption), and therefore the EAF dust is a solid waste (and a hazardous waste -- K061) under 40 CFR 261.2(e)(2)(i). This determination does not, however, address the legitimacy of the use of K061 waste as an ingredient to produce cement.

To determine whether the processing of a specific waste is legitimate recycling or treatment, one must consider, among other things, the fate of the constituents in the waste as they are processed. In other words, do the constituents actually play a part in the manufacture of the cement (i.e., are they

legitimately being used), or are they being treated/disposed by incorporation into a product? Particular focus should be given to the fate of hazardous constituents in the waste that are incorporated into a product (it would be contrary to the intent of RCRA regulation if regulatory determinations are made solely on the use/reuse of nonhazardous constituents also contained in a hazardous waste).

In evaluating the fate of the (hazardous) constituents in the waste, one should use the fate of constituents in an analogous raw material as a baseline. Insofar as the constituents (and their concentrations) in the waste and the raw material are similar, the processing may be legitimate recycling. However, if the waste contains hazardous constituents not present in the analogous raw material (or hazardous constituents at significantly higher concentrations than in the analogous raw material) that serve no purpose in the manufacture of the product, the process would appear to constitute treatment/disposal rather than legitimate recycling. Also, where incorporation of the waste results in detriment to the quality of the end product, the procedure would appear to constitute treatment/disposal. Finally, it should be noted that the fact that a material can be inserted into a production process without detriment to the quality of the end product does not mean that the waste is actually being used as an ingredient.

There are several points that deserve particular focus. For example, in the data that Mr. Wistar supplied to us in our meeting, the levels of hazardous constituents contained in the K061 waste were several orders of magnitude greater than the levels found in the analogous raw material. Because of this, we would then question the role in the manufacture of cement of the volatile hazardous metals (such as lead) that are typically found in K061 wastes.

An additional concern is that the mixing of K061 waste with millscale (a nonhazardous solid waste) could constitute dilution of the hazardous constituents. Mr. Wistar states in his letter that such blending is done "... specifically to ameliorate its handling characteristics, and to make the iron content more even." Such necessary adjustments to the hazardous waste could indicate that the K061 waste is, in fact, not an effective substitute for an analogous raw material. Furthermore, when questioned on the possibility of using only the mill scale as an

ingredient in the manufacturing of cement, Mr. Wistar stated that while the mill scale could certainly be used as an ingredient, substituting for the iron ore currently used, it would be uneconomical to transport the mill scale to the cement kiln unless additional revenues provided by fees charged to generators for the management of their K061 wastes were also received.

We reiterate that even if it should prove that the K061 waste is being recycled legitimately, the waste-derived cement applied to the land remains a hazardous waste, and in addition must meet the land disposal restrictions treatment standard for waste K061, as per 40 CFR 266.20(b). Presently, this treatment standard (see 40 CFR 268.43(a)) is based on the performance of stabilization, but on August 8, 1990, the treatment standard for high zinc (15% or greater) K061 requires metal recovery (see 53 FR 31162-4; August 17, 1988). Thus, as of August 8, 1990, high zinc K061 could not be used as an ingredient to produce cement in any case without an amendment of current rules.

By way of further guidance, I am attaching a copy of an April 26, 1989, memorandum from me to the Regional Hazardous Waste Management Division Directors concerning the recycling of F006 electroplating sludges. Several aspects of the memorandum are relevant in this case, especially the criteria to be used to evaluate whether a recycling activity is legitimate or requires a treatment permit. If you need further information or have any more questions concerning the recycling of hazardous waste, your staff should contact Mitch Kidwell, of my staff, at FTS 475-8551.

Attachment

cc: Hazardous Waste Management Division Directors  
EPA Regions I-VII, IX and X





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

FEB 14 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Richard L. Feulner  
Director, Regulatory Affairs  
CIBA-GEIGY Corporation  
P.O. Box 18300  
Greensboro, NC 27419

Dear Mr. Feulner:

This letter is in response to your November 17, 1989 request for a one-time exemption from RCRA requirements for end-users of chlordimeform. In your letter, you outlined the voluntary termination of FIFRA registration for chlordimeform, and Ciba-Geigy's commitment to accept for disposal chlordimeform stocks turned in by end-users. According to EPA's final decision regarding chlordimeform, its use is prohibited after October 1, 1989 [54 FR 6246, February 8, 1989].

Your letter describes an assumption that Galecron 4E (a Ciba-Geigy formulation of chlordimeform) is a hazardous waste, and describes difficulties involved in obtaining EPA Identification Numbers for the various chlordimeform users. You then requested that EPA's Office of Solid Waste develop a program "that would, on a one-time basis, exempt end users from manifesting requirements." You also stated your belief that a certain interpretation of the pesticide's waste classification may be necessary to exempt end-users from manifesting requirements.

After reviewing the information you have submitted, I have concluded that in most (if not all) instances the Galecron 4E is a solid waste in the hands of end-users. Specifically, you stated in a February 19, 1988 letter to EPA that Ciba-Geigy would "offer and actively encourage the return of all inventory remaining after the 1988 use season regardless of the ownership or location of the material. This material will be destroyed, at Ciba-Geigy expense, in accordance with all appropriate state and federal regulations." In your November 17, 1989 letter you also stated that "the exemption from classification of Galecron 4E as waste would only last until the material had been gathered for disposal. Once it has been collected, it will be stored and disposed of as hazardous waste" and "We plan to have the chlordimeform incinerated at a permitted RCRA facility once it has been collected from the end users."

40 CFR Section 261.2(b)(3) provides:

Materials are ~~are~~ solid waste if they are abandoned by being:

Accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated.

Thus it is clear that end-users who are accumulating Galecron 4E before it is disposed are managing wastes.

My June 23, 1989 memorandum on regulation of cancelled pesticides, which you mentioned as stating that case-by-case determinations must be made for determining the waste status of cancelled pesticides, refers to the April 8, 1987 Federal Register (52 FR 11332). That Federal Register notice states that "cancelled pesticides are considered to be solid wastes subject to RCRA if they have been "discarded" or are intended for discard. In this context, "discarded" means either abandoned or used as a fuel..." Because of the Section 261.2(b)(3) regulation defining the term "abandoned", it is clear that in the circumstances you have described, the end-users are managing wastes.

Another factor affecting this determination is the fact that chlordimeform use is banned in the United States as well as many foreign countries. Thus it is unlikely that Ciba-Geigy would accept unused stocks for resale. In the event Ciba-Geigy does find a legal market and is able to accept the unused stocks for resale, the unused chlordimeform may not be a solid waste under 40 CFR Section 261.2. Another situation in which the material may not be a waste is if it is a commercial chemical product that is being reclaimed (Section 261.2(c)(3)). However, in both of these situations, the burden of proof would be on the parties claiming that the unused chlordimeform is not a solid waste (Section 261.2(f)).

Assuming the unused chlordimeform is a waste (and the available information indicates that it is), the end-users must determine whether it is a hazardous waste. Although neither chlordimeform nor chlordimeform hydrochloride appear on the lists of hazardous waste in Section 261.33, you indicated that you believe that Galecron 4E is an ignitable hazardous waste per Section 261.21. You indicated that this determination is based on Galecron 4E's formulation with xylene-based solvents. We agree that the unused chlordimeform formulations are not listed hazardous wastes; however, assuming the unused formulation exhibits the characteristic of ignitability, it is a hazardous waste. Thus, the end-users (who are the generators under the circumstances you have described) are responsible for managing their unused chlordimeform stocks consistent with the federal hazardous waste regulations. These regulations have varying requirements, depending on the monthly quantities of hazardous waste

generated at a site. In some cases, an EPA Identification Number may not be required for the generator, and there may be no manifesting requirements. (See 40 CFR Section 261.5.)

For those situations where an EPA Identification Number is required, EPA has established a system whereby generators can obtain provisional identification numbers in an expedited manner (see 45 FR 85023, December 24, 1980). The telephone numbers listed in that notice are somewhat outdated; I suggest that you contact the RCRA/Superfund Hotline ((800) 424-9346) for the most up-to-date numbers and assistance.

In addition, distributors acting as intermediate collection points in the recall process may qualify as "transfer facilities," depending on the specific circumstances. In the federal hazardous waste regulations, transporters who store manifested shipments of hazardous waste under certain circumstances may store these wastes for ten days or less without a permit for the storage. (See 40 CFR 263.12.)

Finally, the requirements described in this letter are the federal hazardous waste regulations in 40 CFR Parts 260 - 272. States may have additional requirements that are more stringent, or broader in scope. I suggest that you contact the appropriate state waste management agencies for further information on state requirements.

Sincerely,



Sylvia Lowrance, Director  
Office of Solid Waste

cc: Paul Parsons, OPP (H7508C)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

FEB 26 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Kathleen Wolf, Ph.D.  
Project Manager  
Source Reduction Research Partnership  
1052 West Sixth Street, Suite 432  
Los Angeles, California 90017

Dear Dr. Wolf:

This is in response to your letter of October 12, 1989, in which you requested clarification of the application of RCRA Subtitle C regulations to waste chlorofluorocarbons (CFCs) from the production of foam products. More specifically, these CFCs act as blowing agents by physically opening the foam cell. This interpretation is based on your account of the production process.

In your description of the manufacture of the rigid insulating and packaging foam product, the CFCs are retained within the product. However, in the production of the flexible foam, the CFCs open the foam cell and are then released to the ambient environment. Once captured by the vapor recovery system, the spent chlorofluorocarbons are then sent off-site for either recycling or disposal.

Proper waste classification depends upon having sufficient knowledge of the waste process and the source of generation. In order for the spent chlorofluorocarbons to be regulated as RCRA hazardous wastes, the material must first be classified as a solid waste. In the case of the rigid foam production where the chlorofluorocarbons are retained within the product, the RCRA Subtitle C regulations are not applicable because the product is not being discarded and thus is not a solid waste as defined in 40 CFR Section 261.2(a).

At issue, in this case, is the question of whether use as a blowing agent constitutes use as a solvent. The December 31, 1985 Federal Register (50 FR 53316) clarifies that "only solvents that are used for their 'solvent' properties - that is, to solubilize (dissolve) or mobilize other constituents" would be covered by the F001 - F005 spent solvent listings. Specific examples include "solvents used in degreasing, cleaning, fabric

scouring, as diluents, extractants, and reaction and synthesis media." In the case of foam production, the chlorofluorocarbons are not being used to mobilize or solubilize, rather, they are simply acting to open the foam cell by a physical mechanism. Therefore, the spent chlorofluorocarbons used in this manner would not meet a hazardous waste listing. The spent CFCs would only be RCRA hazardous waste if they exhibit a hazardous waste characteristic under 40 CFR 261.21 - 261.24. Waste not regulated under Federal regulations also may be regulated under more stringent State requirements.

Since the CFCs and methylene chloride used as blowing agents do not classify as solvents, recovered vapors of these substances also do not meet the spent solvent listing description. The "derived from" rule (40 CFR 261.3(c)(2)(i)) does not apply in this case because the recovered vapors are not derived from hazardous wastes and by themselves do not meet any hazardous waste listing description.

The Agency recently published a *Federal Register* notice clarifying the applicability of RCRA rules to CFCs which are spent or reclaimed (54 *FR* 31335, July 28, 1989). We are enclosing a copy of this notice for your reference.

Thank you for your inquiry. If you should have further questions please contact the RCRA/Superfund Hotline at (800)424-9346 or (202)382-3000.

Sincerely,



Devereaux Barnes  
Director  
Characterization and  
Assessment Division

Enclosure

MAR 19 1990

MEMORANDUM

SUBJECT: Texas Industries' Use of Wastewaters Generated by Off-site Sources as an Effective Substitute for a Commercial Product

FROM: Joseph S. Carra, Director  
Permits and State Programs Division (OS-340)

Susan E. Bromm, Director  
RCRA Enforcement Division (OS-520)

TO: William K. Honker, Chief  
RCRA Permits Branch  
Hazardous Waste Management Division (6H-P)

The purpose of this memorandum is to clarify procedures for classifying wastes under both 40 CFR 261.2(e)(1)(ii) [exclusion based on recycling] and 40 CFR 261.2(e)(2)(i) [inclusion based on final use].

On October 4, 1989, you sent a copy of an interoffice memorandum from a Texas Water Commission (TWC) staff attorney to the TWC Executive Director, and a copy of a letter from the Executive Director to the Environmental Manager of Texas Industries (TXI) (both dated September 18, 1989). As we understand, TWC had tentatively approved the use by TXI of industrial wastewaters generated off-site as an effective substitute for fresh water in their cement manufacturing process. The basis for the decision was that the proposal appeared to fit the exclusion provided in 31 Texas Administration Code 335.1 (40 CFR 261.2(e)(1)(ii)). The decision was subsequently overruled under the provisions of the Texas air program because the wastewater was found to contain volatile organic compounds (VOCs) and the process neither met best available control technology nor demonstrated 99.99% destruction of several of the organic compounds. You requested any views that we may have on this issue. However, at this point, we will only address the issues pertaining to the proper methodology for characterizing the waste stream.

The information provided states that TXI was using an off-site industrial wastewater, containing VOCs, to produce the slurry in their cement production process. The first determination to be made is whether the wastewater is in fact a solid waste. Under 40 CFR 261.2(e)(2)(i), materials used to produce products that are applied to the land are solid wastes. Cement is a product that is

typically applied to the land. This clearly makes the wastewater a solid waste (although the owner/operator of the cement kiln may document a claim that none of the cement produced using this wastewater is applied to the land, as provided in 40 CFR 261.2(f)).

Because the wastewater is a solid waste, for regulatory purposes, we must next determine if this solid waste is either a characteristic or listed hazardous waste. After reviewing the materials submitted by Region VI, we determined that not enough information was supplied about the generation of the waste stream or its constituents to make a decision on whether the waste was hazardous by characteristic or listing. Therefore, at this time we can only classify this wastewater as a solid waste.

In addition, also based on the information we have received, the "effective substitute" classification would not apply because the product is being used on the land (see 40 CFR 261.2 (e)(2)(i)). However, in such a case that the product (i.e., cement) was clearly not applied to the land and was derived from a waste which was hazardous by characteristic or listing, it might be helpful for us to share with you our approach to the issue of effective substitute (legitimate recycling) vs. treatment.

Determining whether a secondary material is an effective substitute for a commercial product requires a comparison of the secondary material to the commercial product that would otherwise be used. In this case, one would compare wastewater to fresh water. Assuming the substitute (wastewater) is a hazardous waste, the commercial product (fresh water) would probably contain significantly fewer hazardous constituents or characteristics. Therefore, the wastewater is not likely to be an effective substitute. Note that this determination is not based on the qualities of the final product (cement) but on the qualities of the water sources. This approach determines whether the actual "secondary material" is an "effective substitute". The State's approach, which compares the impact to the environment posed by the use of the secondary material to the impact to the environment posed by using the commercial product that would otherwise be used, is in error. This would lead us to conclude that the assumed hazardous wastewater is being treated, not legitimately recycled. Whether the constituents in the wastewater are "bound" in the final product is not relevant to the determination. The issue is whether the constituents in the substitute water source are a desired ingredient of the final product or are being, in some fashion, treated.

Therefore, based on the material we received, the only determination that can be made regarding the wastewater is that it is a "solid waste". As opposed to the State's approach in characterizing the wastewater, we believe that the methodology discussed above is the appropriate approach to determine the regulatory status of a waste stream.

For your information, we are enclosing a copy of an April 26, 1989 memorandum from Sylvia Lowrance to the Regional Hazardous Waste Management Division Directors regarding recycling vs. treatment for F006 wastes. This memorandum includes criteria for helping to decide if a waste is being legitimately recycled.

We hope our views are useful to you. If you have any further questions, please contact either Dave Eberly, OSW, (FTS 382-4691) or Reggie Cheatham, OWPE, (FTS 475-9360) of our staffs.

Enclosure

cc: Mitch Kidwell, CAD, OSW  
Reggie Cheatham, OWPE  
Ken Gigliello, OWPE  
Scott Parish, OWPE  
Dave Eberly, PSPD, OSW  
Jim Michael, PSPD, OSW  
Liz Cotsworth, PSPD, OSW



MARCH 1990

**I. SIGNIFICANT QUESTIONS AND RESOLVED ISSUES—MARCH 1990****A. RCRA****1. Clarification of By-Product Versus Scrap Metal**

A manufacturer of computer circuit boards sends unused off-specification printed circuit boards and board trimmings from the production process off-site for reclamation. The printed circuit boards are made of alternating layers of thin copper and fiberglass plates coated with tin lead; containing approximately 30% copper, 68% fiberglass, and 2% tin lead. How are the unused boards classified under 40 CFR 261.2, and are the trimmings by-products or scrap metal? Would these materials be solid wastes under RCRA?

The unused circuit boards are secondary materials. Under 40 CFR 261.2, the Agency designates those secondary materials which are RCRA Subtitle C solid wastes when recycled. According to Section 261.2(c)(3), unused off-specification commercial chemical products listed in 40 CFR 261.33 are not considered solid wastes when sent for reclamation. Although the Agency does not directly address non-listed commercial chemical products in the regulations, their status would be the same as those that are listed (see 50 FR 14219, April 11, 1985). The unused circuit boards are considered to be non-listed commercial chemical products, and thus, are not solid wastes when reclaimed. If, however, the circuit boards had been used and were no longer fit for use, they would be considered spent materials and defined as solid wastes when reclaimed.

The trimmings are inherently unfit for end use and will be reclaimed. In the January 4, 1985 Federal Register (50 FR 625), the Agency defines by-products as materials "that are not produced intentionally or separately, and that are unfit for end use without substantial processing." The printed circuit board trimmings meet the definition of characteristic by-product rather than scrap metal, and are not solid wastes when reclaimed under Section 261.2(c)(3). Although the trimmings are physically similar to scrap metal, to meet the definition of scrap metal, the material must have significant metal content, i.e., greater than 50% metal. In fact, examples given in the Preamble concerning scrap metal were virtually 100% metal. Materials defined as scrap metal under Section 261.1 are solid wastes when reclaimed, and, if hazardous, are presently exempt under Section 261.6(a)(3)(iv) from Subtitle C regulation. The Agency has deferred hazardous scrap metal from regulation until appropriate information on types of scrap metal and industry management practices is made available for study.

## RCRA/SUPERFUND HOTLINE SUMMARY

MARCH 1990

4. Used Oil Used for Dust Suppression or Road Treatment

A used oil exhibits the characteristic of EP Toxicity. Is the use of the used oil for dust suppression or road treatment prohibited?

Yes. Used oil intended to be placed on the land is defined as a material being used in a manner constituting disposal (Section 261.2(c)(1)(A)). Use of a material in a manner constituting disposal is a recycling activity (Section 261.2(c)(1)). All substances recycled in this manner are considered solid wastes (see 40 CFR Section 261.2 Table 1). Because the used oil exhibits the characteristic of EP Toxicity, it is considered a hazardous waste. A hazardous waste which is to be recycled is subject to the requirements of 40 CFR Section 261.6. Specifically, Section 261.6(a)(2)(i) requires recyclable materials which are used in a manner constituting disposal to be regulated under Subpart C of Part 266. Thus, the used oil is subject to the requirements of Section 266.23(b) which states "the use of waste or used oil or other material, which is contaminated with dioxins or any other hazardous waste (other than a waste identified solely on the basis of ignitability) for dust suppression or road treatment is prohibited." This standard was incorporated directly from Section 3004(e) of the Hazardous and Solid Waste Amendments of 1984. The Agency interpreted this statement in a June 6, 1985 memorandum which states "... the prohibition to apply to hazardous waste (whether or not it is part of a mixture). Under this interpretation used oil exhibiting EP Toxicity, for example, must not be used as a dust suppressant." Therefore, a used oil exhibiting the characteristic of EP Toxicity is prohibited from use for dust suppression or road treatment.

Source: Mitch Kidwell, OSW (202) 382-4805  
Research: Kent Morey  
Cynthia Hess

MARCH 1990

6. Applicability of the Household Hazardous Waste Exclusion to Waste Generated by Contractors

A homeowner hires a contractor to scrape old paint from his walls and repaint them. Paint chips from the walls are EP toxic for lead and are disposed of in the household's waste stream. How are the chips regulated under RCRA?

The regulations at 40 CFR Section 261.4(b)(1) state that waste generated at a household is excluded from regulation as a hazardous waste. According to the November 13, 1984 Federal Register, waste from building construction, renovation and demolition, even if generated at a household, is not covered under the household waste exclusion. Household waste, to be excluded pursuant to 40 CFR Section 261.4 (b) (1), must fulfill two criteria. Household waste has to be generated "by individuals in their homes" and "the waste stream must be composed primarily of materials found in the wastes generated by consumers in their homes." (49 FR 44978; November 13, 1984)

EPA does not distinguish between waste generated at a household by a homeowner and waste generated at a household by a person other than the homeowner. (See the March 24, 1989 Federal Register; 54 FR 12339 applying the household waste exclusion to medical waste generated by home health care providers.) EPA determines the applicability of the exclusion based upon the type of waste generated and the place of generation. Therefore, solid waste generated at a home as part of routine residential maintenance (as opposed to renovation, construction or demolition) would be part of the household waste stream and thus would not be subject to the hazardous waste determination requirements of 40 CFR Section 262.11.

Source: Carrie Wehling, OGC (202) 382-7706  
Research: Monica Genadio



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 10 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Richard G. Stoll  
Freedman, Levy, Kroll, and Simonds  
1050 Connecticut Ave. NW  
Washington, DC 20036-5366

Dear Mr. Stoll:

This letter responds to your January 15, 1990, request for a regulatory interpretation of 40 CFR 261.7, as it applies to washwaters resulting from the steam-spraying of "empty" tank cars. It is our understanding that "steam-spraying" involves the use of water only, and not additional solvents.

You are correct in your interpretation that the provision found at 40 CFR 261.7, governing residues of hazardous waste remaining in an empty container, applies to such residues when they are removed by steam-spraying. Section 261.7 does exempt the resulting washwaters from RCRA Subtitle C, including the requirement for determining whether a solid waste exhibits a hazardous characteristic under Part 261 Subpart C.

It should also be noted that the exemption at 40 CFR 261.7 applies only to "empty" containers, as defined in that section. If the steam-spraying is conducted on a container that is not empty, or is done in order to render a container empty, the residues are not exempted by 40 CFR 261.7, but rather are fully subject to RCRA Subtitle C.

I should also note that this regulatory interpretation applies only to Federal regulations. The appropriate State regulatory agency may have regulations that are more stringent or that may otherwise differ from Federal regulations. I strongly encourage you to seek such regulatory determinations from the appropriate State agencies.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sylvia K. Lowrance".

Sylvia K. Lowrance  
Director  
Office of Solid Waste

APR 12 1990

Mr. Erik Hoygaard  
State Pollution Control Authority  
Statens forurensningstilsyn  
P.O. Box 8100 Dep.  
N-0032  
Oslo 1, Norway

Dear Mr. Hoygaard:

Thank you for your March 27, 1990, letter (ref. 90/2887-1 682.031/2) asking for our assistance in identifying Federal regulations applicable to cadmium wastes resulting from coating materials and (spent) sacrificial anodes generated by military operations.

One of the Waste Management Division's (WMD) tasks is to support the EPA's Office of Solid Waste to develop Federal regulations that set standards for the storage, treatment, and disposal of wastes deemed hazardous under Subtitle C of the Resource Conservation and Recovery Act, (RCRA), P.L. 1976.

- EPA has promulgated in the 40 Code of Federal Regulations (CFR) Part 261 a criteria listing particular industrial or nonspecific source industrial wastes as hazardous under RCRA. The wastes generated by the military operations described in your letter are likely to generate wastes meeting the listing criteria for electroplating wastes, heat treating, aluminum conversion coating (F006, F019, F007, F008, F009, F010, F011 and F012) or characteristic wastes for cadmium (Extraction Procedure Toxicity Test level of 1.0 mg/l, referred by EPA as EP Tox for cadmium). Enclosure 1 is a copy of pages from the 40 CFR Part 261 describing these wastes.

Another responsibility of the WMD is to set treatment standards that allow the placement of hazardous wastes in land disposal units such as landfills, underground injection wells, or surface impoundments. These treatment levels can be expressed as maximum concentrations of specific hazardous constituents or a requirement to use one or various treatment technologies. EPA promulgates in the 40 CFR Part 268 land disposal restrictions which include said treatment standards. Enclosure 2 is a speech

entitled: "EPA's BDAT Development for the Land Disposal Restriction Program," which provides a detailed review of the legal and engineering technical framework for the development of treatment standards.

On June 23, 1989, (see enclosed 54 Federal Register (FR), 26649) EPA promulgated treatment standards for electroplating wastes. Cadmium is one of the regulated metal constituents in the electroplating wastes. Nonwastewater forms of the electroplating wastes must meet a treatment standard for cadmium of 0.066 mg/l (as measured by the Toxicity Characteristic Leachate Procedure (TCLP) test). This treatment standard is based on stabilization of F006 wastes. EPA did not regulate cadmium in wastewater forms of the electroplating wastes because when these treatment standards were promulgated, EPA lacked data for the treatment of cadmium in electroplating wastewaters.

EPA is currently reviewing data documenting technical difficulties found with the available analytical test methods to comply with the free and total cyanide standards for electroplating wastes. The review of these analytical test data can result in revisions to the promulgated treatment standards or to the analytical test methods currently being used. Enclosure 4 is an EPA document entitled "Best Demonstrated Available Technology (BDAT) Background Document for Cyanide Wastes," discussing EPA's engineering technical rationale and summarizing the data supporting the promulgation of treatment standards applicable to electroplating wastes.

On May 8, 1990, EPA will be promulgating treatment standards applicable to all characteristic wastes. These final treatment standards follow up the enclosed November 22, 1989, 54 FR 48372. This letter does not provide a discussion of the final rule, but instead an overview of the proposed rule. The November 22, 1990, Notice proposed several regulatory options for the development of treatment standards for D006 wastes. The proposal identified three subcategories of D006 wastes: wastewaters, nonwastewaters, and cadmium containing batteries.

For wastewater forms of D006, EPA proposed two regulatory options. One option is to set a treatment standard of 0.20 mg/l cadmium based on chemical precipitation followed by filtration. The other option is to set a treatment standard of 1.0 mg/l cadmium based on the characteristic level, as measured by TCLP or EP Tox.

For nonwastewater forms of D006, EPA proposed two regulatory options. One is to set a treatment standard of 0.14 mg/l (as measured in the extract by the TCLP) based on stabilization. The other one is to set a treatment level of 1.0 mg/l; based on the characteristic level for cadmium wastes, as measured by TCLP or EP Tox.

For nonwastewater forms of D006 belonging to the cadmium containing battery subcategory, EPA proposed the use of thermal recovery of cadmium as prerequisite for disposal. Wastes resulting from the thermal furnaces, e.g., clinkers or slags, would not be prohibited from land disposal. However, wastes resulting from the treatment of air pollution control devices would be required to meet the wastewater and nonwastewater treatment standards for D006; discussed in the above two paragraphs, as a prerequisite for land disposal.

In your letter, you also asked if EPA has taken into consideration the use of any substitutes for cadmium as an anticorrosive-coating alloy. To the best of my knowledge, EPA has not reviewed any data pertinent to the use of metal substitutes for cadmium in coating operations. However, Jose E. Labiosa of my staff has requested from Infoterra a literature search on this matter. Infoterra is an EPA's Library service that had access to databases which include technical publications, research papers, hazardous waste treatment articles and State and Federal regulations focusing on environmental problems such as those described in your letter. It is our understanding that Infoterra will mail to you any information available in our database. Enclosure 5 is a brochure describing Infoterra services.

If you should have any questions, please contact Jose E. Labiosa at (202) 382-4496 for assistance. Jose is a senior chemical engineer who has valuable experience in hazardous waste treatment. Also, he is responsible for the development of final treatment standards applicable to D006 wastes.

I would like to wish you a lot of success in your regulatory efforts to reduce the discharges of cadmium to the North Sea.

Sincerely,



David Bussard  
Acting Director  
Waste Management Division

Enclosures (5)

cc: Keith Chanon, Infoterra



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

9441.1990(12)

MAY 9 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Annetta Watson  
Oak Ridge National Laboratory  
P.O. Box 2008  
Oak Ridge, TN 37831

Dear Ms. Watson:

This letter is in response to your letter of April 2, 1990, concerning the applicability of the Resource Conservation and Recovery Act (RCRA) to the U.S. Army's Chemical Stockpile Disposal Program, and asked for EPA's interpretation of how the hazardous waste regulations apply in the event of a chemical weapon agent release.

In your letter, you asked whether, in a situation where an agent's release is great enough to cause fatalities, RCRA permitting requirements must be satisfied before burial of any agent-contaminated human remains or personal effects. You stated that you understood that the agent was federally listed as a hazardous waste, and was also listed by the states of Kentucky and Oregon.

EPA does not consider RCRA to apply to human remains that are cremated or buried. For instance, under regulations implementing the Medical Waste Tracking Act (RCRA Subtitle J), EPA excluded human corpses, remains, and anatomical parts that are intended for interment or cremation from the medical waste tracking requirements (see 40 CFR 259.30(b)(1)(v)). Thus, the local communities may make appropriate planning arrangements without considering how RCRA requirements would apply to the human remains.

With regard to the personal effects that are contaminated with a listed hazardous waste, RCRA requirements may vary depending on the location of the effects when they are discarded. There is an exclusion for household wastes, generated by consumers in their homes, that would be likely to exclude most personal effects from the federal hazardous waste requirements. See 40 CFR 261.4(b)(1). Thus, persons managing these effects need not comply with permitting or other hazardous waste requirements when disposing of them.



This letter has described the federal hazardous waste requirements; states or localities can have stricter regulations, or requirements that are broader in scope. I suggest that you contact the appropriate state and local agencies to determine what their requirements cover.

If you have further questions, please contact Becky Cuthbertson at (202)475-9715.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sylvia Lowrance', with a stylized flourish at the end.

Sylvia Lowrance, Director  
Office of Solid Waste

cc: EPA Regions 1-10



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAY 23 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPON

Lynn L. Bergeson  
Fox, Weinberg & Bennett  
750 17th Street, NW  
Suite 1100  
Washington, DC 20006

Dear Ms. Bergeson:

This letter is in response to your letter of November 1, 1989, in which you describe a hypothetical situation involving a battery manufacturer, ABC, Inc. You are asking for a determination of the regulatory status of the nickel/cadmium batteries that are returned to ABC Inc., the manufacturer, and subsequently, redistributed or exported. You have stated that the batteries exhibit the characteristic of EP Toxicity for cadmium.

Spent nickel/cadmium batteries returned to the manufacturer for regeneration are excluded from regulation under 40 CFR Parts 262 through Parts 266 or Parts 268, 270 or 124, and are not subject to the notification requirements of Section 3010 of RCRA (40 CFR 261.6(a)(3)(ii)). The facts you have provided indicate that ABC, Inc. does not regenerate the batteries returned; but rather, drains the batteries of fluid and then exports them. Draining the batteries does not constitute regeneration. Therefore, ABC's customers are subject to the regulations of Parts 262 through 266, 268, 270 or 124, including the manifesting requirements, when returning spent nickel/cadmium batteries to ABC, Inc.

ABC's customers must determine if their batteries are spent before sending them off-site. A "spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing (40 CFR 261.1(c)(1)). In the case of used batteries, if the customer has used the battery and can no longer use it for the purpose for which it was produced, it is considered spent. The battery does not have to be contaminated to be considered spent.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 12 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Regulatory Status of Wastes from Piedmont Manufacturing Co., Altavista, VA

FROM: Sylvia K. Lowrance, Director  
Office of Solid Waste

TO: Stephen R. Wassersug, Director  
Hazardous Waste Management Division  
US EPA Region III

As you requested, we have evaluated the process descriptions for Wastestream #4 at Piedmont Manufacturing Company. Our review has included all of the materials provided by Sherman Latchaw of EPA Region III to David Topping of my staff, as well as the discussions in the December 8, 1989, meeting with representatives of Piedmont Manufacturing and the State of Virginia held at EPA Region III's offices. As a result of this review, we agree with your determination that Wastestream #4 is EPA Hazardous Waste No. F006.

The major issue is whether the Piedmont process is, in fact, a "bright dip" (i.e., a chemical etching) process. While Piedmont's previous correspondence describe the process as "bright dip", they have subsequently stated that this was an inaccurate characterization. Further, Piedmont has cited the record for the F006 listing--in particular the Effluent Guidelines Electroplating Document that was referenced in the Listing Background Document--as evidence that the process is not a "bright dipping" operation. Piedmont's discussion primarily centers around the amount of material removed from the brass parts during their operation (on the order of 1/10 mil) as compared to a statement in the document that "...chemical etching is the same as chemical milling except that relatively small amounts (1-5 mils) of metal are removed."

Our conclusion that the Piedmont process is an etching operation is based upon the nature of the physical change that occurs when the brass parts are dipped into the bath. Specifically, metal is removed, or etched, from the surface, resulting in changes in both the appearance (brighter) and physical properties (better adhesion to rubber) of the surface. We believe that this interpretation is consistent with the background document cited by Piedmont (copies of relevant portions attached).

The document begins with a general description of "chemical milling and etching" and states that the general classification includes the specific processes of "... bright dipping..." among others. In the discussion of etching, the bright dipping process is specifically described and is consistent with the process that is used at Piedmont. Further, we believe that the process used to alter the surface of the brass parts at Piedmont is commonly understood to be a bright dipping/etching process. (The fact that metal is being etched from the brass parts is somewhat corroborated by Piedmont's indication that lead is present in significant concentrations in the wastewater treatment sludge from this operation and that the parts (360 brass) appear to be the only source of lead in the operation.)

Should you have any questions regarding this interpretation, please contact David Topping of my staff at (202) 382-7737.

Attachments



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

9441.1990(15)

JUN 14 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

**MEMORANDUM**

**SUBJECT:** Disposal of Personal Protective Gear

**FROM:** Sylvia K. Lowrance, Director  
Office of Solid Waste

A handwritten signature in dark ink, appearing to read "Sylvia K. Lowrance", is written over the typed name and title.

**TO:** David Ullrich, Acting Director  
Waste Management Division, Region V

This memorandum is in response to your letter regarding the disposal of personal protective gear (PPG). As you noted, discarded PPG may be considered a hazardous waste either due to surface contamination or because it exhibits a hazardous characteristic. Judging by the data that you presented, you have suits that, when discarded, are a toxic hazardous waste (due to lead) regardless of whether they were contaminated at a site.

For the purpose of compliance with the Land Disposal Restrictions, treatment options for PPG were addressed in the Third Third final rule's discussion of organic debris (55 FR 22555, June 1, 1990). For your immediate reference, I have attached the pertinent pages of the final rule. While the final rule does not preclude surface decontamination, organic debris will often have to be incinerated prior to stabilization of the metal constituents to comply with the treatment standards.

As you know, all wastes contained in the Third Third were granted a 90-day national capacity variance. Thus, during the variance, wastes not treated in compliance with the applicable treatment standards may be disposed. However, if the waste is disposed of in a surface impoundment or landfill, they may go to such units only if they meet the minimum technological requirements. Furthermore, wastes granted this variance must be in compliance with the California list prohibitions if they are applicable.

After the effective date, the only other option is to obtain a treatability variance. This option is clearly not practical for one set of PPG and probably the variance is not warranted given the fact that the treatment standards are achievable--albeit at a

higher cost. My staff will contact OERR to see if they want to pursue any generic solutions such as identifying a vendor of PPG that has low levels of hazardous constituents or whether a generic treatability variance for PPG is feasible. If I can be of further assistance, please don't hesitate to contact me.

ATTACHMENT

cc: Waste Management Division Directors, Regions I-X  
Russ Wyer  
Dave Fagan  
Paul Nadeau  
Rod Turpin



9441.1990(16)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 19 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Kenneth T. Bowman  
Assistant Counsel  
Commonwealth of Pennsylvania  
Department of Environmental Resources  
1303 Highland Building  
121 S. Highland Avenue  
Pittsburgh, Pennsylvania 15206-3988

Dear Mr. Bowman:

I am writing in regard to your June 5, 1990 letter which requests an interpretation of the exclusion for lime stabilized waste pickle liquor derived from the iron and steel industry at 40 CFR 261.3 (c)(2)(ii)(A) (referred to hereafter as the K062 exemption).

As we discussed in our May 31, 1990 telephone conversation, the K062 exemption only applies to K062 waste generated by the iron and steel industry, and not to commercial hazardous waste treatment facilities. This interpretation was made clear in the May 28, 1986 final rule (see 51 FR 19320). Any lime stabilized K062 sludge which continues to exhibit a characteristic fails to meet the 40 CFR 261.3(c)(2)(ii)(A) requirement for exemption. Therefore, stabilized K062 wastes that continue to exhibit a characteristic remain hazardous, and must continue to be handled as the listed K062 hazardous wastes.

In your letter, you also request information on the November 1986 final exclusions granted to two commercial hazardous waste treatment companies, Tricil Environmental and the Envirite Corporation. Both companies were granted exclusions for residues generated from the treatment of K062 wastes. The K062 exemption did not apply to these situations because Tricil and Envirite are commercial hazardous treatment facilities, and not iron and steel manufacturers. This interpretation is based on the May 28, 1986 final rule.

We currently have four petitions under review which are specifically requesting the exclusion of non-lime stabilized K062 wastes; none of these facilities is a commercial hazardous waste treatment facility. We are also reviewing a draft sampling and analysis plan for an electroplating facility which generates leachate from closed surface impoundments containing K062 wastes. In addition, we proposed decisions for non lime-stabilized K062 waste petitions for Perox, Inc., and Bethlehem Steel Corporation,

on January 12, 1989 (54 FR 1189) and July 31, 1989 (54 FR 31548), respectively.

Finally, we recently received a petition from Mill Service, Pittsburgh, PA, requesting the exclusion of filter cake generated from the treatment of hazardous waste leachate. The waste codes given for the listed waste did not include K062. In the petition, however, Mill Service noted that the facility currently accepts untreated K062 wastes, and performs lime stabilization of the K062 waste on-site. The lime-stabilized K062 waste is then managed as a non-hazardous waste, per Mill Service's interpretation of the K062 exemption at 40 CFR 261.3 (c)(2)(ii)(A). Based on our understanding of the K062 exemption, it is unclear to us how Mill Service qualifies.

If you wish to pursue the Agency's interpretation of the K062 exemption, please contact Mr. John Austin at (202) 382-4787. Should you have any questions or require any additional information regarding delisting, please do not hesitate to contact me at (202) 475-9828.

Sincerely,



Linda R. Cessar  
Variances Section

cc: Robert Kayser, EPA HQ  
Lee Tyner, EPA HQ  
Ed Abrams, EPA HQ  
John Austin, EPA HQ  
David Friedman, EPA Region III





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 29 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. John W. Sutton  
Sterlington Plant  
IMC Fertilizer, Inc.  
Box 626  
Sterlington, LA 71280-0626

FILE COPY

Dear Mr. Sutton:

I am writing in response to your recent letter to David Friedman requesting clarification of when and how to agitate samples being evaluated for corrosivity using Method 1110.

As section 7.3 indicates, the purpose of agitation is to ensure that the steel coupon is exposed to all the components of the waste mixture. While it is probably critical that non-homogeneous liquids be agitated by mechanical means during the coupon exposure period, as the NACE Standard TM-01-69 indicates, for homogeneous liquids of low viscosity, thermal currents may be sufficient to maintain solution homogeneity.

We have not conducted any studies to determine, in a quantitative manner, exactly when, and to what extent, agitation is needed to ensure homogeneity during the exposure period. The only guidance that I can offer is to use your professional judgement and use the mildest agitation that is consistent with the requirement of maintaining contact between the steel coupon and all components of the waste mixture.

I hope that the above discussion is helpful to you. If you have any quantitative data relating agitation rate to waste corrosivity, I would urge you to send it to us so that we may consider possible future revisions to Method 1110. If I may be of further assistance, I can be reached at (202) 475-6722.

Sincerely yours,

*Gail Hansen*

Gail Hansen  
Program Manager,  
Miscellaneous Methods  
Methods Section (OS-331)

cc: Hotline

**I. SIGNIFICANT QUESTIONS AND RESOLVED ISSUES—JUNE 1990****RCRA****1. The Definition of F001-F005 Wastewater**

The RCRA Land Disposal Restrictions treatment standards for spent solvents listed in 40 CFR Section 261.31 are different for wastewaters and nonwastewaters. What is an F001-F005 wastewater? Is it the same as a "solvent-water mixture" or an "aqueous solvent waste?"

The preamble to the "First Third" final rule (53 FR 31145; August 17, 1988) references 51 FR 40579 (November 7, 1986) regarding the definition of a "solvent-water mixture." The citation is, however, incorrect. On page 40579 of the November 7, 1986 Federal Register, EPA discusses "solvent-water mixtures" for purposes of the expired national capacity variance at 40 CFR Section 268.30(a)(3) but does not define the term. The discussion also does not mention total organic carbon.

For the purposes of the Land Disposal Restrictions, the terms "solvent-water mixture," "F001-F005 wastewater" and "aqueous solvent waste" are equivalent. (51 FR 40613; November 7, 1986) The terms refer to any F001, F002, F003, F004 and/or F005 waste which is "primarily water and contains either (1) less than 1.0 percent total organic carbon or (2) less than 1.0 percent total solvents." (51 FR 40613; November 7, 1986; also 40 CFR Section 268.2(a)(6))

Source: Steve Silverman, OGC (202) 382-7706  
Research: Monica Genadio

JUNE 1990

## 2. Dyes used in Ink Formulation (K086)

An ink formulation company in New Jersey claims it only uses dyes and emulsifiers in its production of ink. The dye contains small amounts of lead and chromium. The ink company claims it uses no pigments, driers, soaps or stabilizers in its ink formulation. The listing of K086 specifically states that the waste is generated from ". . . pigments, driers, soaps, and stabilizers containing chromium and lead." For this reason the generator (ink company) feels it is not generating a K086 listed waste. Is the generator correct in its assumption?

No. There is no clear distinction between "dyes" and "pigments," therefore the Agency feels that the term "pigment" used in the listing is synonymous with the term "dye." In the background document for K086, it is stated that the basis for listing K086 is because of the "raw materials [used in the ink formulation] containing lead and hexavalent chromium are listed as hazardous because they typically contain significant concentrations of lead and (presumably hexavalent) chromium." Furthermore, in the background document it mentions that four types of raw materials are used in the ink manufacture: (1) pigments and dyes, flushes and dispersions; (2) chemical specialties (including driers, plasticizers, soaps and stabilizers); (3) resins; and (4) solvents. A waste generated from an ink manufacturer using any of these raw materials, containing lead or chromium, meets the K086 listing. The generator may petition to have its waste delisted if it feels the waste contains "insignificant" amounts of chromium and lead.

Source: Ambika Bathija, OSW (202) 382-7438  
Research: David W. Hacker



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 3 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Paul G. Burkholder  
President, Bowyer Properties  
400 South Washington Street  
Winchester, Virginia 22601

Dear Mr. Burkholder:

This is in response to your letter (undated) that I received June 16, 1990, regarding the regulatory status of creosote treated cross ties going for disposal and the applicable requirements and standards for facilities disposing these materials.

First, I must clarify that the information provided in this letter pertains to the regulatory status of creosote treated cross ties under Subtitle C of the Resource Conservation and Recovery Act (RCRA). In your letter, however, you use the term "hazardous materials." This is a specific term utilized by the United States Department of Transportation (DOT), whereas, the Environmental Protection Agency (EPA) utilizes the term "hazardous waste" when defining a material's regulatory status under the Subtitle C program.

Under Subtitle C of RCRA, material that is disposed or intended for disposal is defined as solid waste pursuant to 40 CFR 261.2. Once a material is identified as a solid waste, this waste can be a hazardous waste if it meets a listing of hazardous waste in Subpart D of 40 CFR Part 261, or if it exhibits a characteristic of hazardous waste identified in Subpart C of 40 CFR Part 261. The EPA has issued final regulations listing unused commercial chemical product creosote, when discarded or intended to be discarded, and two manufacturing process wastes (bottom sediment sludge from the treatment of wastewaters from the wood preserving processes that use creosote and/or pentachlorophenol (K001), and wastewater treatment sludges generated in the production of creosote (K035)) as hazardous waste in Subpart D of 40 CFR Part 261. Additionally, in the December 30, 1988 Federal Register (53 FR 53282), the EPA proposed to amend its regulations by listing as hazardous, several additional wastes from wood preserving operations that use chlorophenolic, creosote, and/or inorganic (arsenical and chromium) preservatives.

Finally, please note that State and local regulatory agencies may have regulations that are more stringent than those at the Federal level. Should you have further questions regarding the regulatory status of creosote treated cross ties at a specific site, I encourage you to contact the appropriate Regional office or State regulatory agency to determine what, if any, additional regulations apply.

Sincerely,

A handwritten signature in cursive script, appearing to read "David Bussard".

David Bussard, Director  
Characterization and  
Assessment Division



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

9441.1990(21)

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Honorable Richard G. Lugar  
United States Senate  
Washington, DC 20510

JUL 19 1990

Dear Senator Lugar:

Thank you for your letter of March 15, 1990 in which you request information concerning Resource Conservation and Recovery Act (RCRA) regulations that may be applicable to electric utility poles. As I understand your constituent's concerns, the local utility is no longer providing these used poles to area residents and you are inquiring as to why this may be.

Subtitle C of RCRA requires that generators of solid waste must determine if the waste generated is hazardous. Once electric utility poles have served their original purpose and are removed, they would meet the RCRA definition of a solid waste. A solid waste can be defined as a hazardous waste if it is listed as a hazardous waste in Subpart D of 40 CFR, Part 261, or if it exhibits a characteristic of hazardous waste identified in Subpart C of 40 CFR, Part 261.

These used utility poles would not currently be classified as a hazardous waste via a listing. Of the four characteristics of hazardous waste--ignitability, corrosivity, reactivity and toxicity--the toxicity characteristic is the only characteristic that may be directly relevant to these poles. This characteristic identifies a number of toxic constituents that may cause a waste to be identified as hazardous.

The Environmental Protection Agency (EPA) recently published the Toxicity Characteristic (TC) Rule which adds 25 organic constituents to the list of constituents which generators of solid waste must consider when making hazardous waste determinations. The TC is designed to address the potential for certain hazardous constituents to leach from waste into ground water. Of concern here might be pentachlorophenol, which is used in the treatment of some wood and wood products. If these poles were treated with this chemical, they may fail the Toxicity Characteristic Leaching Procedure (TCLP) levels for this constituent. Whether they fail the characteristic is determined by how much of the chemical may leach from the poles. The TC regulatory levels are set at 100 times the health-based level, a concentration which is clearly hazardous. It is possible that

these poles may fail the Toxicity Characteristic for this constituent, in which case they would have to be managed as hazardous waste once removed from the ground. You should note, however, that the TC rule does not take effect until September 25, 1990.

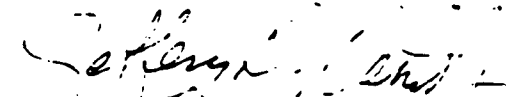
Another reason why these poles may no longer be available to local residents may relate to changes in the State regulations relative to the disposition of the poles once removed from the ground. Your constituent would have to check with the appropriate local officials about State regulations addressing disposition of these poles. Even if used poles are not hazardous wastes, State regulations under Subtitle D of RCRA may preclude the utility from giving these poles to local residents.

A final reason why the utility may have decided not to provide the used poles might be potential liability under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Although used poles may not be hazardous wastes, a court could still hold the utility responsible for their cleanup at some future date should health or environmental problems ensue.

In summary, RCRA regulations and the CERCLA statute may apply to used utility poles once they are removed from the ground. The specific reason(s) why the utility is no longer providing these poles can not be determined without more information.

I hope this information is helpful. If I can be of further assistance, please feel free to contact me.

Sincerely yours,



Sylvia K. Lowrance, Director  
Office of Solid Waste



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

AUG 17 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Gilbert H. Lewis  
President  
American Industries, Inc.  
2166 Wisconsin Avenue  
Washington, D.C. 20007

Dear Mr. Lewis:

Thank you for your July 26 letter, regarding clarification on whether used oil filters will be classified as hazardous waste as a result of the Toxicity Characteristic (TC) rule published in the Federal Register on March 29, 1990 (55 FR 11798) and on the applicability of the rule to military bases.

Under the hazardous waste program, each generator of a solid waste must determine whether his waste is a hazardous waste, using either his knowledge of the process or by running the Toxicity Characteristic Leaching Procedure (TCLP). To date, there is no available data or testing methodology specific for used oil filters relating to the TCLP. However, as the rule states, if the waste extract (from a TCLP-tested used oil filter) contains a hazardous constituent(s) at concentrations equal to or above the regulatory level(s), the waste (used oil filter) is considered a hazardous waste and subject to all applicable subtitle C requirements. If the oil is drained from the filter, it is less likely to be hazardous waste.

Additionally, you should note that a hazardous waste generator is a "conditionally exempt small quantity generator" if he generates no more than 100 kilograms of hazardous waste in a calendar month (see 40 CFR 261.5). Under this exemption, the generator can generate up to 220 lbs./month of hazardous waste and not accumulate at any time more than a total of 2200 lbs. (1000 kg.) of hazardous waste. As long as these generation and accumulation volumes are not exceeded, the generator is not required to comply with the hazardous waste management regulations.

As for the rule's applicability to military bases, pursuant to RCRA section 6001, "Each department, agency, and instrumentality of the executive, legislative, and judicial branches of the Federal Government .... engaged in activity resulting in the disposal or management of solid waste or



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

AUG 21 1990

**MEMORANDUM**

**SUBJECT:** RCRA Applicability to Military Munitions

**TO:** James Reidy, P.E., Chief  
Caribbean Facilities Section (2AWM-HWF)

**FROM:** Sonya M. Sasseville, Chief  
Alternative Technology and Support Section (OS-343)

Thank you for your memo of July 11, 1990 in which you elaborate upon the previous conversation between Chester Oszman of my staff and Mr. Jean of your staff regarding the point when munitions become hazardous waste and are regulated under the RCRA program. The Naval Ammunition Facility (NAF) at Vieques Island, Puerto Rico does not, as you point out, conduct a regulatable activity when storing "unserviceable" military munitions (e.g., damaged, outdated or possibly defective munitions) which have not been designated for demilitarization.

EPA supports Dept. of Defense's (DOD) definition of the point at which a munition or ordnance becomes a hazardous waste since that is DOD's responsibility as a generator. Unserviceable military munitions become hazardous waste normally at the point the transfer record (e.g. DD form 1348-1, DA Form 4508, or equivalent) is signed by the last approval authority acknowledging receipt of the munition or ordnance at a demilitarization facility. This happens when the U.S. Atlantic Fleet Weapons Training Area receives unserviceable munitions sent by NAF to be demilitarized.

In your letter, you mention that NAF stores ignitable, corrosive and reactive (other than serviceable or unserviceable munitions) wastes. These waste streams are waste when there is an intent to discard and are, in that case, fully regulated in the RCRA system. All applicable requirements of 40 CFR Parts 260-272 apply.

- 2 -.

I agree with your strategy that interim status for the facility should not be terminated immediately even though the NAF is withdrawing its Part B permit application. Before the facility at NAF can become a less than 90 day accumulator, all units that operated under interim status must be properly closed.

If you have any questions or would like to discuss the situation at NAF further, please feel free to call me, or Chester Oszman at 382-4499.

cc: Chester Oszman

# **NUCLEAR REGULATORY COMMISSION**

## **Below Regulatory Concern; Policy Statement**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Policy statement.

**SUMMARY:** This policy statement establishes the framework within which the Commission will formulate rules or make licensing decisions to exempt from some or all regulatory controls certain practices involving small quantities of radioactive material. Opportunity for public comment will be provided with each rulemaking and each licensing action where generic exemption provisions have not already been established. The exemptions may involve the release of licensee-controlled radioactive material either to the generally accessible environment or to persons who would be exempt from Commission regulations. Practices for which exemptions may be granted include, but are not limited to, (1) the release for unrestricted public use of lands and structures containing residual radioactivity; (2) the distribution of consumer products containing small amounts of radioactive material; (3) the disposal of very low-level radioactive waste at other than licensed disposal sites; and (4) the recycling of slightly contaminated equipment and materials. As described in this policy statement, NRC intends to continue exempting specific practices from regulatory control if the application or continuation of regulatory controls is not necessary to protect the public health and safety and the environment, and is not cost effective in further reducing risk. The policy statement defines the dose criteria and other considerations that will be used by NRC in making exemption decisions. The policy establishes individual dose criteria (1 and 10 mrem per year [0.01 and 0.1 millisievert per year]) and a collective dose criterion (1000 person-rem per year [10 person-sievert per year]). These criteria, coupled with other considerations enumerated in the policy statement, will be major factors in the Commission's determination on whether exemptions from regulatory controls will be granted.

The policy statement establishes a consistent risk framework for regulatory exemption decisions, ensures an adequate and consistent level of protection of the public in their use of radioactive materials, and focuses the Nation's resources on reducing the most significant radiological risks from practices under NRC's jurisdiction. The average U.S. citizen should benefit from implementation of the BRC policy through (1) enhanced ability of NRC, Agreement States, and licensees to focus resources on more significant risks posed by nuclear materials; (2) timely and consistent decisions on the need for cleanup of contaminated sites; (3) increased assurance that funds available to decommission operating nuclear facilities will be adequate; (4) reduced costs and overall risks to the public from managing certain types of slightly radioactive

waste in a manner commensurate with their low radiological risk; and (5) increased assurance of a consistent level of safety for consumer products containing radioactive material under the Commission's jurisdiction.

**EFFECTIVE DATE:** July 3, 1990

**ADDRESSES:** Documents referenced in this policy statement are available for inspection in the NRC Public Document Room, 2120 L Street, N. W. (Lower Level), Washington, DC.

### **FOR FURTHER INFORMATION CONTACT:**

The appropriate NRC Regional Office:

**Region I -** Dr. Malcom Knapp, King of Prussia, Pennsylvania; telephone (215) 337-5000

**Region II -** Mr. J. Philip Stohr, Atlanta, Georgia; telephone (404) 331-4503

**Region III -** Mr. Charles E. Norelius, Glen Ellyn, Illinois; telephone (708) 790-5500

**Region IV -** Mr. Arthur B. Beach, Arlington, Texas; telephone (817) 860-8100

**Region V -** Mr. Ross A. Scarano, Walnut Creek, California; telephone (415) 943-3700

Federal and State Government Officials may contact: Mr. Frederick Combs, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Office of Governmental and Public Affairs, telephone (301) 492-0325.

Questions may also be directed to the following individuals at the U.S. Nuclear Regulatory Commission, Washington, DC 20555.

Dr. Donald A. Cool, Office of Nuclear Regulatory Research; telephone (301) 492-3785

Mr. John W. N. Hickey, Office of Nuclear Material Safety and Safeguards; telephone (301) 492-3332

Mr. L. J. Cunningham, Office of Nuclear Reactor Regulation; telephone (301) 492-1086

### **SUPPLEMENTARY INFORMATION:**

## **Statement of Policy**

### **I. Introduction.**

Ionizing radiation is a fact of life. From the day we are born until the day we die, our bodies are exposed to

censing, inspection, and enforcement programs. For example, the Commission may promulgate regulations that would require some type of labeling so that consumers could make informed decisions about purchasing a product containing exempted materials. Such labeling is presently required by the Commission for smoke detectors containing radioactive material (see 10 CFR 32.26). The NRC ensures that manufacturers label the detectors in compliance with the labeling requirement through licensing reviews and inspections. Specific source controls and exemption conditions are not discussed further in this policy because they will be more appropriately addressed in developing the exemption requirements for specific exemption proposals.

The concept of regulatory exemptions is not new. The Atomic Energy Act of 1954, as amended, authorizes the Commission to exempt certain classes, quantities, or uses of radioactive material when it finds that such exemptions will not constitute an unreasonable risk to common defense and security and to the health and safety of the public. In the 1960s and 1970s, the Atomic Energy Commission used this authority to promulgate tables of exempt quantities and concentrations for radioactive material. These exemptions allow a person or a licensee, under certain circumstances, to receive, possess, use, transfer, own, or acquire radioactive material without a requirement for a license (30 FR 8185; June 26, 1965 and 35 FR 6425; April 22, 1970). The Commission currently allows distribution of consumer products or devices to the general public and allows releases of radioactive material to the environment consistent with established regulations. For example, regulations currently specify the conditions under which licensees are allowed to dispose of small quantities of radioactive material into sanitary sewer systems (see 10 CFR 20.303). These existing regulations specify requirements, conditions, and constraints that a licensee must meet if radioactive material is to be "transferred" from a regulated to an exempt or unregulated status.

More recently, Section 10 of the Low-Level Radioactive Waste Policy Amendments Act (LLRWPA) of 1985 directed the Commission to develop standards and procedures and act upon petitions "to exempt specific radioactive waste streams from regulation ... due to the presence of radionuclides in sufficiently low concentrations or quantities as to be below regulatory concern." The Commission responded to this legislation by issuing a policy statement on August 29, 1986 (51 FR 30839). That policy statement contained criteria that, if satisfactorily addressed in a petition for rulemaking, would allow the Commission to act expeditiously in proposing appropriate relief in its regulations on a "practice-specific" basis consistent with the merits of the petition.

Federal and State agencies have also developed and implemented similar exemptions based on evaluations of

their risks to the public and the environment. The Food and Drug Administration (FDA), for example, has applied sensitivity-of-method, risk-based guidelines in connection with the regulation of animal drugs, food contaminants, and trace constituents in some food additives. Similarly, the Environmental Protection Agency (EPA) established exemption or threshold levels based on individual risks in the regulation of pesticides and other toxic and carcinogenic chemicals. For example, EPA employs such a concept in defining hazardous waste through the new Toxicity Characteristic rule in 40 CFR Part 261 [55 FR 11798; March 29, 1990].

The Commission believes that the Below Regulatory Concern policy is needed to establish a consistent, risk-based framework for making exemption decisions. Specifically, this framework is needed to (1) focus the resources of NRC, Agreement States, and licensees on addressing more significant risks posed by nuclear materials; (2) ensure that beyond the adequate protection threshold potential benefits from additional regulation outweigh the associated burdens; (3) establish residual radioactivity criteria and requirements for decommissioning and cleanup of radioactive contamination at licensed and formerly-licensed facilities; (4) ensure that licensee decommissioning funding plans provide adequate funds to cover the costs of cleanup of these facilities to protect people and the environment; (5) ensure that the public is consistently protected against undue risk from consumer products that contain radioactive materials under the Commission's jurisdiction; (6) provide decision criteria for reviewing petitions to exempt very low-level radioactive wastes in accordance with the Low-Level Radioactive Waste Policy Amendments Act of 1985; and (7) ensure that existing exemptions involving radioactive materials are consistent and adequate to protect the public.

The Commission's BRC policy establishes an explicit and uniform risk framework for making regulatory exemption decisions. This policy will also be used by the Commission as a basis for reevaluating existing NRC exemptions to ensure that they are consistent with the criteria defined herein. In lieu of such a policy, the Commission could continue the current practice of evaluating exemptions on a case-specific basis. Such an approach, however, does not ensure consistent evaluation and control of risks associated with exempted practices. For this reason and the reasons discussed above, the Commission has established the BRC Policy Statement. This policy supersedes the Atomic Energy Commission's policy statement on this subject [30 FR 3462; March 16, 1965].

The Commission recognizes that Agreement States will play an important role in the implementation of the Below Regulatory Concern policy, specifically in the areas of developing and enforcing compatible State regulations, regulating cleanup and decommissioning of certain types of contaminated nuclear facilities, and exempting

processes. Underground ore bodies depleted by these solution extraction operations do not constitute "byproduct material" within this definition.

"Collective dose" is the sum of the individual doses (total effective dose equivalents) received in a given period of time by a specified population from exposure to a specified source of radiation (or practice involving the use of radioactive material). Note: The calculated collective dose used to determine compliance with the criterion of this policy need not include individual dose contributions received at a rate of less than 0.1 mrem per year (0.001 mSv/year).

"Committed effective dose equivalent" is the sum of the products of weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to those organs or tissues.

"Deep dose equivalent" is the dose equivalent at a tissue depth of 1 cm.

"Dose" or "radiation dose" in this policy is the total effective dose equivalent.

"Exemption from regulatory control" refers to a decision process that may allow radioactive material to be transferred from a regulated status to an unregulated status, in which the material will no longer be subject to NRC requirements. Decisions to grant exemptions will be based upon findings by reason of quantity or concentration that the radioactive material poses a small risk to public health and safety and the environment and that the small magnitude of the risk does not warrant expenditure of additional resources of regulatory agencies and the regulated community in attempting to further reduce the risk.

"Exposure" means being exposed to ionizing radiation or to radioactive material.

"Licensed material" means source material, special nuclear material, or byproduct material that is received, possessed, used, transferred, or disposed of under a general or specific license issued by the Commission or an Agreement State.

"Licensee" means the holder of an NRC or Agreement State license.

"Linear, no-threshold hypothesis" refers to the theory that there is a proportional relationship between a given dose of radiation and the statistical probability of the occurrence of a health effect (such as latent cancers and genetic effects), and that there is no dose level below which there is no risk from exposure to radiation.

"Natural background dose" means the dose received from naturally occurring cosmic and terrestrial radiation and radioactive material but not from source, byproduct, or special nuclear material.

"Practice" is a defined activity or a set or combination of a number of similar coordinated and continuing activities aimed at a given purpose that involves the potential for radiation exposure. Disposal of specified types of very low-level radioactive waste; the release for unrestricted public use of lands and structures with residual levels of radioactivity; the distribution, use, and disposal of specific consumer products containing small amounts of radioactive material; and the recycle and reuse of specific types of residually contaminated materials and equipment are examples of practices for which this policy will have potential applicability. (See Section III for further discussion of practice).

"Rem" is the special unit of dose equivalent (1 rem = 0.01 sievert).

"Risk," for purposes of this policy, means the annual or lifetime probability of the development of fatal cancer from exposure to ionizing radiation and is taken as the product of the dose received by an exposed individual and a conversion factor based upon the linear, no-threshold hypothesis. The conversion factor for dose to risk is taken to be  $5 \times 10^{-4}$  fatal cancers per rem of radiation dose. The fatal cancer risk is considered, in general, to be more likely than other radiation induced health effects and to be the most severe outcome to an individual. While the Commission recognizes that the risks from exposure to radiation are greater for children than adults and that there are increased risks from exposure to the embryo/fetus, the estimate of fatal cancer risk for all ages and both sexes is considered to be an appropriate measure of risk from practices being considered for exemption in accordance with this policy statement (see Appendix).

"Source material" means —

- (1) Uranium or thorium, or any combination of uranium and thorium in any physical or chemical form; or
- (2) Ores which contain, by weight, one-twentieth of one percent (0.05 percent), or more, of uranium, thorium, or any combination of uranium and thorium. Source material does not include special nuclear material.

"Special nuclear material" means —

- (1) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of Section 51 of the Act,

quirements for further dose reductions or licensee resources to comply with such requirements is no longer warranted. These specific criteria include (1) values for the individual annual dose reasonably expected to be received as a result of the practice (e.g., an average dose to individuals in a critical group) and (2) a measure of radiological impact to the exposed population. In combination, these criteria are chosen to ensure that, for the average dose to members of the critical population group from a given exempted practice, individuals will not be exposed to a significant radiological risk and that the population as a whole does not suffer a significant radiological impact.

It is important to emphasize that, in this policy, the Commission does not assert an absence or threshold of risk at low radiation dose levels but rather establishes a baseline level of risk beyond which further government regulation to reduce risks is unwarranted. As described in the Appendix to this policy statement, the technical rationale for the Commission's BRC criteria is explicitly based on the hypothesis that the risk from exposure to radiation is linearly proportional to the dose to an individual. However, the presence of natural background radiation and variations in the levels of this background have been used to provide a perspective from which to judge the relative significance of the radiological risks involved in the exemption decision-making process.

The Commission notes that adoption of the individual and collective dose criteria does not indicate a decision that doses above the criteria would necessarily preclude exemptions. The criteria simply represent a range of risk that the Commission believes is sufficiently small compared to other individual and societal risks that further cost-risk reduction analyses are not required in order to make a decision regarding the acceptability of an exemption. Practices not meeting these criteria may nevertheless be granted exemptions from regulatory control on a case-by-case basis in accordance with the principles embodied within this policy, if (1) the potential doses to individual members of the public are sufficiently small or unlikely; (2) further reductions in the doses are neither readily achievable nor significant in terms of protecting the public health and safety and the environment; and (3) the collective dose from the exempted practice is ALARA.

## B. The Individual Dose Criterion.

The Commission has noted that, although there is significant uncertainty in calculations of risks from low-level radiation, in general these risks are better understood than the risks from other hazards such as toxic chemicals. Moreover, radiation from natural background poses involuntary risks (primarily cancers), which must be

accepted as a fact of life and are identical to the kinds of risks posed by radiation from nuclear materials under NRC jurisdiction. These facts provide a context in which to compare quantitatively the radiation risks from various practices and make radiation risk especially amenable to the use of the approach described below to define an acceptable BRC level.

The Commission believes that if the risk from doses to individuals from a practice under consideration for exemption is comparable to other voluntary and involuntary risks which are commonly accepted by those same individuals without significant efforts to reduce them, then the level of protection from that practice should be adequate. Furthermore, for risks at or below these levels there would be little merit in expending resources to reduce this risk further. The Commission believes the definition of a BRC dose level can be developed from this perspective.

Variations in natural background radiation apparently play no role in individuals' decisions on common matters such as places to live or work (e.g., the 60–70 mrem differences between average annual doses received in Denver, Colorado versus Washington, DC). In addition, individuals generally do not seem to be concerned about the difference in doses between living in a brick versus a frame house, the 5 mrem dose received during a typical roundtrip coast-to-coast flight, or incremental doses from other activities that fall well within common variations in natural background radiation. These factors lead to the conclusion that differential risks corresponding to doses on the order of 5–10 mrem (0.05–0.1 mSv) are well within the range of doses that are commonly accepted by members of the public, and that this is an appropriate order of magnitude for the Commission's BRC individual dose criterion.

Although the uncertainties in risk estimates at such low doses are large, the risk to an individual as calculated using the linear, no-threshold hypothesis is shown in Table 1 for various defined levels of annual individual dose. The values in the hypothetical lifetime risk column are based on the further assumption that the annual dose is continuously received during each year of a 70-year lifetime. To provide further perspective, a radiation dose of 10 mrem per year (0.1 mSv per year) received continuously over a lifetime corresponds to a risk of about 4 chances in 10,000 ( $3.5 \times 10^{-4}$ ) or a hypothetical increase of about 0.25% in an individual's lifetime risk of fatal cancer. The Commission prefers to use factors of ten to describe such low individual doses because of the large uncertainties associated with the dose estimates. The Appendix to the policy statement provides a more complete discussion of the risks and uncertainties associated with low doses and dose rates.

should exclude consideration of those individuals whose annual effective dose equivalent is less than or equal to 1 mrem per year (0.01 mSv per year). In the sensitivity-of-measure, risk-based guidelines used by EPA and FDA, a  $10^{-6}$  lifetime risk of cancer has been used as a quantitative criterion of insignificance. Using an annual risk coefficient of  $5 \times 10^{-4}$  health effects per rem ( $5 \times 10^{-2}$  per sievert), as discussed in the Appendix, the  $10^{-6}$  lifetime risk value would approximate the calculated risk that an individual would incur from a continuous lifetime dose rate in the range of 0.01 to 0.1 mrem (0.0001 to 0.001 mSv) per year.

As a practical matter, consideration of dose rates in the microrem per year range and large numbers of hypothetical individuals potentially exposed to an exempted practice may unduly complicate the dose calculations that will be used to support demonstrations that proposed exemptions comport with the criteria in this policy. The Commission believes that inclusion of individual doses below 0.1 mrem per year (0.001 mSv per year) introduces unnecessary complexity into collective dose assessments and could impute an unrealistic sense of the significance and certainty of such dose levels. For all of these reasons, the Commission concludes that 0.1 mrem (0.001 mSv) per year is an appropriate truncation value to be applied in the assessment of collective doses for the purposes of this policy.

#### IV. Implementation.

The Commission's BRC policy will be implemented principally through rulemakings; however, exemption decisions could also be implemented through specific licensing actions.

In the first case, a proposal for exemption, whether initiated by the NRC or requested by outside parties in a petition for rulemaking, must provide a basis upon which the Commission can determine if the basic policy criteria have been satisfied. The Commission intends to initiate a number of rulemakings on its own (e.g., to establish a dose criterion for decommissioning) and may initiate others as a result of NRC's review of existing codified exemptions (e.g., consumer product exemptions in 10 CFR Parts 30 and 40). Rulemakings may also be initiated in response to petitions for rulemaking submitted by outside parties, such as a BRC waste petition submitted in accordance with Section 10 of the Low-Level Radioactive Waste Policy Amendment Act of 1985. In general, rulemaking exemption proposals should assess the potential health and safety impacts that could result if the exemption were to be granted.

The proposal should consider the uses of the radioactive materials, the pathways of exposure, the levels of radioactivity, and the methods and constraints for ensur-

ing that the assumptions used to define a practice remain appropriate as the radioactive materials move from a regulated to an unregulated status. Any such rulemaking action would follow the Administrative Procedure Act, which requires publication of a proposed rule in order to solicit public comment on the rulemaking action under consideration. The rulemaking action would include an appropriate level of environmental review in accordance with the Commission's regulations in 10 CFR Part 51, which implement the National Environmental Policy Act.

If a proposal for exemption results in a Commission regulation containing specific requirements for a particular exemption, a licensee using the exemption would no longer be required to apply the ALARA principle to reduce doses further for the exempted practice provided that it meets the conditions specified in the regulation. The promulgation of the regulation would, under these circumstances, constitute a finding that the practice is exempted in accordance with the provisions of the regulation and that ALARA considerations have been adequately addressed from a regulatory standpoint. The Commission in no way wishes to discourage the voluntary application of additional health physics practices which may, in fact, reduce actual doses significantly below the BRC criteria or the development of new technologies to enhance protection to the public and the environment. This is particularly pertinent in the area of decontamination and decommissioning, where the Commission anticipates that emerging technologies over the next several decades should enhance existing technical capabilities and further reduce doses to workers and the public and where other Federal agencies are in the process of developing standards which may affect those receiving exemptions.

The second means of policy implementation could involve exemptions that would be granted through licensing actions, such as determinations that a specific site has been sufficiently decontaminated to be released for unrestricted public use. The NRC intends to develop guidance regarding the implementation of the BRC criteria to ensure that such site-specific actions adhere to the criteria and principles of this policy statement. New licensing actions that transfer radioactive material to an unregulated status will be noticed in the Federal Register if they differ from previous generic exemption decisions.

One of the principal benefits of the policy is that it provides a framework to evaluate and ensure the consistency of past exemption decisions by the Commission. With the adoption of this BRC policy, the NRC will initiate a systematic assessment of exemptions currently existing in NRC's regulations to ensure that the public is adequately and consistently protected from the risks associated with exempted practices. In addition, the NRC will, on a periodic basis, review the exemptions granted under

information may be useful in characterizing a practice on a national basis.

**3. As low as is reasonably achievable (ALARA).** An analysis should be provided that demonstrates that radiation exposure and radionuclide releases associated with the exempted practice overall will be ALARA consistent with the criteria in this policy. The ALARA principle referred to in 10 CFR Part 20 applies to efforts by licensees to maintain radiation exposures and releases of radioactive materials to unrestricted areas as low as is reasonably achievable. Appendix I to 10 CFR Part 50 describes ALARA for radioactive material releases from light water reactors (nuclear power plants). Exemption proposals should describe how ALARA considerations have been applied in the design, development, and implementation of controls for the proposed practice. Licensee compliance with the ALARA principle must remain in effect up to and including the point at which the materials are transferred to an unregulated status in accordance with an exemption granted under this policy.

#### D. Impact Analyses.

To support and justify a request for exemption, each petitioner or licensee should assess the radiological and nonradiological impacts of the proposed exemption. The analyses should be based on the characterizations described previously and should cover all aspects of the proposed exempt practice, including possession, use, transfer, ownership, and disposal of the material. NRC consideration of the exemption proposal and any environmental assessments and regulatory analyses required to implement the exemption will be based on the impact analyses and supporting characterizations.

**1. Radiological impacts.** The evaluation of radiological impacts should clearly address the policy's individual and collective dose criteria or provide a sufficient ALARA evaluation supporting the exemption. In either case, the following impacts should be assessed:

- Average doses to the critical population group;
- Collective doses to the critical population group and the total exposed population (under conditions defined in Section III); and
- The potential for and magnitude of doses associated with accidents, misuses, and re-concentration of radionuclides.

The collective doses should be estimated and summed in two parts: total dose to the critical population group and total dose to the exposed population. The critical group is the relatively homogeneous group of individuals whose exposures are likely to be the greatest and for whom the assessment of doses is likely to be the most

accurate. Average doses to this group are the controlling factors limiting individual doses and risk, and should be compared with the individual dose criteria, as appropriate. The critical group should be the segment of the population most highly exposed to radiation or radioactive materials associated with the use of radioactive material under unregulated conditions. The second part of the population exposure is the general population exposure, exclusive of critical group exposure. For this group, the individual exposures should be smaller, and the assessment will often be less precise. The impacts analysis should present an estimate of the distribution of doses within the general population. In situations where truncation of the collective dose calculation is done under the provisions of this policy, the basis for applying the truncation provision should be provided.

The evaluation of radiological impacts should distinguish between expected and potential exposures and events. The analysis of potential exposures in accident or misuse scenarios should include all of the assumptions, data, and results used in the analysis in order to facilitate review. The evaluation should provide sufficient information to allow a reviewer to independently confirm the results. The potential for reasonable interactions between the exempted radioactive material and the public should be assessed.

**2. Other impacts.** The analysis of other radiological impacts such as those from transportation, handling, processing, and disposal of exempted materials should be evaluated. Nonradiological impacts on humans and the environment should also be evaluated in accordance with NRC requirements in 10 CFR Part 51. The analysis should also consider any adverse impact of the measures taken to provide nonradiological protection on radiation exposure and releases of radioactive material. Any NRC action to exempt a practice from further regulatory control would not relieve persons using, handling, processing, owning, or disposing of the radioactive material from other requirements applicable to the nonradiological properties of the material.

#### E. Cost-Benefit Considerations (as required).

A cost/benefit analysis is an essential part of both environmental and regulatory impact considerations. The analysis should focus on expected exposures and realistic concentrations or quantities of radionuclides. The cost/benefit analysis should compare the exposures and economic costs associated with the regulated practice and alternatives not subject to regulation. Benefits and costs should be considered in both quantitative and qualitative terms. Costs of surveys and compliance verification discussed under Item V.G. should also be covered. Any legal or regulatory constraints that might affect an exemption decision should be identified. For example, one such constraint might stem from Department of Transportation



## APPENDIX – DOSE AND HEALTH EFFECTS ESTIMATION

### I. Dose Estimation

In estimating the dose rates to members of the public that might arise through various practices for which exemptions are being considered, the Commission has decided to apply the concept of the "total effective dose equivalent." This concept, which is based on a comparison of the delayed health effects of ionizing radiation exposures, permits the calculation of the whole body dose equivalent of partial body and organ exposures through use of weighting factors. The concept was proposed by the International Commission on Radiological Protection (ICRP) in its Publication 26 issued in 1977. Since that time, the concept has been reviewed, evaluated, and adopted by radiation protection organizations throughout the world and has gained wide acceptance. The "total effective dose equivalent" concept is incorporated in "Radiation Protection Guidance to Federal Agencies for Occupational Exposure—Recommendations Approved by the President," that was signed by the President and published in the Federal Register on January 27, 1987 (52 FR 2822). The Commission recognizes that, in considering specific exemption proposals, the total effective dose equivalent must be taken into account.

### II. Estimating Health Effects From Radiation Exposure

#### A. Individual Risks.

In the establishment of its radiation protection policies, the Commission has considered the three major types of stochastic (i.e., random) health effects that can be caused by relatively low doses of radiation: cancer, genetic effects, and developmental anomalies in fetuses. The NRC principally focuses on the risk of fatal cancer development because (1) the mortality risk represents a more severe outcome than the nonfatal cancer risk, and (2) the mortality risk is thought to be higher than the risk associated with genetic effects and developmental effects on fetuses.<sup>2</sup> However, even though radiation has been shown to be carcinogenic, the development of a risk factor applicable to continuing radiation exposures at levels equal to natural background<sup>3</sup> requires a significant extrapolation

from the observed effects at much higher doses and dose rates.<sup>4</sup> This results in significant uncertainty in risk estimates as reflected by the views of experts in the field. For example, the Committee on the Biological Effects of Ionizing Radiation (BEIR III) of the National Academy of Science cautioned that the risk values are "...based on incomplete data and involve a large degree of uncertainty, especially in the low dose region." This Committee also stated that it "...does not know whether dose rates of gamma or x-rays (low LET; low linear energy transfer radiation) of about 100 mrad/year (1 mGy/year) are detrimental to man." More recently, the BEIR V Committee of the National Academy of Science/National Research Council stated that it "recognizes that its risk estimates become more uncertain when applied to very low doses. Departures from a linear model at low doses, however, could either increase or decrease the [estimation of] risk per unit dose." The Commission understands that the Committees' statements reflect the uncertainties involved in estimating the risks of radiation exposure and do not imply either the absence or presence of detrimental effects at such low dose levels.

The United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) stated in their 1988 Report to the General Assembly that "...there was a need for a reduction factor to modify the risks (derived at high doses and dose rates)...for low doses and dose rates....[A]n appropriate range (for this factor) to be applied to total risk for low dose and dose rate should be between 2 and 10." This factor would lead to a risk coefficient value between  $7 \times 10^{-5}$  and  $3.5 \times 10^{-4}$  per rad ( $7 \times 10^{-3}$  and  $3.5 \times 10^{-2}$  per Gy) based on an UNSCEAR risk coefficient of  $7.1 \times 10^{-4}$  per rad ( $7.1 \times 10^{-2}$  per gray) for 100 rad (1 gray) organ absorbed doses at high dose rates. The report also stated, "The product of the risk coefficient appropriate for individual risk and the relevant collective dose will give the expected number of cancer deaths in the exposed population, provided that the collective dose is at least of the order of 100 person-Sv (10,000 person-rem). If the collective dose is only a few person-Sv (a few hundred person-rem), the most likely outcome is zero deaths."

In December 1989, the BEIR V Committee published a report entitled "Health Effects of Exposure to Low Levels of Ionizing Radiation," which contained risk estimates that are, in general, similar to the findings of

<sup>2</sup> Further discussion of these topics is provided in "Sources, Effects and Risks of Ionizing Radiation," United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), 1988 Report to the General Assembly with Annexes.

<sup>3</sup> Natural background radiation can vary with time and location. In Washington, D.C., natural background radiation (excluding radon) results in individual doses of about 90 mrem per year (0.9 mSv/yr), while in Denver, Colorado, the value is about 160 mrem per year (1.6 mSv/yr). In both cases, naturally occurring radioactive material in the human body contributes approximately 40 mrem per year. Radiation from inhalation of the daughter products of radon contributes an average additional dose of 200 mrem per year (2 mSv/yr) to members of the U.S. population (NCRP Report No. 93, "Ionizing Radiation Exposure of the Population of the United States").

<sup>4</sup> The health effects clearly attributable to radiation have occurred principally among early radiation workers, survivors of the atomic bomb explosions at Hiroshima and Nagasaki, individuals exposed for medical purposes, and laboratory animals. Natural background radiation causes an annual dose that is at least two orders of magnitude less than the dose received by human populations from which the cancer risks are derived. Experiments at the cellular level, however, provide similar indications of biological effects at low doses.

Table 1

Incremental Annual Dose*	Hypothetical Incremental Annual Risk**	Hypothetical Lifetime Risk From Continuing Annual Dose**
100 mrem (1.0 mSv)	$5 \times 10^{-5}$	$3.5 \times 10^{-3}$
10 mrem (0.1 mSv)	$5 \times 10^{-6}$	$3.5 \times 10^{-4}$
1 mrem (0.01 mSv)	$5 \times 10^{-7}$	$3.5 \times 10^{-5}$
0.1 mrem (0.001 mSv)	$5 \times 10^{-8}$	$3.5 \times 10^{-6}$

- \* The expression of dose refers to the Total Effective Dose Equivalent. This term is the sum of the deep (whole body) dose equivalent for sources external to the body and the committed effective (whole body) dose equivalent for sources internal to the body.
- \*\* Risk coefficient of  $5 \times 10^{-4}$  per rem ( $5 \times 10^{-3}$  per Sv) for low linear energy transfer radiation has been conservatively based on the results reported in UNSCEAR 1988 (Footnote 2) and BEIR V (see also NUREG/CR-4214, Rev. 1).

### III. Dose and Risk Estimation

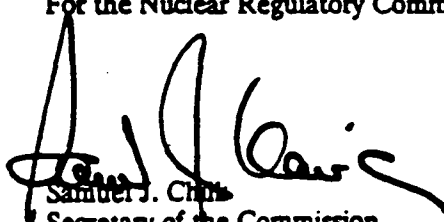
The Commission recognizes that it is frequently not possible to measure risk to individuals or populations directly and, in most situations, it is impractical to measure annual doses to individuals at the low levels associated with potential exemption decisions. Typically, radionuclide concentrations or radiation dose rates can only be measured before the radioactive material is released from regulatory control. Estimates of doses to members of the public from the types of practices that the

Commission would consider exempting from regulatory control must be based on input of these measurements into exposure pathway models, using assumptions related to the ways in which people might become exposed. These assumptions incorporate sufficient conservatism to account for uncertainties so that any actual doses would be expected to be lower than the calculated doses. The Commission believes that this is an appropriate approach to be taken when determining if an exemption from some or all regulatory controls is warranted.

The additional views of Commissioner Curtiss and Chairman Carr's comments are attached.

Dated at Rockville, Maryland, this 22<sup>nd</sup> day of June, 1990.

For the Nuclear Regulatory Commission.

  
Samuel J. Carr  
Secretary of the Commission.

the individual and collective dose criteria can be designated below regulatory concern, it is unclear why the Commission would then go on to say that it expects additional steps to be taken to keep exposures ALARA. As a general matter, I do not object to the ALARA concept. Indeed, I support the notion that collective dose and ALARA analyses should be performed in a manner that is consistent with basic national and international radiation protection principles. But in the context of a Policy Statement on Below Regulatory Concern, for the Commission to say on the one hand that the individual and collective dose criteria reflect levels below which no regulatory resources should be expended, while at the same time encouraging voluntary ALARA efforts to achieve lower doses, sends a confusing regulatory message.<sup>3</sup> For the sake of regulatory clarity, I would explicitly identify the individual and collective dose criteria as floors to ALARA.

### Justification of Practice

On the issue of justification of practice, the Policy Statement is unclear as to when and under what circumstances the justification of practice principle would be applied. At one point, the Policy Statement provides that:

The Commission believes that justification decisions involving social and cultural value judgments should be made by affected elements of society and not the regulatory agency. Consequently, the Commission will not consider whether a practice is justified in terms of net societal benefit.

At another point, the Policy Statement indicates that:

The Commission may determine on the basis of risk estimates and associated uncertainties that certain practices should not be considered candidates for exemption, such as the introduction of radioactive materials into products to be consumed or used primarily by children.

This bifurcated approach to justification of practice, which appears to distinguish practices involving children

<sup>3</sup> I am also concerned that the approach to ALARA set forth in the Policy Statement appears to be motivated, in part, by a concern that the Environmental Protection Agency may at some future point set more stringent criteria for BRC. Of particular note is the statement that—

This [approach to ALARA] is particularly pertinent in the area of decontamination and decommissioning... where other federal agencies are in the process of developing standards which may affect those receiving exemptions.

In my view, the ALARA issue should be approached with the objective of formulating a sound and defensible policy, rather than with an eye towards trying to anticipate what policy EPA might establish in the future.

from all other practices, will inevitably lead to confusion. Moreover, this approach poses the very real potential that the Commission could, on the one hand, reject a practice involving children (e.g., baby food, pacifiers, and the like) on the ground that the risk posed by such a practice is too high, yet authorize a practice directed at the general public that could, coincidentally, expose an even greater number of children, even though the practice itself is not specifically directed at children.

In my view, this ambiguity should be resolved in favor of a clear and unequivocal statement endorsing the principle of justification of practice. While I acknowledge that the principle of justification of practice calls upon the Commission to make decisions involving so-called questions of "societal value," that is an insufficient reason, in my view, to step back from this widely accepted health-physics principle. Indeed, the Commission already takes such considerations into account, either explicitly or implicitly, in many of the decisions that it renders.

Accordingly, in view of the central role that the justification of practice principle has played in health physics practice, as well as the complexity and confusion that will invariably result from the approach set forth in the Policy Statement, I would state explicitly in this Policy Statement that the Commission retains the prerogative to determine that specific practices may be unsuitable for exemption, regardless of risk, documenting such determinations on a case-by-case basis.

### Agreement State Compatibility

With one exception, I concur in the general approach that this Policy Statement takes on the issue of Agreement State compatibility. The one area where I disagree involves the treatment of matters involving low-level radioactive waste disposal.

As I understand the position of the majority, the approach established in this Policy Statement, and to be implemented in the context of subsequent rulemaking initiatives, will be considered a matter of strict compatibility for Agreement State programs. As a consequence, the approach taken by individual Agreement States on BRC issues must be identical to the approach taken by the Commission. I disagree with this approach for the following reasons:

When Congress enacted the Low Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPA), it vested in the States the responsibility for developing new low-level radioactive waste disposal capacity. Indeed, the Congress recognized at the time that the States were uniquely equipped to handle this important responsibility. Accordingly, the States were given a great deal of latitude in deciding how best to proceed with the development, construction, and operation of new low-level waste disposal facilities. To take one example, Congress

## Chairman Carr's Response to Commissioner Curtiss' Views on the BRC Policy Statement

I am proud of the Commission's accomplishment in completing a comprehensive Below Regulatory Concern policy statement. I appreciate Commissioner Curtiss' enthusiasm and strong support for the policy. Commission deliberation of such views has helped to forge a comprehensive risk framework for ensuring that the public is protected at a consistent level of safety from existing and future exemptions and releases of radioactive materials to the general environment. The framework should also be helpful in allowing NRC, States, and the public to focus resources on reducing the more significant risks under NRC's jurisdiction. I offer the following response to Commissioner Curtiss' thoughtful views in the spirit of the constructive process that has culminated in the BRC policy.

As with many of the issues that the Commission deals with, there were very few right and wrong solutions to the issues associated with the BRC policy. The Commission reached its decisions on the policy by selecting preferred solutions from among a spectrum of possible policy options. These decisions were made based on the Commission's technical analysis of the issues associated with regulatory exemptions, legal interpretation of governing legislation, and regulatory experience in approving exemptions since the birth of civilian uses of nuclear materials in the 1950's. I believe Commissioner Curtiss' views on selected issues constitute part of the continuous spectrum of policy options. However, for the reasons articulated below, I affirm the Commission's decision to approve the policy statement in its present form and reject the differing views put forth by Commissioner Curtiss.

Commissioner Curtiss clearly endorses the policy and the concept of establishing a comprehensive framework for making decisions on regulatory exemptions. However, he takes issue with five elements of the policy: (1) the interim nature of the 1-millirem-per-year criterion for practices with widespread distribution, (2) selection of the 1000-person-rem-per-year criterion for collective dose, (3) the manner in which the Commission views the BRC criteria as a "floor" to ALARA, (4) omission of the principle of justification of practice, and (5) making BRC rules an item of compatibility for Agreement State programs. These issues were fully considered by the Commission and the NRC staff in the course of developing the BRC policy. Indeed, Commissioner Curtiss voted in September 1989 to approve the BRC policy, the essence of which is preserved in the final BRC policy in today's notice.

### Interim Individual Dose Criterion

On the first issue, Commissioner Curtiss would prefer to establish the 1-millirem-per-year criterion as a final criterion, rather than an interim value.

As stated in the BRC policy, the Commission is establishing the 1-millirem-per-year criterion as an interim value until after it develops more experience with the potential for individual exposures from multiple licensed and exempted practices. The widespread practices to which this criterion applies are primarily consumer products, which could involve very small doses to large numbers of people. The 1-millirem criterion was selected specifically to address the possibility that members of the public may be exposed to several exempted practices.

Simply put, exposure of an individual to a handful of exempted practices could result in annual doses close to 100 millirem if each practice were allotted individual doses up to 10 millirem per year. This is highly improbable given the Commission's plans to closely monitor any overlap of exposed populations from exempted practices as well as the aggregate dose to the public from exemptions. Nevertheless, NRC does not presently know how many exemption requests will be submitted by the public, how many will be approved, and what types of doses will be associated with the exemptions. If few exemptions are requested and granted, the probability of multiple exposures from exempted and licensed practices exceeding a substantial fraction of 100 millirem per year is considerably reduced. Therefore, the 1-millirem-per-year criterion may be too restrictive and the regulatory resources associated with its implementation may be better spent to control more significant risks. Consequently, the 1-millirem-per-year criterion was selected as an interim individual dose criterion to ensure that the sum of all exposures to an individual from exempted practices does not exceed a substantial fraction of 100 millirem per year. This criterion will remain an interim value until after the Commission gains experience with the potential for multiple exposures to exempted and licensed activities.

The initial rulemakings to implement the policy, particularly in the area of consumer product exemptions, should provide valuable insights into the validity and appropriateness of the 1-millirem criterion in terms of its need to protect the public against multiple exposures to nuclear materials. Although I agree with Commissioner Curtiss that a final criterion would be desirable from the standpoint of "administrative finality," it would be premature to establish the 1-millirem criterion as a final criterion until after the Commission gains more experience

cleanup for contaminated sites. Specifically, does the collective dose criterion apply generically to the practice of decommissioning or would it be applied on a site-specific basis? Similarly, how should the collective dose criterion be applied in cases where nuclear operations have contaminated groundwater resources that could potentially supply municipal drinking water systems? Resolution of these and other issues could cause the Commission to revise its selection of the magnitude of the collective dose criterion through future rulemakings and development of generic guidance. However, based on the technical information and recommendations currently before the Commission, 1000 person-rem/year appears to be an appropriate magnitude for the collective dose criterion.

For all of these reasons, the Commission established a collective dose criterion of 1000 person-rem/year for each practice.

### ALARA

Commissioner Curtiss would prefer to define the individual and collective dose criteria as "floors" to ALARA, that is, that the regulated community and NRC are relieved from the regulatory obligation to perform further ALARA analyses below these levels if individual doses are 1 millirem/10 millirem and the collective dose is 100 person-rem. Specifically, Commissioner Curtiss believes that the BRC policy sends a confusing message by encouraging voluntary efforts to achieve doses below the BRC criteria.

In responding to Commissioner Curtiss' view on this issue, it is important to begin from the definition of the term ALARA. ALARA is the regulatory concept that radiation exposures and effluents should be reduced as low as is reasonably achievable taking into account the state of technology, and the economics of improvements in relation to the benefits to public health and safety and other societal and socioeconomic considerations, and in relation to the utilization of atomic energy in the public interest (10 CFR 20.1(c)). The ALARA concept is one of the fundamental tenets of radiation protection and has been a keystone in NRC's regulatory framework. Public comments on the proposed BRC policy statement and on proposed revisions to 10 CFR Part 20 urged the Commission to define "floors" to ALARA or thresholds below which NRC would not require further reductions in doses or effluents.

The Commission responded to these comments in the policy by stating that "... a licensee using the exemption would no longer be required to apply the ALARA principle to reduce doses further for the exempted practice provided that it meets the conditions specified in the regulation" established for a particular exemption. In other words, the BRC criteria and implementing regulations will provide "floors" to ALARA for the exempted

practice. In this regard, I agree with Commissioner Curtiss because the truncation of further efforts to reduce doses is one of the principal regulatory motivations for establishing the BRC policy.

However, I disagree with the rest of Commissioner Curtiss' view on this issue. It would be inappropriate to tell the regulated community that they cannot reduce doses below the BRC criteria. In short, although we will not require licensees to reduce doses further, we do not want to discourage their efforts to do so either. This would be tantamount to telling a licensee how to operate his or her business regardless of whether any health or safety issues are involved. Such a direction would be inappropriate because it clearly falls outside of the health and safety focus of the NRC.

In formulating the BRC policy, the Commission recognized that new technologies being developed today promise to reduce doses, and therefore risks, at lower costs than present technologies. Indeed, technological and cost considerations are explicitly recognized in the definition and application of the term "ALARA." Thus, I believe it would be inappropriate to tell licensees that they cannot implement new technologies and health physics practices to further reduce doses if they want to.

### Justification of Practice

Commissioner Curtiss would prefer to endorse the principle of justification of practice (i.e., whether the potential impacts of a practice are justified in terms of net societal benefits) and retain the prerogative to reject applications for exemptions regardless of the risk they pose.

I disagree with Commissioner Curtiss' view on this matter because it puts the Commission in a position of making decisions in areas outside the normal arena of its expertise, where the agency would be especially vulnerable, perhaps justifiably so, to criticism. Consistent with the mission of the NRC, the Commission should base its judgments on an explicit, objective, and rational consideration of the health, safety, and environmental risks associated with practices, rather than on what many would perceive as personal preferences of the Commissioners. Such an approach fosters long-term stability in regulatory decisionmaking on potential exemptions.

Decisions on justification of practice involve social and cultural considerations that fall outside the Commission's primary focus and expertise for ensuring adequate protection of the public health and safety from the use of nuclear materials. Such decisions should be made by affected elements of society, such as residents near a contaminated site, potential customers, suppliers, and other members of the general public, rather than NRC. I believe that this position is consistent with regulatory practices of other Government agencies that generally do not regulate on the basis of whether a particular practice is

Atomic Energy Act of 1954, as amended. Absent the execution of a Section 274b Agreement with the NRC, a State is preempted by Federal law from exercising regulatory authority over the radiological hazards of these materials. The Commission is authorized to enter into an agreement with a State only upon a finding that the State program is compatible with the Commission's program for regulation of radioactive materials and adequate to protect the public health and safety. Section 274d.(2). The legislative history of Section 274 stresses throughout the importance of and the need for continuing compatibility between Federal and State regulatory programs. In comments on the legislation, the Joint Committee on Atomic Energy (JCAE) stated that

5. The Joint Committee believes it important to emphasize that the radiation standards adopted by States under the agreements of this bill should either be identical or compatible with those of the Federal Government. For this reason the committee removed the language 'to the extent feasible' in subsection g. of the original AEC bill considered at hearings from May 19 to 22, 1959. The committee recognizes the importance of the testimony before it by numerous witnesses of the dangers of conflicting, overlapping and inconsistent standards in different jurisdictions, to the hindrance of industry and jeopardy of public safety.

Sen. Rept. No. 870, September 1, 1959, 86th Cong., 1st. Sess.

The potential problems from conflicting standards identified by the JCAE in 1959 are fully apparent in the context of BRC and demonstrate why the scope of compatibility findings to be made by the NRC cannot be drawn to exclude low-level radioactive waste disposal. For instance, the Commission intends to use the risk criteria identified in the policy statement to establish decommissioning criteria, that is, the level at which a formerly licensed site may be released for unrestricted use. If the States are permitted to require that low-level waste streams designated BRC by the Commission be disposed of in a low-level waste facility, it could result in a site in one state being released for unrestricted use, while soil or materials in an adjacent State at that level would be required to be confined in a low-level waste facility. If a patchwork of disposal criteria were to develop, it would be virtually impossible to establish decommissioning funding requirements that would be adequate to assure that all licensed facilities will set aside sufficient funds over the life of a facility to pay for decommissioning. The resulting confusion from these conflicting standards could well result in delays in adequate decommissioning of contaminated sites and certainly in unnecessary concern on the part of the public. I continue to believe that reserving to the NRC the authority to establish basic radiation protection standards, including designating which waste streams are below regulatory concern, is fully justified to ensure an adequate, uniform and consistent level of protection of the public health, safety and the environment.

AUG 24 1990

Mr. John Randall  
Hi-Tech Industries, Inc.  
17029 Devonshire Street, #124  
Northridge, California 91325-1679

Dear Mr. Randall:

This is in response to recent inquiries by yourself and Mr. Travis Cutter of your company concerning the regulatory status of spent anti-freeze coolant (specifically, ethylene glycol). If this material is intended for disposal, it is regulated as a "solid waste" by the Resource Conservation and Recovery Act (RCRA).

Per authority provided by RCRA, EPA has developed a Federal regulatory scheme for the proper treatment, storage, and disposal of hazardous waste, a subset of solid waste. These hazardous waste regulations may be found in the Code of Federal Regulations, Title 40, Part 261 (40 CFR 261).

The waste anti-freeze you have described is not listed as a hazardous waste under EPA's hazardous waste regulations (40 CFR 261, Subpart D). However, as a generator of a solid waste, you are obligated to determine either from knowledge of the waste coolant or by appropriate testing, whether the waste exhibits any of four characteristics, namely ignitability, corrosivity, reactivity, or extraction procedure (EP) toxicity. EPA has anecdotal information that spent anti-freeze often contains lead levels sufficiently high to classify the waste as EP toxic.

If your waste coolant fails to exhibit one or more of the hazardous waste characteristics, then your waste is deemed to be a nonhazardous, solid waste by Federal regulations. You should, however, inquire about State and local regulations that may apply to your waste anti-freeze.

We appreciate your efforts to dispose of these wastes responsibly. If you have any further questions about Federal regulations applicable to this antifreeze, please contact the RCRA/Superfund Hotline at (800)424-9346.

Sincerely,

David Bussard  
Director  
Characterization and  
Assessment Division





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

SEP 20 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

John Huber  
Counsel  
Petroleum Marketers Association of America (PMAA)  
1120 Vermont Ave., NW  
Suite 1130  
Washington, DC 20005

Dear Mr. Huber:

Thank you for your July 18, 1990, letter regarding the Toxicity Characteristic (TC) rule outreach and implementation programs, and on clarification with regard to the date by which small quantity generators must notify. As you know, the TC rule will be effective on September 25, 1990. At that time all large quantity generators (LQG) of hazardous waste must be in compliance with all applicable Subtitle C standards under the rule; small quantity generators (SQG) must comply by March 29, 1991. In order to reduce the burdens imposed by the TC rule before the effective dates, the Environmental Protection Agency (EPA) has developed and implemented TC outreach activities for affected industries (enclosure). Specifically, our records indicate that PMAA requested through our outreach program to receive copies of: 1) SQG and LQG brochures which contain industry-specific inserts (e.g., vehicle maintenance); 2) used oil brochures; and 3) waste minimization booklets. Currently, PMAA's orders are being filled through our Cincinnati warehouse. We are pleased with your interest in helping with such outreach and trust these materials will be helpful in that effort.

Regarding guidance from EPA on whether a particular substance handled by petroleum marketers should be characterized as a hazardous waste and on whether used oil should be characterized as a hazardous waste, EPA does not determine whether a particular waste exhibits a characteristic. Such a determination is the responsibility of the generator under the hazardous waste program, and each generator of a solid waste is responsible for determining if he or she is generating a hazardous waste (40 CFR 262.11). We have, however, taken recent samples of used oil. We will be releasing that data this fall in a Federal Register notice. While individuals may still choose to evaluate their specific used oil, this data should provide useful information for those choosing to apply knowledge of typical used oil characteristics. We will promptly notify you as soon as that data can be released.

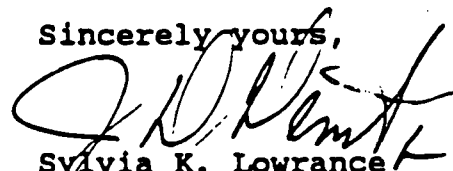
Fuel oil that has escaped from a tank may be subject to regulation under the hazardous waste program if it is not promptly cleaned up. However, the Subtitle C program (hazardous waste) does not regulate "household waste" exempted under 40 CFR 261.4 (see 49 FR 44978, November 13, 1984). EPA would generally consider leaks from household tanks to be "household waste" and thus not hazardous waste, regardless of whether the contaminated material is removed by the homeowner or a contractor. Further, reclamation of petroleum products from the contaminated material (soil) and the burning of that material for energy value is also exempted from the hazardous waste regulations.

With regard to clarification of the date by which SQGs must notify to be in compliance with the TC rule, EPA has addressed this issue in the correction notice (enclosure) published in the Federal Register on August 2, 1990 (55 FR 31387). Due to the inconsistencies observed in the March 29, 1990 Federal Register notice (55 FR 11798), EPA is providing SQGs with an additional three months to submit notifications. This extension applies to SQGs only. Therefore, generators of 100 or more and less than 1000 kg/mo (SQGs) of total hazardous waste who are newly regulated by the TC rule must notify the appropriate EPA Regional office by November 2, 1990, not October 31, 1990. The October 31, 1990 date printed in the August 2 notice was a misprint at the Office of the Federal Register. A correction notice correcting this misprint was published on August 10, 1990 (enclosure).

I hope this information is of assistance. For further information concerning the applicability of the TC rule, please contact Steve Cochran, Chief of the Characteristics Section, at (202) 475-8551, or write me. If you are willing, we would also like feedback you may be able to provide us on how your membership reacts to the brochures and similar outreach materials, and what other specific questions they most want additional information on.

Enclosure

Sincerely yours,



Sylvia K. Lowrance  
Director  
Office of Solid Waste

NOV 30 1990

Mr. William A. Anderson, II  
Bracewell and Patterson  
2000 K Street, Northwest  
Washington, D.C. 20006-1809

Dear Mr. Anderson:

This is in response to your letter of November 5, 1990 concerning the applicability of the Agency's used oil definition to your client's open-gear lubricant, "Gearite." This lubricant is described as a petroleum-based, semi-solid material which becomes liquefied when heated, and is sprayed onto the bull gears of cement kilns for lubrication. The spent Gearite is collected in drip pans at the bottom of the enclosed gears and is eventually piped back into the original product drums, where it solidifies upon cooling. The Gearite is TC hazardous but can be reused as a fuel in cement kilns.

You contend that Gearite fits the definition of "oil" and not "grease" because it lacks the saponification agent necessary to classify it as a grease (as described in the Agency's Development Document for Effluent Limitation Guidelines). You also referred to the Agency's November 29, 1985 definition of used oil, which included spent "gear oils." Although EPA has not yet finalized the used oil definition proposed on November 29, 1985, the Agency agrees with your interpretation that spent Gearite should be classified as a used oil.

As you indicated, used oils that exhibit the characteristics of hazardous waste are either exempt when recycled or subject to special used oil standards under 40 CFR 266 Subpart E when burned for energy recovery in industrial furnaces and boilers per 40 CFR 261.6(a)(3)(iii) and (a)(2)(iii). State regulations for used oil, however, may be more stringent than the Federal standards and should be consulted.

Should you have any further questions on used oil, please feel free to contact Ms. Denise Wright of my staff at (202) 245-3519.

Sincerely,

Sylvia K. Lowrance  
Director  
Office of Solid Waste



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OCT 18 1990

**MEMORANDUM**

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

**SUBJECT:** Status of Used Refrigerants under 40 CFR 261.2

**FROM:** Michael Petruska, Acting Chief (OS-332)  
Waste Characterization Branch

A handwritten signature in dark ink, appearing to read "M. Petruska".

**TO:** Docket for F-90-CFIF-FFFFF

This memorandum documents EPA's position on the status of used refrigerants under 40 CFR 261.2. Several parties have informally petitioned EPA for a determination on whether used refrigerants can be classified as commercial chemical products, rather than as spent materials; if so classified, the used refrigerants would not be "solid wastes" under 40 CFR 261.2, when reclaimed.

There are two scenarios that are at issue when a refrigeration equipment servicer decides to remove used refrigerants from refrigeration equipment. In the first scenario, the equipment servicer collects the used refrigerant and then elects to reuse the refrigerant directly (i.e., without any filtration or other processing) as a refrigerant. (The equipment servicer could elect to reuse the refrigerant either with or without conducting analyses or tests - any such analyses may be recommended by the equipment manufacturer, or possibly required under future Clean Air Act regulations, but are not relevant to determining whether the used refrigerant is a solid waste under RCRA.) This type of reuse is similar to reuse of a solvent that has been used once, but can still be used for its solvent properties. See the January 4, 1985 Federal Register, 50 FR 624. In this situation, the equipment servicer is not managing a waste, but is merely continuing to use a commercial chemical product.

In the second scenario, the equipment servicer collects the used refrigerant for reclamation prior to reuse. Such reclamation could range from simple filtration to reinsertion into a chlorofluorocarbon manufacturing unit. The used refrigerants meet the definition of a "spent material" in 40 CFR 261.1(c)(1), and are solid wastes when reclaimed, according to 40 CFR 261.2. See 54 FR 31336, July 28, 1989, for an explanation of why used refrigerants are classified as "spent materials" rather than "commercial chemical products."

A more detailed analysis of specific points raised by the Alliance for Responsible CFC Policy is attached.

Attachment

Definition of Solid Waste Arguments  
Made by the Alliance for Responsible CFC Policy

Point #1:

The Alliance states that "in many cases removed refrigerant may simply be re-inserted in refrigeration and air conditioning equipment after testing, without any processing."

Under the current regulations, used refrigerant that is re-inserted into equipment for further use is not a solid waste (and thus, is not a hazardous waste). Some, but not most, CFC's would fall into this category.

Point #2:

The Alliance states that "in some cases removed refrigerant must be processed -- for example, to remove contamination -- before re-inserting in refrigeration and air conditioning equipment." The Alliance argues that the removed refrigerant is not a "spent material" but rather is a commercial chemical product, and thus is not a solid waste when reclaimed.

Under the current regulations, a "spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing. Spent materials are solid wastes when reclaimed.

We stated clearly in a 1989 Federal Register notice clarifying the applicability of RCRA to used refrigerants that used refrigerants that are reclaimed are spent materials and not "commercial chemical products."

The Alliance argues that the refrigerant has not been "used" the way we define the term in the regulations, because it has not been "employed in a particular function or application as an effective substitute for a commercial product" but rather, is the commercial product. When we said "used" in the definition of spent material, we meant the ordinary, plain language definition of "used." However, because CFC recycling is analogous to very common hazardous waste recycling operations (i.e., solvents, used oils, batteries), the interpretation requested by the Alliance would have far-reaching implications.

Point #3:

The Alliance points out that, if classified as "by-products," the used refrigerants would not be solid wastes when reclaimed. However, in their analysis of the definition of by-product, they conclude that the term does not apply to used refrigerants.

Point #4:

Finally, the Alliance argues that a variance from the definition of solid waste should be granted if EPA decides not to suspend the TC rules and continues to consider the used refrigerant as a solid waste. They propose a variance under Section 260.31(b).

There are two problems with this approach:

- These variances are case-by-case determinations for the Regional Administrators to decide, rather than national policy decisions for entire wastestreams.
- The variance under Section 260.31(b) is for materials that are reclaimed and then reused as feedstock within the original primary production process where they were generated, if the reclamation is an essential part of the production process. The vast majority of used refrigerants would not fall in this category. (Any operations that do fall into this category are of course eligible for the variance.)



OCT

9441.1990(29)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

**MEMORANDUM**

**SUBJECT:** Implementâtion Issues Arising from the Toxicity  
Characteristic (TC)

**FROM:** Don R. Clay  
Assistant Administrator

**TO:** Henry F. Habicht II  
Deputy Administrator

The purpose of this memorandum is to summarize five issues/problems associated with implementation of the TC. A brief summary of each of the issues/problems follows, along with a general indication of the time frame in which we expect to present a recommended solution or options to you for your consideration.

1. Reinjection of contaminated (i.e., TC-hazardous) ground water in association with petroleum product recovery and remediation programs would be prohibited under the TC, thus slowing or curtailing these activities. An interim final rule has been published extending the TC compliance date to January 25, 1991 for these activities. A proposal for a 2-year extension, to allow time for further study, is being finalized for the Administrator's signature. This proposal will be forwarded to you within two weeks.
2. Certain CFCs contaminated with residual carbon tetrachloride and/or chloroform would be brought under RCRA. This will negatively impact ongoing efforts by OAR to implement voluntary recycling programs. OSW is finalizing an interim final rule that would suspend the TC compliance date for these CFCs in anticipation of regulations OAR will be required to promulgate in response to expected CAA amendments. This rule will be combined with the above proposal and will be forwarded to you within two weeks.
3. Large volumes of fluff generated by scrap metal processing (primarily automobiles and appliances) could be TC-hazardous and thus subject to RCRA. Regulation under Subtitle C may be impractical and would involve significant economic impacts. OSW is evaluating options. At present, I anticipate a briefing for you in mid to late November to go over the options.



4. New York has petitioned EPA to exclude from the TC contaminated media from above ground oil cleanups conducted under state order/oversight. OSW has developed some options which we plan to send to the Regions for review. A follow-up teleconference is also planned. After receiving and considering their positions, I anticipate a briefing for you to review the options and the Regions' views. This should occur by the end of November.
5. As a result of EPA's definition of the scope of the oil exploration and production (E & P) exemption, off-site crude oil reclaimers fall outside of the exemption and, as a result of the TC, will likely be subject to RCRA Subtitle C. Essentially the same operations at the well head are exempt. Some reclaimers have shut down and insist that many more will. Regulation under TC may discourage reclamation and waste minimization. OSW has developed some options and is collecting data. I anticipate a briefing for you on the options before the end of November.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OCT 30 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

**MEMORANDUM**

**SUBJECT:** Regulatory Determination on Used Oil Filters

**FROM:** Sylvia Lowrance, Director  
Office of Solid Waste

**TO:** Robert L. Duprey, Director (8HWM-RI)  
Hazardous Waste Management Division  
EPA Region VIII

Thank you for your memorandum of August 30, 1990, requesting a regulatory interpretation of the status of used oil filters under the new Toxicity Characteristic (TC). In your memorandum, you inquired about used oil filters that are crushed in vehicle maintenance shops, where a certain portion of the residual used oil in the filter is separated from the filter. The answers to the specific questions you asked are listed below.

1. The Toxicity Characteristic Leaching Procedure (TCLP) is performed on used oil filters by crushing, cutting or grinding the waste (filter plus contents) until the pieces are smaller than 1 centimeter in their narrowest dimension (and thus are capable of passing through a 9.5 mm standard sieve). See Step No. 7.3 of the TCLP. The surface area criterion referred to in Step 7.3 does not apply to used oil filters. (Note: If the generator recycles both the used oil and metal, you do not need to test because recycling of both types of materials is exempted from hazardous waste regulation as discussed below.)

2. and 3. Assuming a used oil filter exhibits the TC, you had inquired whether the act of crushing filters is regulated treatment or exempt recycling. Generally, the types of used oil filter crushers you described would not be regulated if the used oil was being recycled (see 40 CFR 261.6(a)(2)(iii) and (a)(3)(iii)). That is, since the purpose of the crushing is to remove the used oil for recycling, we view the crushing to fall within the used oil recycling exemption. The crushing may be performed on- or off-site, for profit or not. The determining factor is whether the used oil will be recycled. The filter may be shipped off-site for crushing under the used oil exemption, providing the oil is collected for recycling.

4. Generally, automotive oil filters are not considered to be containers because they are designed to filter particulates from oil that circulates through them, not devices for the storage of oil. As a result, a filter could not be an "empty container" under 40 CFR 261.7. However, as described next, a drained or crushed filter is considered scrap metal, and scrap metal is exempt from regulation when recycled.

Under the definition of "solid waste," EPA has determined that "recycled hazardous scrap metal is a solid waste when disposed of or recycled" (see 50 FR 624, January 4, 1985). However, pursuant to section 261.6(a)(3)(iv), hazardous scrap metal is exempted from Subtitle C regulation when recycled. The scrap metal recycling exemption in 40 CFR 261.6(a)(3)(iv) is applicable to used oil filters (scrap metal) that are going to be recycled. However, an undrained or uncrushed oil filter would contain too much oil to qualify for the scrap metal exemption. The January 4, 1985 preamble provided examples of items qualifying for the exemption, such as bars, turnings, rods, sheets, wire (i.e., scrap metal that is going to be recycled to recover their metal content) and examples that do not qualify, including metal-containing waste with a significant liquid component, such as spent batteries.

To increase the probability that the used oil filter (hazardous scrap metal) will qualify for the scrap metal recycling exemption, the generator or recycling facility should drain (gravity) the filter for an amount of time sufficient to ensure that all free-flowing oil is removed. The amount of drain time will vary based on a number of variables, including the size of the filter and temperature (both ambient and that of the filter). Alternately, the generator or recycling facility could crush the oil filter using the most appropriate crushing method that will force excess residual oil from the filter. We will be examining this issue further, but we currently have no information indicating that substantial amounts of oil will remain in the filter after either sufficient draining or adequate crushing. As a best operating practice, the Agency recommends that the generator or recycling facility both drain and crush used oil filters to be certain that the used oil filters would qualify for the hazardous scrap metal recycling exemption.

If the crushed or drained filter will be recycled, it is unnecessary to determine whether it exhibits the TC because the scrap metal exemption is applicable. It would also be unnecessary to manifest these used oil filters if they will be recycled. However, if the filter will be disposed of, the generator must determine if it is hazardous under the TC. If the filter is hazardous waste, the Part 262 and 268 regulations apply to the generator, and Parts 264 and 265 apply to the treatment, storage and disposal facilities. Non-hazardous waste filters may be disposed in a Subtitle D facility.

Finally, in the sales brochures you sent, there was mention of an open container used to accumulate the used oil after the filter was crushed. (Currently, used oil accumulation by generators is not regulated if the used oil is recycled, but EPA did propose that such containers be kept closed. See 50 FR 49252, November 29, 1985.) Storage or accumulation of characteristically hazardous used oil is regulated if the used oil is to be disposed of; in that case, the containers must be closed except when adding or removing the used oil (per §265.173(a)).

Please contact Daryl Moore at (202) 475-8551 if you have any additional questions on the applicability of the Federal hazardous waste regulations with respect to used oil filters.

cc: Waste Management Division Directors, Regions I - VII and IX - X  
Jeff Denit  
RCRA/Superfund Hotline  
Regional TC Contacts

**RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY****OCTOBER 1990****2. Regulatory Status of Petroleum Contaminated Media and Debris Under the Toxicity Characteristic UST Temporary Deferral**

The owner/operator of a petroleum underground storage tank (UST) is conducting a corrective action pursuant to Subpart F of 40 CFR Part 180. During corrective action, sludges are removed from the inside of the tank. These sludges exhibit the toxicity characteristic (TC) for benzene. Pursuant to 40 CFR Section 261.4 (b) (10) "...petroleum-contaminated media and debris that fail the test for the toxicity characteristic of Section 261.24 and are subject to the corrective action regulations under Part 280 of this chapter..." are excluded from the definition of hazardous waste. The preamble to the March 29, 1990, Federal Register does not explicitly define petroleum contaminated "media" and "debris." (55 FR 11836). Would the deferral apply to those sludges that are removed from the tank, or is the deferral intended only for environmental media such as soil and groundwater?

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

OCTOBER 1990

### 2. Regulatory Status of Petroleum Contaminated Media and Debris Under the Toxicity Characteristic UST Temporary Deferral (Cont'd)

In the March 29 preamble, the Agency stated that "further evaluation of the impacts of applying the TC to soils and ground water contaminated by petroleum from UST's and subject to the Subtitle I program is necessary in order to determine whether an exemption for such materials is warranted...." (55 FR 11836) The deferral only applies to contaminated ground water, soil and debris, but not to wastes such as sludges generated in a raw material storage tank. Section 261.4(a) states "(a) hazardous waste which is generated in a product or raw material storage tank,...is not subject to regulation under Parts 262 through 265, 268, 270, 271 and 124 of this chapter or to the notification requirements of Section 3010 of RCRA, until it exits the unit in which it was generated,...." Therefore, sludges removed from Underground Storage Tanks during corrective actions pursuant to Part 280 Subpart F do not meet the criteria of "media and debris" and, therefore, the deferral from TC regulation does not apply.

**NOTE:** The June 29, 1990, Federal Register contains a clarification of the deferral which states, "(t)his exclusion applies only to petroleum contaminated media and debris which exhibit the TC for any one or more of the newly identified organic constituents, and which are subject to corrective action under Part 280." (55 FR 26986) Therefore, those constituents previously regulated under the EP Toxicity rule (D004-D017) and now regulated under the TC are not eligible for the TC underground storage tank deferral even if they meet the criteria of media and debris. A generator must still determine if the media and debris is a characteristic hazardous waste for the TC constituents D004-D017.

Source: Steven Cochran, OSW (202) 382-4769  
Research: Mic LeBel, GRC



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

9441.1990(32)

Nov 28 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Ms. Kathleen Ream  
American Chemical Society  
1155 Sixteenth Street, N.W.  
Washington, D.C. 20036

Dear Kathy:

Thank you for your letter of November 5, 1990, requesting that the Environmental Protection Agency (EPA) give special consideration to the impacts of the Resource Conservation and Recovery Act's (RCRA's) regulations on laboratories. I am pleased to be able to provide some insights on your very thoughtful comments.

Some of the concerns identified in your White Paper appear to relate to the Department of Transportation's (DOT's) regulations that govern the transport of hazardous materials. Thus, you may wish to contact DOT directly on those issues. A contact there is George Cushmae at (202) 366-4488.

With respect to the RCRA regulatory issues, as you have pointed out, some of the concerns your White Paper identifies as problems do not require regulatory changes, and may result from an incorrect reading of the regulations. For example, the question of when a chemical becomes a waste is not addressed directly in the regulations; EPA views commercial chemical products as non-wastes until a decision is made to discard them. Surplus chemicals that are intact and unused are classified as commercial chemical products. In contrast to the statement made on page 2 of the White Paper, 40 CFR Section 261.1(c)(8) does not require that at least 75 percent of commercial chemical products be recycled or transferred for recycling in a calendar year. Under Section 261.2(c)(4), commercial chemical products that are accumulated speculatively are not solid wastes, and thus are not subject to the RCRA regulations. Your proposed solution, "Guidelines for Chemical Exchange," is consistent with EPA's reading of the applicability of RCRA Subtitle C regulations for reagent chemicals and solvents in their original condition and original containers.

Thank you once again for the useful information you provided. If you need further assistance, please contact Becky Cuthbertson of my staff at (202) 475-9715.

Sincerely yours,

Don R. Clay  
Assistant Administrator



NOV 30 1990

Mr. William A. Anderson, II  
Bracewell and Patterson  
2000 K Street, Northwest  
Washington, D.C. 20006-1809

Dear Mr. Anderson:

This is in response to your letter of November 5, 1990 concerning the applicability of the Agency's used oil definition to your client's open-gear lubricant, "Gearite." This lubricant is described as a petroleum-based, semi-solid material which becomes liquefied when heated, and is sprayed onto the bull gears of cement kilns for lubrication. The spent Gearite is collected in drip pans at the bottom of the enclosed gears and is eventually piped back into the original product drums, where it solidifies upon cooling. The Gearite is TC hazardous but can be reused as a fuel in cement kilns.

You contend that Gearite fits the definition of "oil" and not "grease" because it lacks the saponification agent necessary to classify it as a grease (as described in the Agency's Development Document for Effluent Limitation Guidelines). You also referred to the Agency's November 29, 1985 definition of used oil, which included spent "gear oils." Although EPA has not yet finalized the used oil definition proposed on November 29, 1985, the Agency agrees with your interpretation that spent Gearite should be classified as a used oil.

As you indicated, used oils that exhibit the characteristics of hazardous waste are either exempt when recycled or subject to special used oil standards under 40 CFR 266 Subpart E when burned for energy recovery in industrial furnaces and boilers per 40 CFR 261.6(a)(3)(iii) and (a)(2)(iii). State regulations for used oil, however, may be more stringent than the Federal standards and should be consulted.

Should you have any further questions on used oil, please feel free to contact Ms. Denise Wright of my staff at (202) 245-3519.

Sincerely,

Sylvia K. Lowrance  
Director  
Office of Solid Waste

NOVEMBER 1990

**1. Mixture Exclusion**

A generator meets the mixture rule exclusion of 40 CFR Section 261.3(a)(2)(iv)(A), by proving that the concentrations of trichloroethylene in his waste stream before it enters the headworks of his wastewater treatment facility is below one part per million. This wastewater treatment facility produces a sludge which exhibits a hazardous characteristic. Does the mixture rule exclusion also apply to the sludge produced in the generator's wastewater treatment facility? Or is this sludge a newly-generated hazardous waste subject to full RCRA regulation?

A sludge generated from a wastewater mixture that meets all of the criteria specified in Section 261.3(a)(2)(iv) would be exempted from the hazardous waste listing because the original wastewater mixture became exempt at the headworks of the WWTF. The exemption prevents the mixture and derived-from rules from operating for certain listed wastes. (They can only apply when the original material is a hazardous waste.) In addition, the mixture rule exemption would not apply if the wastewater met another listing.

**1. Mixture Exclusion (Cont'd)**

The sludge, moreover, might be a hazardous waste for other reasons. For example, the exemption criteria in Section 261.3(a)(2)(iv) are carefully limited. They do not apply to any waste that exhibits a hazardous waste characteristic. Consequently, as the question already states, the sludge would be a hazardous waste if it failed any of the characteristic tests.

Source: Ron Josephson, OSW  
Research: Kenneth Sandler, GRC

(202) 475-6715



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

DEC 21 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Earl F. Bouse  
Vice President  
Minerals and Environmental Services  
Pacific Basin Resources  
3480 Buskirk Ave., Suite 205  
Pleasant Hill, California 94523

Dear Mr. Bouse:

This responds to your letter dated September 13, 1990 to Mr. Bob Holloway concerning the regulatory status of using K048-K052 filter cake as an ingredient in the manufacture of cement. Specifically, you requested a determination regarding whether such use will be allowed under the final rule for burning hazardous wastes in boilers and industrial furnaces (BIF rule), which has not yet been promulgated.

I am unable to address whether the process described in your letter will be allowed under a rulemaking that we are still in the process of evaluating and finalizing. The proposal published in the October 26, 1989 **FEDERAL REGISTER** (54 FR 43718) is the best guide available for you to use in making your assessment of what our final rule may require until the final rule is promulgated. We currently expect the final rule to be promulgated by January 1991.

As current Federal regulations provide at 40 CFR 261.2(e)(2)(i), the filter cake used to produce cement would meet the definition of a solid waste (and thus be classified as hazardous waste K048-K052) because it is being used as an ingredient (i.e., a substitute for raw materials) to produce a product that is used in a manner constituting disposal (i.e., placement on the land). However, this does not answer the question of whether such use of the filter cake is legitimate recycling. This regulatory determination is made on a site-specific basis by the regulating agency (i.e., the State regulatory agency or EPA Regional Office) in the State in which the activity occurs. Additional, more specific information to supplement the information in your letter will be required to make such a determination.

Some of the criteria used in evaluating such situations at the Federal level may be of assistance to you in preparing your request for a regulatory determination should you continue to seek such a determination. To evaluate whether a hazardous waste is being legitimately recycled as a substitute for, or being used as, an ingredient in a manufacturing process, a comparison must be made between the constituents contained in the hazardous waste and the constituents in the analogous raw material. Because the

hazardous wastes and raw materials may change at each different site, this analysis is required on a site-specific basis.

There are several factors to consider in determining whether a hazardous waste is being used as a legitimate substitute in a manufacturing process. It is not enough to say that because a hazardous waste can be used as an ingredient and still result in a marketable product such usage is legitimate recycling (rather, this is a demonstration that the hazardous waste-derived product itself may be an effective substitute for a nonwaste-derived product, not a demonstration that the hazardous waste is a legitimate ingredient). Nor is it enough to say that such use of the hazardous waste does not have an adverse impact on the environment (rather, this may be a demonstration of a good hazardous waste treatment technology, not a demonstration of "legitimate" exempt recycling). One key consideration is the extent to which a hazardous waste contains hazardous constituents not otherwise found in analogous raw materials (e.g., volatile organics), or contains hazardous constituents at levels significantly higher than those found in the raw materials (e.g., lead and chromium). In such cases, the hazardous waste is generally determined to not be used as a legitimate substitute for raw materials in a manufacturing process, but rather is to be treated and/or disposed of by incorporation into a product. If such a determination is made, the process may require a hazardous waste treatment permit. (However, you may make a demonstration that the hazardous constituents are useful to the manufacturing process such that the hazardous waste actually functions better than the raw material it is replacing.) Again, this is a site-specific determination that is more appropriately made by the regulating agency.

If you have further questions regarding the factors considered in evaluating whether the use of the hazardous wastes is legitimate recycling under Federal regulations, you may contact Mitch Kidwell, of my staff, at (202) 475-8551. If you have questions regarding the regulatory status of the use of K048-K052 as an ingredient in the manufacture of cement, (or other site-specific regulatory determinations) you should contact the appropriate regulatory agency (i.e., authorized State agency or EPA Regional Office) in which the facility is located. For your information and reference, I am enclosing a list of EPA Regional offices and telephone numbers.

Sincerely,



David Bussard  
Director  
Characterization and  
Assessment Division

Enclosure

cc: Bob Holloway

**WASTE MANAGEMENT DIVISION DIRECTORS  
EPA REGIONAL OFFICES**

**Region 1:**

Merrill S. Hohman, Director  
Waste Management Division  
USEPA Region I  
John F. Kennedy Bldg.  
Boston, MA 02203

**Region 6:**

Allyn M. Davis, Director  
Hazardous Waste Management  
Division, USEPA Region VI  
First Interstate Bank Tower  
1445 Ross Avenue  
Dallas, TX 75202-2733

**Region 2:**

Conrad Simon, Director  
Air & Waste Management Division  
USEPA Region II  
26 Federal Plaza  
New York, New York 10278

**Region 7:**

David Wagoner, Director  
Waste Management Division  
USEPA Region VII  
726 Minnesota Ave.  
Kansas City, KS 66101

**Region 3:**

Stephen R. Wassersug, Director  
Hazardous Waste Management Division  
USEPA Region III  
841 Chestnut Street  
Philadelphia, PA 19107

**Region 8:**

Robert L. Duprey, Director  
Hazardous Waste Management  
Division  
USEPA Region VIII  
1 Denver Place, Suite 500  
999 18th Street  
Denver, CO 80202

**Region 4:**

Patrick M. Tobin, Director  
Waste Management Division  
USEPA Region IV  
345 Courtland Street, N.E.  
Atlanta, GA 30365

**Region 9:**

Rich Vaille, P.E.  
Assistant Director  
Toxics & Management  
Division  
USEPA Region IX  
215 Fremont Street  
San Francisco, CA 94105

**Region 5:**

William E. Muno  
Associate Division Director  
Waste Management Division  
USEPA Region V (5HS-13)  
30 S. Dearborn Street  
Chicago, Ill 60604

**Region 10:**

Charles E. Findley  
Director  
Waste Management Division  
USEPA Region X  
1200 6th Avenue  
Seattle, WA 98101

JAN 3 1991

Mr. Lynn Cooper  
Michelin Tire Corporation  
P.O. Box 2846  
Greenville, South Carolina 29602-2846

Dear Mr. Cooper:

This letter is in response to your November 7, 1990 letter regarding modifications to Michelin's Sandy Springs wastewater treatment system. According to your letter and our December 11, 1990 telephone conversation, you have already changed to a new belt filter press which produces a higher percent solids and processes higher rate of sludge production. In addition, according to your letter and our telephone conversation, you will soon institute other modifications to the current wastewater treatment system to address greater capacity needs resulting from ongoing production expansion at Sandy Springs. Specifically, the planned modifications are:

- o The existing turbocirculators are to be replaced by a lamella clarifier and sand filter.
- o The existing Diapac sanitary package plant will be replaced by a pair of sequencing batch reactors (SBR) for sanitary treatment and organics removal.
- o The wastewater will be routed to the new SBR for biological treatment prior to discharge.

When the original exclusion for the waste generated at Michelin's Sandy Springs facility was granted by the Agency, it was conditioned by stating that "the exclusion remains in effect unless the waste varies from that originally described in the petition (e.g., the waste is altered as a result of changes in the manufacturing or treatment process)." Although you submitted results of TCLP testing on the sludge conducted by RMT Laboratory to show that the original exclusion should still apply to the waste that is currently being generated, these data are not sufficient for our evaluation. As discussed further below, we cannot fully assess the impact of the modifications on the exclusion of your wastewater treatment sludge without knowing more details about these modifications and their impact on the composition of the filter press sludge.

We are concerned about the modification you have already implemented (the new belt filter press) and the others you are planning to implement. The increase in the amount of wastewater treated, improved metals removal, higher degree of biological treatment, and higher percent of solids in sludge may change the chemical form/composition of the waste. In order to make certain that the original exclusion still applies to the waste that is currently being generated at Michelin's Sandy Springs facility, we request that you submit the information specified below. If you decide to not submit the information requested below, you must notify the Agency within two weeks of the receipt of this letter.

#### **A. Process Information**

We need more detailed information on the modifications planned. Therefore, you must submit the following:

- o A description of the Lamella clarifier, the sand filter, the biological treatment (sequencing batch reactors), the belt filter press (including the percent solids), and any other process information that you believe might be pertinent. The drawings referenced on page two of your letter (62005P01 and 62006P05) might provide some of this information but they were not attached to the letter we received. A description and revised drawing similar to those submitted in the letter to Myles Morse on January 20, 1986 would be appropriate (see Enclosure I).
- o An estimate of the new average and maximum sludge generation rates on a monthly and annual basis.
- o If there are any other reasons, besides those already stated in your November 7, 1990 letter, which make your planned modifications necessary (e.g., NPDES permit requirements).

#### **B. Sampling and Analysis Information**

- o An explicit statement explaining why the three samples collected in June and July 1990 (and future samples undertaken in response to today's letter) are representative of any process or waste variability.
- o Total constituent analysis results for at least four representative samples collected over a one-month period for the eight metals listed in 40 CFR §261.24 and nickel. We request that you quantify total levels to support your claim that the system modifications are minor and "will not change the characteristics of the sludge".
- o Total sulfide and total cyanide analyses for four representative samples. You must also submit results from



reactive sulfide and reactive cyanide testing if total sulfide and total cyanide levels exceed 500 and 250 parts per million (ppm), respectively. Leachability analysis for cyanide, using the TCLP, is also required if total cyanide levels are greater than 100 ppm. When testing for leachable cyanide, deionized water should be used in place of the acid leaching medium.

- o Total oil and grease analysis for four representative samples. We are concerned that your waste may have an oil and grease content above one percent because in your original petition the filter press sludge had a maximum oil and grease content of five percent. If the total oil and grease content is greater than one percent, you must use the Oily Waste Extraction Procedure (OWEP, SW-846 Method 1330) to analyze at least four representative samples for leachable concentrations in lieu of the TCLP. When using the OWEP, please substitute the TCLP for the extraction procedure in Step 7.9 of the OWEP. Leachable nickel and cyanide concentrations must also be quantified.
- o If total levels of oil and grease are less than one percent, you must submit results of TCLP analyses for at least four representative samples for the eight metals listed in 40 CFR §261.24, nickel, and cyanide.
- o Total constituent and TCLP analysis data for all hazardous organic constituents listed on 40 CFR Part 261, Appendix VIII (including acetone, ethyl benzene, isophorone, 4-methyl-2-pentanone, styrene, and xylene) which are likely to be present in your waste. (Michelin initially identified 182 Appendix VIII hazardous constituents which could be expected to be present or released during the facility's operation, and provided total constituent analyses for these Appendix VIII hazardous constituents.) We are especially concerned about toluene, ethyl benzene, styrene, maleic anhydride, and thiuram (these were detected in samples submitted in support of your original petition).

We recognize that the Appendix VIII list presents a number of analytical problems for some constituents. For analytical testing purposes, you must analyze the samples for those compounds which can be accurately quantified using appropriate SW-846 methods. It should be noted that SW-846 analytical test methods exist for all constituents listed in 40 CFR Part 261, Appendix IX. For any hazardous constituents for which analytical results are not provided, a rationale must be provided explaining why the constituent is not expected to be present.

In lieu of analytical testing, you may present mass balance arguments that demonstrate that constituents cannot be present in the waste at levels of concern.

You should submit the above requested process information and any other information you believe to be pertinent to our office as soon as possible. Please submit the sampling and analysis information, along with the appropriate QA/QC information, to our office within 90 days after the planned modifications have been implemented. Following implementation of the planned modifications, we suggest that you treat the waste as hazardous until we have made a decision regarding the status of your exclusion. This should be viewed as a precautionary measure in case our evaluation of your new waste data results in a decision that your original exclusion is no longer applicable to the waste being generated.

If Michelin decides not to implement any of the proposed changes to the process (or if these process changes are delayed), you must still provide further sampling/analysis data to demonstrate that the change in filter press has not adversely affected the waste. Therefore, we may accept the TCLP data you have already submitted (provided they are from representative samples with total oil and grease levels of less than one percent). However, even in this case, you need to supplement the existing data to include total constituent and TCLP analyses such that all of the above requested analyses are provided for at least four representative samples.

If you have any questions about this correspondence, please feel free to contact Narendra Chaudhari of my staff at (202) 382-4770.

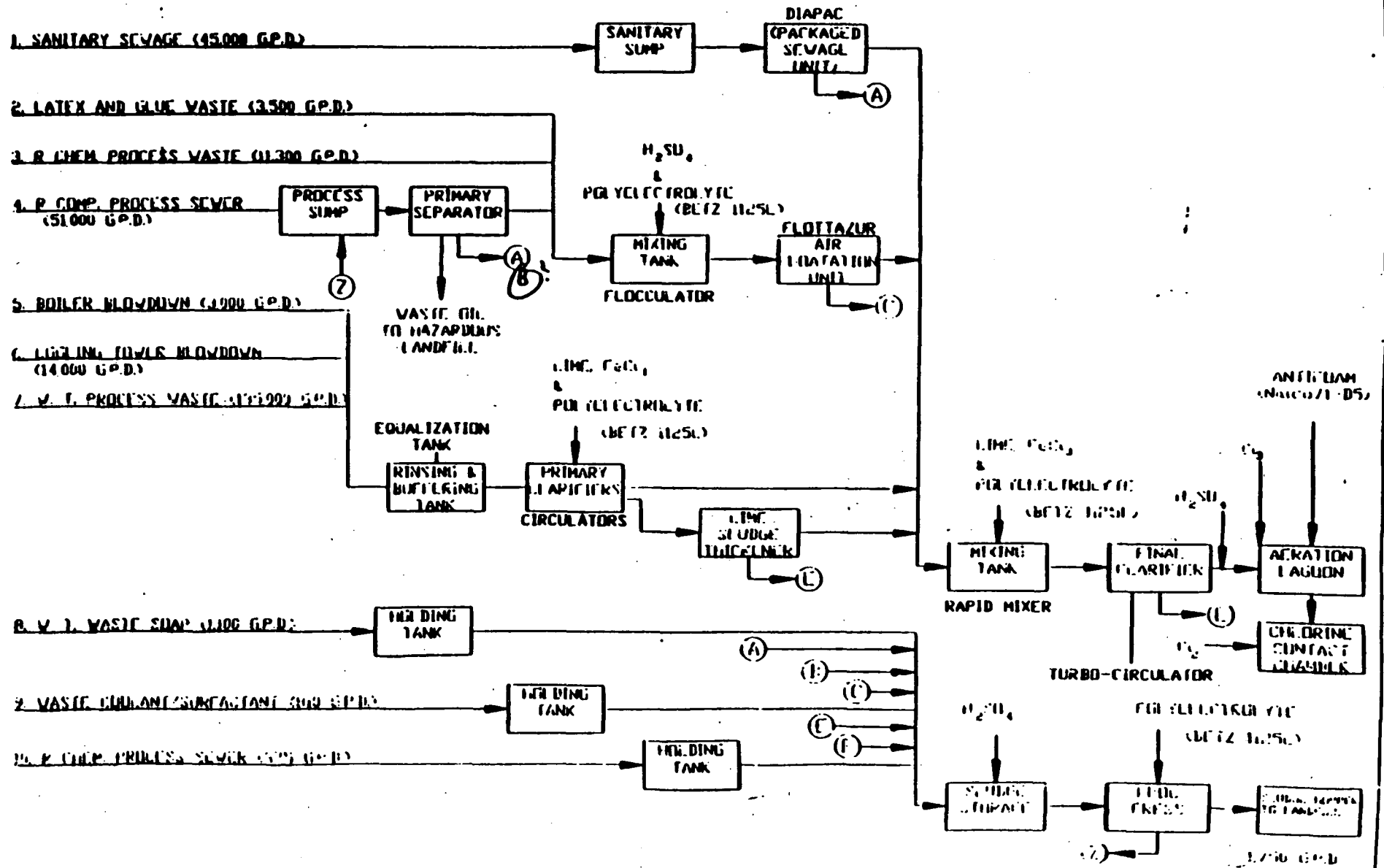
Sincerely,

Robert Kayser, Chief  
Delisting Section

Enclosure

cc: Narendra Chaudhari, EPA HQ  
Jim Kent, EPA HQ  
Doug McCurry, EPA Region IV  
James Scarbrough, EPA Region IV  
Sarah Bennett, SAIC

# MICHELIN - SANDY SPRINGS WASTE TREATMENT PLANT



FEB 12 1991

MEMORANDUM

SUBJECT: Applicability of the TC to Mixed Waste

FROM: Sylvia K. Lowrance, Director  
Office of Solid Waste

TO: Regional Waste Management Division Directors  
Regions I - X

Purpose

The Environmental Protection Agency (EPA) promulgated the Toxicity Characteristic (TC) rule on March 29, 1990 (55 FR 11798). That rule will bring a large number of waste generators, including mixed waste handlers, under Subtitle C regulation for the first time. However, the preamble to the TC rule does not discuss mixed waste. Regional staff have indicated that there is some confusion regarding the applicability of the TC to this category of waste, and have requested a clarification statement on the issue. The purpose of this memorandum is to clarify the applicability of the TC to mixed waste in authorized and unauthorized States, as well as the Federal regulatory status of those wastes.

Background

Mixed wastes are defined as wastes which contain both a radioactive component subject to the Atomic Energy Act ((AEA) i.e., source, special nuclear, or by-product material) and a hazardous component subject to the Resource Conservation and Recovery Act (RCRA). Up until 1986, the applicability of RCRA to mixed waste was unclear, in part because of uncertainty about the effect of the exclusion in RCRA Section 1004(27) (the definition of solid waste) for AEA-regulated materials, and because of disagreements about the scope of the definition of "by-product material."

To clarify the applicability of RCRA to mixed waste, EPA issued a clarification notice on July 3, 1986 (51 FR 24504). In that notice, the Agency announced that the hazardous component of mixed waste is subject to RCRA requirements and that the radioactive portion of the waste (source, special nuclear, and by-product material) is subject to AEA. EPA also required States which had obtained RCRA-base program authorization prior to the July 3 notice to revise their programs to clarify the regulatory status of mixed waste (i.e., to include the hazardous component of mixed waste in their program definition of solid waste), and to apply for EPA authorization of their revised program. The Department of Energy (DOE) clarified the term "by-product material" in an interpretative rule on May 1, 1987 (52 FR 15937). That rule stipulated that, in mixed wastes, only the actual radionuclides are considered by-product material. DOE's interpretative rule is consistent with EPA's earlier clarification notice.

EPA's July 3, 1986 clarification notice described three general regulatory scenarios for mixed waste based on the authorization status of a State's hazardous waste program:

- o In a State which is not authorized for the RCRA-base program, mixed waste is subject to the Federal hazardous waste management requirements, and EPA administers and enforces the requirements for mixed waste until the State receives mixed waste authorization.
- o In a State with both RCRA-base program and mixed waste authorization, mixed waste is subject to the hazardous waste management requirements, and the State administers and enforces its requirements for mixed waste (of course, if the waste were newly listed or identified pursuant to a Hazardous and Solid Waste Amendments (HSWA) provision, and the State was not yet authorized for that listing or characteristic, EPA would administer the requirements).
- o In a State which is authorized for the RCRA-base program, but not specifically authorized for mixed waste, this waste is not subject to the Federal hazardous waste requirements until the State revises its program and receives authorization specifically for mixed waste. (A State may, however, regulate mixed waste under State law under any of these three scenarios).

The chart in Attachment 1 shows the regulatory scenarios for mixed waste in authorized and unauthorized States. The section below describes the applicability of the TC to mixed waste in these regulatory scenarios.

### Applicability of the TC to Mixed Waste

The status of mixed waste that fails the toxicity characteristic (i.e., the Toxicity Characteristic Leaching Procedure) follows the scheme described above. Specifically, the TC rule brings some additional mixed waste streams into the RCRA Subtitle C system in States that are not authorized for the RCRA-base program, and in States that are authorized for mixed wastes. However, in States that are authorized only for the RCRA-base program, mixed wastes that fail the TC will not be considered hazardous under Federal regulations. Once those States become authorized for mixed waste, then this waste will be subject to the TC.

The Agency's position on the applicability of the TC to mixed waste is consistent with an earlier determination on a related issue regarding the land disposal restrictions program. EPA determined that HSWA's land disposal restriction provisions in Section 3004(d)-(h) do not apply to mixed wastes in States with only RCRA-base program authorization (see Attachment 2, Mixed Waste Position Paper, Issue 3). The basis for that determination is that the land disposal restrictions apply to "solid waste" which is hazardous. As mentioned above, mixed waste is not a solid waste in a State with only RCRA-base program authorization. Therefore, the land disposal restrictions do not apply to mixed waste in a RCRA-base authorized State until the State revises its program (i.e., defines this material as a solid waste) and receives EPA authorization for mixed waste.

Similarly, the TC, which was also promulgated pursuant to HSWA, does not apply to mixed waste in a State with RCRA-base program authorization until the State revises its program and receives authorization for mixed waste. This is because the TC only applies to material included in the definition of "solid waste," which is part of the authorized RCRA-base program. As noted above, the definition of "solid waste," upon which HSWA requirements depend, is determined solely by State law in authorized States. Therefore, in scenarios 1 and 2 described in the background section above, new HSWA requirements such as the land disposal restrictions and the TC would apply to mixed wastes. In scenario 3, however, new HSWA requirements like the TC would not apply to mixed wastes until the State becomes authorized for these wastes.

### Current Regulatory Status of Mixed Waste

Currently, mixed waste is regulated as a Subtitle C solid and hazardous waste in 33 States and territories (24 States and territories have received authorization for mixed waste, 9 States and territories are unauthorized even for a RCRA-base program).

In these 33 States, mixed waste is subject to the TC (scenarios 1 and 2 above), and EPA administers and enforces the program for toxicity characteristic mixed waste until the State receives authorization for the TC program. In the remaining States and territories, which have only RCRA-base program authorization (scenario 3), mixed waste is not now a solid waste according to the Federal hazardous waste management requirements, and this waste is not subject to the TC. A list of States and territories with mixed waste authorization as of January 31, 1991, is provided in Attachment 3.

The effective date of the TC rule was September 25, 1990 for large quantity generators and treatment, storage, and disposal facilities and March 29, 1991 for small quantity generators. The key compliance dates for the TC rule, including requirements for Section 3010 notification, submission of permit applications (Part A's and B's), and permit modifications are summarized in Attachment 4. These compliance dates apply to facilities which handle toxicity characteristic mixed waste in States which have mixed waste authorization and in States which have not yet received RCRA-base program authorization.

In States which have only RCRA-base program authorization, mixed waste is not subject to the Federal hazardous waste regulations until the State becomes authorized for mixed waste. Once a RCRA-base authorized State becomes authorized for mixed waste, facilities in that State will be required to submit a Part A permit application, amended Part A permit application, or permit modification for TC wastes as well as other hazardous waste no later than six months after the effective date of the State's mixed waste authorization. In this type of situation, a Section 3010 notice would not be required for newly regulated generators and treatment, storage, and disposal facilities. However, newly regulated generators and treatment, storage, and disposal facilities are required to obtain an EPA identification number, following the authorized State's procedures.

If you have additional questions regarding this matter, please feel free to contact Jared Flood of my staff at FTS: 475-7066. If you have questions about other specific issues related to the TC, please contact Steve Cochran of my staff at FTS: 382-4769.

Attachments



9441.1991(03)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 19 1991

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Melanie K. Pierson  
Assistant U.S. Attorney  
U.S. Department of Justice  
Southern District of California  
United States Courthouse  
940 Front Street, Room 5-N-19  
San Diego, California 92189

Dear Ms. Pierson:

This responds to your February 26, 1991 letter to Ms. Becky Cuthbertson regarding the regulatory status of solder dross generated by the periodic skimming of molten solder baths used in the production of printed circuit boards to remove contaminants acquired through use of the molten solder baths. Your specific question concerns whether this solder dross meets the description of a "by-product" or a "spent material" in the context of the hazardous waste regulations.

Although it is not specifically defined, the term "dross" is used as an example of a by-product in the January 4, 1985 Federal Register preamble to the current definition of solid waste (see 50 FR 625). Further, there is an example in EPA's "Guidance Manual on the RCRA Regulation of Recycled Hazardous Wastes" (March, 1986) in which solder drosses generated in soldering integrated circuits to printed circuit boards are determined to not be solid wastes because they are identified as "characteristic by-products that are reclaimed."

Typically, a "dross" is generated prior to using a metal or alloy by melting the metal or alloy and skimming off the contaminants and oxides that have developed since the metal or alloy was refined. In the soldering of integrated circuits to printed circuit boards (as in the example given in the guidance manual), the dross is generated as a by-product (of the solder) when the solder is melted during its use. However, although the generator may claim that a secondary material is a "dross" (and the material may, in fact, appear to be a "dross"), that does not automatically mean that the material is a by-product rather than a spent material.

The determining consideration in classifying a secondary material is how the material is generated, not the term used to describe it (e.g., "dross"). As a product that has been used in the process, the solder skimmings, when removed (i.e., skimmed



off) from the process due to contamination of the molten solder bath during its use in the process, would more clearly meet the definition of a spent material than a by-product. Rather than being a by-product of the solder itself, the skimmings are spent materials from the use of the solder.

As you know, this regulatory interpretation reflects the Federal program. You should also contact the appropriate State regulatory agency to determine the regulatory status of the solder dross under their program.

I hope this has helped to answer your questions. Should you have any further questions, you can contact Mr. Mitch Kidwell, of my staff, at (202) 475-8551, or Ms. Jeannie Paige, of the EPA Region IX office, at (415) 744-2073.

Sincerely,



David Bussard  
Director  
Characterization and Assessment  
Division

cc: Jeannie Paige

MAR 26 1991

John E. Ely  
Enforcement Director  
Virginia Department of Waste Management  
101 North 14th Street  
Richmond, Virginia 23219

Dear Mr. Ely:

At the request of Carlyle C. Ring, Vice President and General Counsel of Atlantic Research Corporation, I am sending this letter to summarize the Agency's current position on the "contained-in" interpretative policy. It is my understanding, based upon Mr. Ring's letter, that there was some question as to whether the "contained-in" interpretative policy applies to all environmental media or only to ground water. Mr. Ring's letter also suggested that a letter from my Office would help resolve this matter. I hope this letter will answer this question and further clarify the policy. I have also enclosed, for your information, a memorandum from Jonathan Cannon to Thomas Jorling dated June 19, 1989. I hope that you will find these helpful.

The "contained-in" interpretation addresses environmental media (i.e., ground water, soil, and sediment) contaminated with RCRA listed hazardous waste. Our federal regulations at 40 CFR Part 261.3 identify hazardous wastes. Among other things, these regulations state that a solid waste mixed with a hazardous waste is a hazardous waste. However, these regulations generally do not specifically address environmental media, which are not solid wastes, mixed with listed hazardous waste. The Agency's position continues to be that mixtures of environmental media and listed hazardous waste (i.e., contaminated ground water, contaminated soil, and contaminated sediments) must be managed as if they were hazardous waste. This position is known as the "contained-in" policy. EPA's application of the "contained-in" policy to contaminated media was upheld by the D.C. Circuit Court of Appeals in Chemical Waste Management, Inc. v. U.S. EPA, 869 F.2d 1526 (D.C. Cir. 1989).

Consistent with this approach, the Agency further interprets the regulations to mean that environmental media contaminated with listed hazardous waste must be managed as if they were hazardous waste until the media no longer contain the listed hazardous waste (i.e., until decontaminated), or are delisted. ~~To date the Agency has not issued any definitive guidance as to~~



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 22 1991

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Ms. Corinne A. Goldstein  
Covington & Burling  
1201 Pennsylvania Avenue, N.W.  
Washington, D.C. 20044

Dear Ms. Goldstein:

This letter is in response to your correspondence to Randolph Hill dated November 16, 1990, and December 13, 1990, concerning DuPont's "chloride-ilmenite process." As you are aware from telephone conversations with Mr. Hill and the brief filed by the Agency with the U.S. Court of Appeals for the D.C. Circuit in Solite Corp. v. EPA, the Agency continues to believe that wastes from this process are appropriately classified as mineral processing, not beneficiation wastes. This letter specifically addresses DuPont's proposed changes in the process discussed in the November 16 and December 13 letters, and the impact that these process changes would have on the Bevill status of the new wastes produced.

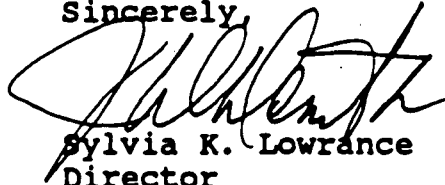
The Agency's determination that chloride process waste acids (including DuPont's chloride-ilmenite process waste acids) are a processing waste was a one-time decision based on a "snapshot" of the industrial processes in place at the time of the decisions. It was, and remains impossible for us to address the Bevill status of wastes from proposed changes in current processes. The Agency clearly stated this in the September 1, 1989, Final Rule (54 FR 36592). Such new wastes, unless determined to be either a beneficiation waste or among the 20 temporarily exempt mineral processing wastes (which DuPont's proposed wastes would not be), would be non-exempt mineral processing wastes and would need to be managed in accordance with RCRA Subtitle C if they are characteristically hazardous.

If DuPont implements the changes it has proposed (or other changes), the Agency will evaluate the resulting wastes to determine if some portion is indeed a beneficiation waste. We cannot, however, guarantee that a decision that these are beneficiation instead of processing wastes would be made. Based on process descriptions in your November and December letters,

along with other information you provided in our November 20, 1990, meeting, the Agency already has some reservations as to DuPont's ability to generate a waste only containing residues from beneficiation. Operations producing combined beneficiation and processing wastes are appropriately classified as processing operations for purposes of determining whether or not they produce wastes that are exempt mineral processing wastes.

If you have further questions concerning this matter, please contact Bob Tonetti at (703) 308-8426.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sylvia K. Lowrance', is written over the typed name.

Sylvia K. Lowrance  
Director  
Office of Solid Waste



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAY 29 1991

Mr. Philip S. Bell  
Amerock Corporation  
4000 Auburn St  
P.O. Box 7018  
Rockford, IL 61125-7018

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Dear Mr. Bell:

This is in response to your April 5 letter regarding the regulatory status of certain electroplating wastes and associated waste management activities. Our responses to your specific questions follow:

1. Anode bags

a. When, and under what conditions, do they become a hazardous waste?

The anode bags become a solid (and hazardous) waste when they are removed from the plating bath. At this point, they are considered to be a "spent material" that is reclaimed (i.e., washed to remove the cyanide solution) prior to reuse.

b. If they are washed and reused, are they hazardous waste during the time between removal and washing (if the washing does not occur in the same process tank)?

As described above, during this period, they are a "spent material" and a hazardous waste.

c. If and when they become a hazardous waste, when one washes the bags to remove the plating solution, must one have a RCRA Part B permit, or can one perform "treatment while accumulating" by meeting the requirements of 40 CFR 262.34 and 40 CFR 265 Subparts I and J?

Washing of the bags constitutes treatment of a hazardous waste. However, a RCRA permit would not be required if this treatment occurs in tanks or containers during the accumulation period of not greater than 90 days and meets all of the requirements of 262.34(a).



d. If and when they become a hazardous waste, is the proper waste code for them solely D003 for CN content or do they also become a listed waste (such as F007) by virtue of some application of the mixture rule? (The assumption is that there are no hazardous characteristics other than reactivity due to cyanide.)

The waste would be considered both D003 and F007 (spent cyanide plating bath solution from electroplating operations). This is because the anode bag is both reactive and contains (has been soaked in) spent plating bath.

## 2. Filtered residues from cyanide plating baths

When a filtering apparatus which has been filtering a cyanide plating bath is opened for cleaning, is the residue and filter media (if it is to be discarded) solely D003 or a listed waste code (F007?/F008?) in addition to the D003?

These wastes would be considered both D003 and F008 (spent plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process). While any F008 waste would contain some of the F007 plating solution from the tank in which it was generated, the F008 listing is the more specific description; thus, use of the F007 designation would not be appropriate.

## 3. A detergent cleaner and rinse prior to a cyanide plating bath

a. Was it USEPA's intent to include the Detergent Cleaner Solution (when spent) in the F009 listing?

The F009 listing applies to cyanide-containing cleaning and stripping baths (i.e., "where cyanides are used in the process" refers to the cleaning and/or stripping process). If the cleaning solutions are not cyanide-containing, the F009 listing is not applicable.

Should you have any questions regarding these interpretations, feel free to contact David Bussard, Director of the Characterization and Assessment Division, at (202) 382-4637.

Sincerely,

Sylvia K. Lowrance

MAY 30 1990

Mr. T. S. Ary  
Director  
Bureau of Mines  
2401 E. St., N.W.  
Washington, D.C. 20241

Dear Mr. Ary:

Thank you for your letter dated April 6, 1990, concerning iron and steel slags, and their status in the upcoming Report to Congress (RTC) on Mineral Processing Wastes. EPA appreciates the contributions that the Bureau of Mines has made to the RTC to date, and we would be pleased to meet with you to discuss issues related to these slags.

Although the RTC has not been completed yet, based on the information the Agency has collected to date on iron and steel slags it is likely that the Agency will recommend that these wastes remain within the Bevill exclusion -- that is, we believe these wastes will become permanently exempt from regulation as hazardous waste under Subtitle C of the Resource Conservation and Recovery Act (RCRA).

Iron and steel slags which are used in a manner constituting disposal are currently considered "discarded materials" and thus meet the definition of solid wastes under Section 1004(27) of RCRA. See 40 CFR § 261.2 or 53 Fed. Reg. 31,198 (Aug. 17, 1988) for details. EPA is further considering, however, whether such slags are similar enough to virgin aggregate that they should not be classified as solid waste. EPA will address this issue in greater detail in the upcoming Report to Congress, as already promised in the final "Bevill Rule" (54 Fed. Reg. 36,615 (Sept. 1, 1989)). In any event, if these slag materials were to continue to be exempt from Subtitle C regulation, I would expect the use of slag materials would continue. Please let us know, however, if the Bureau of Mines has reason to believe that continued classification of these slags as solid wastes would cause market disruptions and harm to the slag recycling industry.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 10 1991

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Ms. Jacqueline E. Schafer  
Assistant Secretary  
(Installations and Environment)  
Department of the Navy  
Washington, D.C. 20360-5000

Dear Jackie:

Thank you for your letter of April 12, 1991, regarding issues concerning the Naval Air Station (NAS) in Pensacola, Florida. Specifically, I understand that you are troubled by the Environmental Protection Agency's (EPA's) interpretation that volatilization of solvents must be counted as solvent use in calculating a facility's ability to qualify for the solvent exemption in 40 CFR 261.3(a)(2)(iv)(B).

As you may be aware, current regulations establish that any mixture of a solid waste with a listed hazardous waste renders the mixture a hazardous waste. The purpose of this regulation is to prevent hazardous waste generators from loading the environment with pollutants by simple dilution. In 1981, however, EPA promulgated a set of regulations designed to exempt certain dilute mixtures of solvents or other listed hazardous wastes from regulation as a hazardous waste when these mixtures reach the headworks of the facility's wastewater treatment system (46 FR 56582, November 17, 1981). The purpose of the rule was to keep the large volumes of treatment sludges from falling within the scope of the listing(s) when, in fact the wastewater treatment system could handle the amount of solvents contained in the wastestream as it entered the headworks of the treatment system.

In the preamble to the rule, EPA outlined certain procedures for calculating whether a facility meets the criteria for an exemption (for example, containing no more than 25 ppm of methylene chloride in the untreated wastewater stream). EPA said that a facility must use its records of solvent consumption (such as from invoices) to establish the amount of solvent in the






wastewater, but may subtract the amount of solvent that does not flow into the headworks of the wastewater treatment system. In a footnote to the preamble, EPA stated that the amount of solvent volatilized may not be subtracted from the calculation. This language was added to prevent facilities from qualifying for the exemption by volatilizing their solvents, and thus causing negative environmental impacts.

I appreciate very much the detailed information you have provided, showing that the wastewater mixture entering the headworks at NAS contains far less solvent than the 25 ppm threshold described in the rule. However, according to the information collected by EPA staff in our Region IV office and at Headquarters, much of the solvent used at Pensacola NAS for aircraft paint stripping volatilizes during use and is not otherwise collected. Our current regulations do not allow me the flexibility to permit a subtraction of the volatilized amount. As a result, it appears that Pensacola NAS cannot qualify for the exemption, unless the Navy can show that the solvents that do not go to the wastewater treatment system are not otherwise volatilized.

There is another important aspect to this issue. When the 25 ppm provision was promulgated, none of the solvents to which it applies was considered a suspected carcinogen. Now, however, methylene chloride is considered to be a probable human carcinogen. Any reassessment of this regulatory provision would necessarily reflect this new information and possibly further restrict this wastewater exemption.

I realize that very little solvent goes to the wastewater treatment system. The Navy has made an outstanding effort to reduce the amount of such pollutants being managed as hazardous wastes. I urge you to continue your efforts in this regard. We will continue to work with the Navy as it addresses the next steps for the Pensacola NAS.

Sincerely yours,



Don R. Clay  
Assistant Administrator



9441.1991(09)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 21 1991

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Basil G. Constantelos, Director  
Environmental Affairs  
Safety-Kleen  
777 Big Timber Road  
Elgin, Illinois 60123

Dear Mr. Constantelos:

Thank you for your letter of April 17, 1991, requesting comments on a position paper on spent absorbent materials.

We have completed reviewing your paper and have included a number of comments in the enclosure to this letter for you to consider, as this is a complex area of the Resource Conservation and Recovery Act. Please note that these comments are of a generic technical nature and are therefore not specific to a given factual situation.

We appreciate the opportunity to review your position paper. The Environmental Protection Agency is glad to help ensure the safe and effective disposal of hazardous waste.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Sylvia K. Lowrance".

Sylvia K. Lowrance, Director  
Office of Solid Waste

Enclosure



Printed on Recycled Paper

## ENCLOSURE

The opening statement (basis) of the paper states that absorbents used to collect used oil, fuels, or solvents may not be disposed of in a sanitary landfill when they are generated by a small or large generator. This is not entirely correct. Under federal rules, a conditionally exempt small-quantity generator (SQG producing less than 100 kg/mo.) in compliance with 40 CFR 261.5 may dispose of hazardous waste in a sanitary landfill if that facility is permitted, licensed, or registered by the state to manage municipal or industrial solid waste per 40 CFR 261.5.

In the discussion pertaining to mixtures of spent absorbent and "F or U" listed hazardous waste, it says that these mixtures must be shipped and manifested as "F or U" wastes. There is an exception to this classification, however, for mixtures of listed wastes that are listed only for a characteristic. If the listed hazardous waste is mixed with contaminated absorbents (a solid waste), and those mixtures no longer exhibit a hazardous characteristic, the mixture rule exclusion in 40 CFR 261.3(a)(2)(iii) applies, and these mixtures are not classified as listed "F or U" wastes and are not subject to further regulation. The deliberate mixing of absorbent and hazardous waste to render the mixture non-hazardous may, however, be interpreted as "treatment" per 40 CFR 260.10 and may require a permit and compliance with Part 268 land disposal restrictions.

The discussion of absorbents and non-listed waste mixtures addresses mixtures involving flammable liquids. The discussion on flammable liquids, test methods, and resulting classification is hard to follow. A waste liquid or mixture containing a free liquid phase (as defined by our paint filter liquids test-method 9095) is ignitable under the Resource Conservation and Recovery Act (RCRA) if the waste (or liquid phase) has a flashpoint < 140°F using the methods specified in 40 CFR 261.21(a)(1). If the mixture has no free liquid phase, then it is considered a solid. Solids that meet the criteria in §261.21(a)(2) concerning the ability to cause fire through friction, absorption of moisture, or spontaneous chemical changes such that they ignite and burn vigorously thereby creating a hazard are classified as ignitable hazardous wastes. If a mixture of a characteristic waste absorbent has a free liquid phase with a flashpoint < 140°F, it is ignitable. If there is no free liquid phase, then the qualitative criteria for solids apply; if the mixture meets those criteria, it is classified as ignitable.

With respect to Department of Transportation (DOT) classification of these materials, please note that the definitions and criteria for hazardous materials under DOT are often different from those of RCRA hazardous wastes. RCRA hazardous wastes are, in fact, a subset of DOT hazardous materials. However, the DOT hazard classes do not directly correspond to RCRA hazard characteristics. For example, DOT

classifies materials as "flammable" if the liquid has a flashpoint < 100°F, and classifies liquids with flashpoints between 100° and 200°F as "combustible." EPA classifies hazardous wastes as "ignitable" with a flashpoint < 140°F. Therefore, some EPA ignitibles may be DOT flammable, and some may be DOT combustible, depending on flashpoint. You should consult DOT to further clarify its nomenclature and criteria.

In that same discussion of absorbent mixtures, there is also a reference to liquids containing TCLP constituents. The mixture would be classified as TC hazardous if it exceeded the regulatory levels in §261.24.

In the discussion on used oil, there also seems to be some confusion. The basis for the statement that "used oil is assumed to exhibit a characteristic of hazardous waste due to its use..." is unclear. Such a blanket statement is not supported by recently collected EPA data, which will be noticed and discussed in an upcoming used oil proposal in September. Generators are responsible for making a hazardous waste determination if they plan to dispose of used oil. If the oil or oil/absorbent mixture exhibits a hazardous characteristic, then disposal options depend on the generator's status (i.e., conditionally exempt SQG waste may be disposed of in municipal or industrial landfill that is permitted, licensed, or registered by the state). If a used oil/absorbent mixture is to be burned for energy recovery, then 40 CFR 266 Subpart E applies.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 21 1991

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Melanie K. Pierson  
Assistant United States Attorney  
Southern District of California  
United States Court House  
940 Front Street, Room 5-N-19  
San Diego, California 92189

Dear Ms. Pierson:

This responds to your May 3, 1991 request for a regulatory interpretation regarding the status of solder skimmings, based on information supplied to you by Mr. Karl S. Lytz. In Mr. Lytz's letter to you dated April 29, 1991, he presents more specific information regarding the actual process used by a Fisher-Price facility that generates solder skimmings. The principal determination focuses on whether the solder skimmings are defined as "spent materials" or "by-products." This determination is based on how the solder skimmings are generated.

As stated in our March 19, 1991 letter to you, EPA has previously indicated in regulatory interpretations (including Federal Register preamble discussions and guidance manuals) that dross or skimmings are typically considered by-products. However, because the terms "dross" and "skimmings" can refer to secondary materials generated by a variety of processes, a more studied assessment of how a specific secondary material is generated is necessary to determine its actual regulatory status. In other words, the term used to describe a secondary material (e.g., dross or skimmings) is not necessarily determinative of its regulatory status.

To the extent that a material has been used in a process, and is subsequently removed due to contamination, the Agency would consider the material to be "spent." The term "by-product" refers to materials that result from a production process that are not the intended product and are not fit for a desired end use without substantial further processing (i.e., they are not co-products), and are not otherwise classified as spent materials or sludges. In very general terms, dross generated in the production of solder is a by-product; dross generated in the use of solder is a spent material. As stated in our March 19, 1991 letter to you, the Agency interprets "by-product" to also include drosses (or skimmings) that are generated from solder that is melted prior to use (which is analogous to the further refinement



of a product). However, drosses generated from the solder during or after its use are defined as spent materials.

In Mr. Lytz's letter, he describes the various steps in the process that generates the solder dross. It appears that "dross" is generated both as a by-product and as a spent material. In the reservoir, which is used ". . . exclusively for melting solder rods to produce molten solder for use in the bath," the dross generated would meet the Agency's definition of a by-product. However, the dross generated by skimming the solder bath and the wire tinning operations would be considered spent materials, because the solder has been used in these operations. The basis of this differentiation is not a consideration of the chemical composition of the material (e.g., whether it is similar, or indeed identical, to the dross generated in the reservoir), or in how the material became contaminated (e.g., by oxidation with the air). The determining factor is that the solder has been used, is contaminated, and is being removed from the process. Although Mr. Lytz states that the solder has not been contaminated, but rather the oxides are "impurities" that occur naturally through use (as opposed to being residual contaminants from the parts that are soldered), the Agency would nevertheless consider the oxides to be the contaminants that cause the solder to be skimmed and removed from the process. (The Agency notes that the entire solder bath is not considered spent merely because the bath has been contaminated by the oxides rather than the small portion that must be removed or skimmed off. The "spent material" classification is only applicable to those materials that are removed from the process, and are thus "generated.")

Thus, all things being equal (i.e., the oxide contaminant), the difference between the status of the reservoir dross and the dross generated by the solder bath and the wire tinning operations is whether or not the dross is skimmed from a used or unused solder. For example, if the reservoir was to also receive previously used solder for remelting (e.g., solder returned from the solder bath) then this dross, too, would be classified as a spent material. To the extent that the different drosses can be segregated and managed without mixing, they would be subject to different regulatory requirements. As Mr. Lytz stated, 95% of the dross is generated by skimming the reservoir; this relatively large amount would not be subject to regulation as a hazardous (or solid) waste. The other drosses, however, would be subject to the applicable regulatory requirements as a hazardous waste.

In reference to the confusion raised by the Electrum letter (i.e., the July 20, 1989 letter from Mr. Devereaux Barnes to Mr. Jack Douglas of Electrum Recovery Works, Inc.), our focus in making the regulatory interpretation was whether the dross met the regulatory definition of a scrap metal. Insufficient information was provided on how the dross was generated to make a

determination of its status at the point of generation. (Indeed, the status of the dross as a by-product vs. a spent material was never raised; had the same information been provided regarding the generation of the dross, the Agency would have determined that the dross was a spent material.) We took Mr. Douglas' assessment that the "dross" was a characteristic by-product at face value without evaluating how the material was generated and erroneously agreed with this classification in a letter written for the purpose of addressing his claim that the dross was a scrap metal (see the enclosed June 5, 1989 letter from Mr. Douglas to Mr. Straus and the May 22, 1989 letter from Ms. Deborah S. Kinburn to Mr. Matt Straus).

I hope this has helped to clarify the regulatory status of the dross generated at the Fisher-Price facility. Generally, a determination regarding the regulatory status of a specific secondary material is made by the State regulatory agency or the appropriate EPA Regional office because of the site-specific factors that may warrant consideration. However, this letter presents the factors the Agency would consider in making such a determination. If you have any further questions regarding this issue, you should contact Mitch Kidwell, of my staff, at (202) 475-8551.

Enclosures

Sincerely,

A handwritten signature in cursive script, reading "David Bussard".

David Bussard, Director  
Characteristics and  
Assessment Division

JUN 28 1991

Mr. Rudy Leutzinger  
Burns & McDonnell  
P.O. Box 419173  
Kansas City, MO 64141-6173

Dear Mr. Leutzinger:

This is in response to your April 10 letter to Steve Cochran regarding the regulatory status of CCA treated wood when disposed. Discarded wood and wood products that would be hazardous only because they fail the Toxicity Characteristic for the 14 hazardous constituents originally regulated through the EP Toxicity Characteristic (i.e., D004-D017) are not hazardous wastes, per 40 CFR 261.4(b)(9). When we promulgated the Toxicity Characteristic, we modified the hazardous waste regulations to replace references to the EP Toxicity Characteristic with references to the Toxicity Characteristic. In the case of the exclusion for wood, our rewording inadvertently narrowed the scope of the exclusion to refer only to wood wastes that fail the characteristic for arsenic (as opposed to failing the characteristic for any of the 14 EP constituents). We are currently writing a Federal Register notice to correct this language.

Should you have any further questions regarding this issue, please feel free to contact Dave Topping of my staff at (202) 382-7737.

Sincerely,

Sylvia K. Lowrance  
Director  
Office of Solid Waste



MEMORANDUM**JUL 3 1 1991**

**SUBJECT:** Response to Request for TC Rule Hazardous Waste Determination

**FROM:** Sylvia K. Lowrance, Director  
Office of Solid Waste

**TO:** Stephanie Wallace  
Region 8; Montana Office

This memorandum responds to your February 8, 1991 memorandum in which you requested guidance on five questions related to pulp and paper mill operations under the Toxicity Characteristic Rule. The scenario was described as follows: a pulp and paper mill generates wastewater in its bleach plant which, at the point of departure from the unit (for our purposes, assumed to be the plant outlet), fails the TC for chloroform. This wastewater is diluted with other wastestreams prior to entering a clarifier. At this point the diluted waste no longer exhibits a characteristic. The non-TC-hazardous wastewater then passes through a series of surface impoundments for aeration and settling prior to discharge to a surface water under a NPDES permit. The surface impoundments are designed to infiltrate greater than 50% of the flow to groundwater. The following are answers to your questions.

**Q:** To determine whether the facility is managing a TC waste, is the appropriate sampling point at the outlet from the bleach plant (prior to the point where it mixes with any other wastestream)?

**A:** Yes. The appropriate point to determine whether a material is a solid waste, and if so, a hazardous waste, is at the point of generation or prior to commingling (mixing) with other wastestreams.

**Q:** If the waste is TC hazardous at this point (that is, at the outlet from the bleach plant, prior to the point where it mixes with any other wastestream), but not when it enters the first surface impoundment, would the surface impoundments be regulated? Why or why not?

**A:** The answer to this question is no, unless TC waste is generated in the impoundment. Whether a TC waste is

generated depends on both the influent and physicochemical activity within the surface impoundment. For example, if a non-TC hazardous influent is pumped into an impoundment which contains other non-hazardous wastes, a hazardous waste could result even if constituent levels in the influent are below TC regulatory levels (for example, from concentration of the various hazardous constituents). Another example is where solids settling out of the non-hazardous influent result in the generation of a hazardous sludge, again from concentration of the trace hazardous constituents. In each case, the impoundment would become subject to all applicable Subtitle C requirements (see September 27, 1990, 55 FR 39410). Furthermore, each surface impoundment in a series of impoundments is treated separately for regulatory purposes.

Q: Does the land ban allowance for dilution of toxic characteristic wastes subject to a NPDES permit (providing the treatment standard is not a method), allow mixing of the bleach plant effluent with other dilute wastestreams before treatment? (This is not an issue yet, but will be of concern when treatment standards for TC wastes are established. The preamble to the 3rd (Third Third) rule indicates that EPA can apply LDRs at the point of generation rather than at the point of disposal).

A: Yes. As discussed in the Third Third final rule (June 1, 1990, 55 FR 22665), dilution is considered to be an acceptable method of treatment for most non-toxic characteristic wastes. For toxic characteristic wastes, including TC wastes previously regulated under the EP, dilution is not acceptable. However, there are two exceptions to this. The one that applies here is for characteristic wastes treated for purposes of CWA compliance (such as for NPDES permitting requirements), provided there is no specified method as the treatment standard. Dilution of TC organics will be evaluated during development of treatment standards.

Q: If it is determined that the surface impoundments are regulated, would they be exempt from the minimum technology requirements of RCRA 3004(o)(1)(A) based on the exemption in 3005(j)(1)(3) for units which contain treated wastewater at facilities subject to a CWA 402 [NPDES] permit?

A: Yes. Surface impoundments that meet the conditions of RCRA (HSWA) § 3005(j)(3) are exempt from the minimum technological requirements of RCRA (HSWA) § 3004(o)(1)(A). Section 3005(j)(3) applies to units containing treated waste water during the secondary or subsequent phases of an aggressive biological treatment facility (as opposed to any treatment facility).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Q: Is the definition of "aggressive biological treatment" in this case the same as that laid out in the recent petroleum refinery listings?

A: No. The petroleum listing definition of "aggressive biological treatment" applies specifically and only to petroleum refinery waste surface impoundments (see 55 FR 46354, November 2, 1990). A general discussion of the term can be found in footnotes 7, 8, and 9 on p. 46357 - 58.

I hope we have answered your questions. Additional information is attached should you need to reference it. If you have further questions, please call Steve Cochran of my staff at FTS 382-4769.

cc Regional Waste Management Division Directors  
Regional RCRA Branch Chiefs

**ADDITIONAL INFORMATION ON HAZARDOUS WASTE DETERMINATION**

- o In a discussion on sampling points, the preamble of the TC final rule (March 29, 1990, 55 FR 11830) reads as follows: "The current rule requires that determination of whether a waste is hazardous be made at the point of generation (i.e., when the waste becomes a solid waste). (A waste must be a solid waste before it can be classified as hazardous waste under RCRA). EPA believes that determination of the regulatory status of a waste at the point of generation continues to be appropriate, especially since the Agency is not developing a separate mismanagement scenario or set of regulatory levels for wastewaters."
- o EPA developed a TC clarification notice which includes examples of regulated surface impoundments managing newly identified TC wastes (September 27, 1990, 55 FR 39409). The following language on page 39410 may be applicable to the first surface impoundment you describe in question 2: "A [third] example is where a TC waste is generated within the unit from non-hazardous wastewater on or after the TC effective date. This could occur where the hazardous constituents in the wastewater become concentrated, or if a new TC sludge is formed by settling. In these examples, once the TC waste is generated and stored or disposed of in the unit, the unit is subject to subtitle C." The additional surface impoundments would be regulated in the following manner: if the first surface impoundment generated a TC hazardous sludge or wastewater, and the hazardous effluent was received in subsequent surface impoundments, then the subsequent surface impoundments would also be subject to subtitle C requirements (see 55 FR 11830, and 55 FR 39410).
- o The dilution prohibition exception is codified in 40 CFR 268.3(b) and reads as follows: "Dilution of wastes that are hazardous only because they exhibit a characteristic in a treatment system which treats wastes subsequently discharged to a water of the United States pursuant to a permit issued under section 402 of Clean Water Act (CWA) or which treats wastes for purposes of pretreatment requirements under section 307 of the CWA is not impermissible dilution for purposes of this section unless a method has been specified as the treatment standard in Section 268.42."
- o In order to qualify for the WWTU exemption, the device must meet three criteria: 1) be part of a wastewater treatment facility that is subject to regulation under either section 402 or 307(b) of the Clean Water Act; 2) receive, and treat or store influent wastewaters or wastewater treatment sludges which meet the definition of a hazardous waste in 40

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CFR 261.3; and 3) meet the definition of tank or tank system (see "wastewater treatment unit," 40 CFR 260.10).

Assuming that the first two criteria are met, an evaluation needs to be made for the third condition. If the clarifier meets the 40 CFR 260.10 definition of tank, then a determination must be made on the conveyance structure (in your letter, you marginally referenced the "means of conveyance"). The 40 CFR 260.10 term "tank system" includes the tank and its associated ancillary equipment and containment system. In turn, "ancillary equipment" means: "any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment tanks to a point of disposal on-site, or to a point of shipment for disposal off-site (see "ancillary equipment," 40 CFR 260.10).

The conveyance structure may or may not meet the definition of ancillary equipment depending on whether it is designed to distribute, meter, or control the hazardous waste flow between the generation point and a storage or treatment tank (which is designed to contain an accumulation of hazardous waste). For example, a conveyance structure which is simply a ditch constructed of dirt would not meet the definition. Determining whether a given conveyance structure meets the definition of ancillary equipment is necessarily a site-specific judgement, dependent on the circumstances and facts at the facility in question. The state or regional authority reviews the facts in question to determine whether a specific conveyance structure meets the terms of the exemption.

Finally, if an exempt WWTU renders the wastewater non-hazardous, the storage of the wastewater in the surface impoundments would not be under RCRA Subtitle C regulation, unless conditions described in the answer to your second question occur (i.e., the surface impoundment generates a hazardous wastewater or sludge).

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

JULY 1991

## RCRA

1. Truck Transport of Wastewater for Purposes of Section 261.3(a)(2)(iv)(A)

A treatment, storage and disposal facility manages a wastewater which is a mixture of a solid waste and trichloroethylene in de minimis quantities as defined in Section 261.3(a)(2)(iv)(A). If the facility transports the wastewater in trucks from an on-site sump to its on-site NPDES-permitted wastewater treatment unit, does the waste still qualify for the exemption from the definition of hazardous waste under Section 261.3(a)(2)(iv)?

Yes, the waste still qualifies for the exemption. Section 261.3(a)(2)(iv) does not limit the means by which the wastewater may reach the wastewater treatment unit in order to be eligible for the exemption from the definition of a hazardous waste. The exemption requires only that that the wastewater be treated in a wastewater treatment unit at a facility subject to regulation under either section 402 or section 307(b) of the Clean Water Act and the wastewater must meet the de minimis levels established in paragraphs (A) through (E).

Source: Ron Josephson, OSW  
Research: Melicent Brenner

(202) 260-6715

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

AUGUST 1991

1. Regulatory Status of Off-Specification Circuit Printing Boards

Periodically, in a circuit board manufacturing process, individual circuit boards are not considered to meet manufacturing specification standards. These units are dismantled, and the materials are reclaimed for use in the construction of new circuit boards. Assuming the circuit boards would exhibit a characteristic of 40 CFR Subpart C, would the dismantling and recycling of the boards be subject to RCRA Subtitle C hazardous waste regulations?

No, reclamation of the off-specification circuit boards would not be subject to the RCRA Subtitle C hazardous waste regulations because the circuit boards are not hazardous wastes.

By definition, for a waste to be a hazardous waste, it must be a solid waste (40 CFR §261.3). To determine whether a material is a solid waste when reclaimed, it must first be determined whether the material is a spent material, sludge, by-product, commercial chemical product, or scrap metal (See 40 CFR §261.2(c)(3).) An unused circuit board is classified in the chemical products category. Although the commercial in the chemical products category in Table 1 of 40 CFR §261.2(c)(3) is labeled "commercial chemical products listed in 40 CFR §261.33," as explained in a Federal Register notice published on April 11, 1985, (50 FR 14219) the status of commercial chemical products not listed in 40 CFR §261 (i.e., those that exhibit hazardous

wastes characteristics) is "the same as those that are listed in Section 261.33." These materials are normally solid wastes only if thrown away, and so are not solid waste if reclaimed. Further, the Agency interprets commercial chemical products to include all types of unused commercial products that exhibit characteristics, whether or not they would commonly be considered chemicals (e.g., circuit boards, batteries, and other types of equipment).

Once it has been determined that the circuit boards are commercial chemical products, 40 CFR §261.2(c)(3) indicates that they are not solid wastes when they are to be reclaimed. Since the circuit boards are not solid wastes, they are not hazardous wastes and the reclamation is not subject to the RCRA Subtitle C hazardous waste regulations. It should also be noted that the 40 CFR §261.2(f) requirement (persons who raise a claim that a material is not a solid waste document must meet the terms of the exemption) may be applicable.

Source: Charlotte Mooney, OSW  
Research: Cynthia Hess

(202) 260-6926



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

SEP 20 1991

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Ms. Mary R. White  
Corporate Environmental Director  
Quaker State Corporation  
P.O. Box 989  
Oil City, Pennsylvania 16301

Dear Ms. White:

Thank you for your letter of March 27, 1991, requesting a delay in the imposition of the toxicity characteristic (TC) rule on oil filters, because of its impact on the recycling of used oil and oil filters.

The Environmental Protection Agency (EPA) has addressed this issue in the enclosed used oil supplemental proposal notice, which was published in the Federal Register on September 23, 1991. The notice covers the used oil listing alternatives and alternative standards for managing recycled used oil. EPA will issue the final used oil regulation by May 1, 1992.

For the following reasons, EPA does not believe a TC exemption for used oil filters is needed at this time:

- the available TC data related to used oil filters suggest that crushed filters may not exhibit the TC; and
- as I explained my October 30, 1990, memorandum to Robert L. Duprey of EPA Region VIII, there are existing exemptions for recycled used oil and recycled used oil filters; no TC determination is necessary for oil filters destined for recycling.

As discussed in the supplemental proposal (Appendix A contains the pertinent portion of the proposal), analytical data suggest that used oil filters devoid of free-flowing oil are likely to be non-hazardous (i.e., they will pass the TC test). In addition, the supplemental proposal requests comment on specific issues on used oil filters, such as:

- what methods (e.g., draining, crushing, dismantling, centrifuging, and cleaning with solvent) could be employed to remove used oil from oil filters;



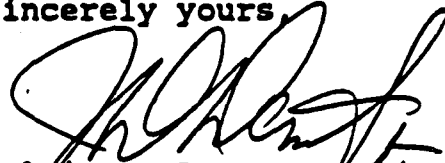
- what criterion defines adequate "crushing";
- should the "one-drop" approach be used to determine when a used oil mixture ceases to become "oil-free" solid waste; and
- should oil filters containing insignificant quantities of free-flowing oil be disposed of in municipal landfills.

Depending on public comments, EPA may finalize standards for managing used oil filters when finalizing the used oil regulation.

If the used oil rule becomes final as proposed, used oil collected from oil filters would be subject to §3014 used oil management standards; crushed or oil-free filters would continue to be managed under the RCRA scrap metal exemption, or may be disposed of in municipal landfills, provided the State allows such disposal. In the interim, EPA may issue a directive discussing management alternatives for generators of used oil filters who are unable to recycle drained and crushed filters under the scrap metal exemption for economic or technical reasons (e.g., reluctance of scrap metal handlers to accept oil filters).

If you have any further questions concerning the supplemental notice, feel free to contact Ms. Rajni Joglekar at (202) 260-3516. Thank you for your interest in the safe and effective management of hazardous waste.

Sincerely yours,



Sylvia K. Lowrance, Director  
Office of Solid Waste

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

9441.1991(16)

OCT 22 1991

Mr. Kevin S. Dunn  
Project Manager  
Environmental Policy Center  
Law Companies Environmental Group  
1828 L Street, N.W.  
Suite 711  
Washington, D.C. 20036

Dear Mr. Dunn:

Thank you for your letter of May 28, 1991 regarding the regulatory status of industrial equipment which formerly contained a hazardous waste. I apologize for the delay in responding to your inquiry.

In your letter, you described a situation in which pumps containing elemental mercury were taken out of service and used as containers for temporary storage, transportation and handling of the mercury before its treatment and disposal. You asked whether the pumps could be regulated as non-hazardous wastes if the mercury were removed from the pumps in a manner consistent with the requirements of 40 CFR 261.7 for empty containers.

It is our view that if the pumps meet the definition of "container" in 40 CFR 260.10, they are exempt from regulation under Subtitle C of the Resource Conservation and Recovery Act (RCRA) after they are emptied in accordance with 40 CFR 261.7. Section 260.10 defines "container" as "any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled". If the pumps you describe are portable, they may be managed as a non-hazardous waste under federal law.

This interpretation reflects the federal regulations governing hazardous waste. States with authorized RCRA programs may impose more stringent requirements. Such States also have the authority to make regulatory determinations about the materials which constitute hazardous wastes under their systems.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

2

I hope this letter has addressed your concerns. If you have any further questions, please contact Mitch Kidwell of my staff at (202) 260-8551.

Sincerely,

David Bussard, Director  
Characterization and  
Assessment Division

NOV 4 1991

MEMORANDUM

SUBJECT: Response to Region V Fuel-Blending Concerns

FROM: Sylvia K. Lowrance, Director  
Office of Solid Waste (OS-300)TO: David A. Ullrich, Director  
Waste Management Division (SH-12)

This memorandum responds to your September 24, 1991, memorandum requesting Headquarters views on the regulatory interpretations made by Region V specific to hazardous waste fuel-blending facilities. Your memorandum raised three issues which will be presented separately along with our reaction to the Regional interpretation.

ISSUE 1

A facility, in requesting a determination concerning RCRA permit requirements, described its process as receiving waste liquid and solid fuel stock, recycling the stock, and shipping waste fuel to a kiln. The facility indicated that it considers the fuel a recyclable material pursuant 40 CFR 261.6(a)(2)(ii) and exempt from regulation.

ANSWER

We agree with the Region's interpretation that any unit that meets the definition of a "tank" or a "tank system" is subject to regulation. Blending or other treatment to produce a hazardous waste fuel is not exempt. In fact, the facility seems to have misread 40 CFR 261.6(a)(2)(ii) which states recyclable materials such as hazardous wastes burned in boilers and industrial furnaces (BIF): "... are not subject to the requirements of this section [i.e. 261.6] but are regulated under Sections C through G of Part 266 of this chapter and ... Parts 270 and 124." Thus, these units are subject to permitting.

The facility's rebuttal of the Region's earlier determination attempts to define the unit's purpose as different from storage. The "purpose" of the unit is moot; if it<sup>s</sup> treating

or storing hazardous waste, then it is regulated. The diagrammed process, including grinders, filters, etc., appears to meet the definition of a tank and its ancillary equipment. If the unit or a component is not a tank or a tank system, or if it has additional features that would potentially affect emissions or releases to the environment, then it would be regulated under Subpart X (miscellaneous units) or permit conditions may be added based on the omnibus authority of Section 3005(c)(3) of RCRA, as amended.

## ISSUE 2

Considering the BIF rule, can a fuel-blending TSD accept low-BTU (less than 5000 BTU/lb.) into its mixing program?

## ANSWER

A marketer of hazardous waste fuel currently can, and has previously been able to accept low BTU fuel. However, there are certain factors which govern whether a BIF can accept waste fuel originating from low-BTU waste. Under the sham recycling policy BIFs have not generally been allowed to burn hazardous waste fuel that had a heating value of less than 5000 BTU/lb. A low-BTU fuel (as generated) had to be processed to increase the heating value to greater than 5000 BTU/lb. by a means other than blending (e.g., decanting aqueous liquids) before it could be burned.

Now that the BIF rule has been promulgated, the BIFs can burn low-BTU waste after they conduct compliance emission testing with low-BTU waste and certify compliance under the new interim status standards. See section 266.103(a)(6) (56 FR 7213, Feb. 21, 1991).

## ISSUE 3

Will the unit processes used to increase the heating value of low-Btu waste (i.e., phase separation, centrifugation, and air stripping) require a RCRA permit for their operation?

## ANSWER

The unit processes used to raise the Btu value would require a permit for their operation. If the units do not meet the definition of units for which minimum technology standards have been established (e.g., tanks or tank systems), then the unit can be permitted under Part 264, Subpart X. The need for a permit for these types of processing units comes from the language in Section 261.6(a)(2) which separates recyclable materials used in a manner constituting disposal or burned, including treatment prior to being burned for energy recovery, from other recycling activities like reclamation of a solvent in a distillation unit.

If you have any question concerning our interpretation of these fuel-blending issues, please call Sonya Sasseville (260-3132) or Chester Oszman (260-4499) of my staff.

Attachment

cc: Hazardous Waste Division Director, Regions 1-4 & 6-10  
Regional Subpart X Contacts  
Regional Incineration Contacts  
Sonya Sasseville, OSW  
Chester Oszman, OSW



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

DEC - 9 1991

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

Mr. James C. Brown  
c/o American Electronics Association  
1225 Eye St., N.W., Suite 950  
Washington, D.C. 20005

Dear Mr. Brown:

Thank you for your letter of October 2, 1991, describing your concerns about our recent interpretation of Resource Conservation and Recovery Act (RCRA) regulations that apply to solder dross generated in manufacturing printed circuit boards.

To briefly restate the issue, you are concerned about a March 19, 1991 letter from David Bussard that classifies solder "dross" generated by the use of solder in printed circuit board manufacturing as a spent material under the RCRA hazardous waste regulations (and thus, as a solid and hazardous waste). The March 19 letter was based upon the information that we had at the time, and differentiates between spent materials and by-products. As you noted in our October 16 meeting, previous EPA statements about the status of solder dross and solder skimmings from printed circuit board manufacturing were that skimmings and drosses are by-products - and thus are not solid or hazardous wastes when reclaimed, under the federal RCRA regulations (40 CFR 261.2).

The term "dross" is frequently used by industry to refer to an oxide layer that forms on the surface of molten metal, regardless of whether the metal is a virgin metal being reshaped into a different form, or is a metal in use (such as solder). Previous statements, and an example in the January 4, 1985 Federal Register preamble, have generally referred to "drosses" as by-products under the RCRA hazardous waste regulations. Although some drosses are by-products under federal rules, the language of the regulations and the circumstances of a material's use, including whether the material becomes contaminated,

determine how it is classified. For example, when circuit board manufacturers have to change their solder baths due to contamination, the material removed from the bath is a spent material.

It appears that our imprecise use of the term "dross" and previous statements that solder skimmings or drosses are "by-products" may have led to widespread practices in the electronics manufacturing industries, where the skimmings have been managed as if they were by-products (and thus, neither solid nor hazardous wastes when reclaimed).

We think it is important to obtain additional information. We are currently in the process of gathering information to determine how the solder drosses or skimmings generated in printed circuit board manufacturing should be regulated, if at all, under RCRA Subtitle C. That information will include the levels of contamination in dross and skimmings as solders are used in circuit board manufacturing as well as a broader look at information bearing upon the handling of dross and skimmings after removal from the solder bath. The information, as well as the issues raised about classifying dross in the future under RCRA, are also relevant in the broader context of revisions to the definition of solid waste. We hope to publish an Advance Notice of Proposed Rulemaking discussing these revisions by the end of the year, to engage public debate on these important questions. Many of the issues you raised in your October 2 letter are part of larger questions, such as whether to use the regulations as a tool to encourage safely conducted resource recovery.


Therefore, until we have gathered more data on the industry's practices (both at generator sites and recycling facilities), we will continue to treat solder drosses generated from soldering printed circuit boards as by-products, rather than as spent materials. As a result, solder drosses from printed circuit board manufacturing that are reclaimed would not have to be managed as solid or hazardous wastes under RCRA regulations (40 CFR 261.2). Please note that this letter relates only to the federal hazardous waste regulations. States may have requirements that are more stringent or broader in scope; thus, you would need to contact individual states to determine their requirements in a specific situation.

With respect to the particular solder drosses in question, this letter is based on specific factual circumstances, including your reliance on prior Agency statements. Thus, this letter has no application to other industries or materials.



Thank you once again for your interest in this matter. If you have further questions please contact David Bussard of my staff at (202) 260-4637.

Sincerely yours,



Don R. Clay  
Assistant Administrator

## RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

DECEMBER 1991

# 1. Reclaimed Spent Wood Preservative Exclusion in 40 CFR Section 261.4(a)(9)

*In the December 6, 1990, Federal Register (55 ER 50450), EPA promulgated hazardous waste listings for three wastes generated from wood preserving processes: F032, F034, and F035. These listings include spent wood preserving solutions which are often collected on drip pads, reclaimed (usually by means of filtration or oil/water separation), and reused again in wood preserving processes. If a wood preserving facility uses reclaimed spent preservative (F032, F034, or F035) to treat wood products which are subsequently placed on the land, would the reclaimed spent preservative be regulated as a hazardous waste under the derived-from rule (40 CFR §261.3(c)(2)) since it is derived from the treatment (reclamation) of a listed waste?*

No. Although in the general case, materials reclaimed from hazardous wastes that are used in a manner constituting disposal continue to be regulated as solid and, if hazardous, hazardous wastes, an exclusion from regulation as solid and, thus, as hazardous wastes was promulgated with the new listings for reclaimed spent wood preserving solutions that are reused for their intended purpose.

Generally, the derived-from rule in 40 CFR §261.3(c)(2) classifies any solid waste derived from the treatment, storage, or disposal of a listed hazardous waste as that hazardous waste. There is an exception to this rule. In §261.3(c)(2)(i), a

material that is reclaimed from a hazardous waste and used beneficially, e.g., used as a product, is no longer considered a solid waste, and thus is not a hazardous waste. This exception does not apply, however, when a reclaimed material is used, burned for energy recovery, or used in a manner constituting disposal. Because in this case the wood products treated with the reclaimed wood preserving solutions are placed on the land (used in a manner constituting disposal), the §261.3(c)(2)(i) exclusion would not apply to the reclaimed preservatives or to the treated wood products. Thus, the preservatives and the wood products would be regulated as derived-from listed hazardous wastes. In the December 6, 1990, final rule, however, the Agency stated that "regulating reclaimed spent preservative and products made with reclaimed spent preservative was not and is not EPA's intent." To implement this intent, an exclusion from the definition of solid waste was promulgated under §261.4(a)(9), which excludes from the definition of solid waste those spent wood preserving solutions and waste waters that have been reclaimed and will be reused for their original intended purpose. Thus, under 40 CFR §261.4(a)(9), once spent wood preserving solutions are reclaimed and have been returned to the process (i.e., the work tank), the reclaimed solutions used for their intended purpose (wood preserving) are not solid wastes and thus not hazardous wastes. Note that this exclusion does not apply to the recycling process (the recycling unit would be exempt from permitting under §261.6(c)), or to any prior management of the spent preservative. Also, note that the wording of the §261.4(a)(9) exemption was corrected in the July 1, 1991, Federal Register notice. (56 ER 30192).