SW-50p

United States
Environmental Protection
Agency

Office of
Solid Waste
Washington DC 20460

Solid Waste

EPA

Public Hearing on Proposed Hazardous Waste Regulations

February 14-16, 1979
St. Louis, Missouri

Transcript

T R A N S C R I P T

Public Hearing

on Proposed Hazardous Waste Regulations

February 14-16, 1979, St. Louis, Missouri

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U.S. ENVIRONMENTAL PROTECTION AGENCY
1979

UNITED STATES OF AMERICA

ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

Public Meeting on Improving Environmental Regulations

Breckenridge Pavilion Hotel,
One Broadway,
St. Louis, Missouri,
Wednesday, February 14, 1979.

The public hearing in the above-entitled matter was convened, pursuant to notice, at 8:30 o'clock a.m., Dorothy A. Darrah, presiding.

BEFORE:

PANEL

DOROTHY A. DARRAH,	Office of General Counsel, EPA, Washington, D. C.
AMY SCHAFFER,	Office of Enforcement, EPA, Washington, D. C.
JOHN P. LEHMAN,	Director, Hazardous Waste Management Division, Office of Solid Waste, EPA, Washington, D. C.
ALFRED LINDSEY,	Chief, Implementation Branch, Hazardous Waste Management Division, Office of Solid Waste, EPA, Washington, D. C.
ALAN CORSON,	Chief, Section 3001, Guidelines Branch, Hazardous Waste Management Branch, Office of Solid Waste, EPA, Washington, D. C.

CHET MC LAUGHLIN, Solid Waste Branch, EPA, Region VII, Kansas City, Missouri.

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P R O C E E D I N G S

MR. BLOMGREN: Good morning.

I'm Carl Blomgren, director, Air and Hazardous Materials Division, EPA, Region VII, office in Kansas City.

I bring you greetings from our regional administrator, Dr. Kathleen Camin, and welcome you to this winter wonderland of the Midwest. We appreciate your interest in these regulations which will shape the implementation of the Resource Conservation and Recovery Act's Subtitle C. I am particularly interested in the issues and concerns which you have with these regulations and offer to work with you in developing equitable regulations which provide for adequate controls of hazardous waste.

The states in Region VII have built an admirable record of interest and success in striving to implement comparable state hazardous waste management programs. Kansas and Missouri have passed new state hazardous waste management legislation and are in the process of implementing these statutes. Nebraska is developing regulatory controls without additional legislation, and Iowa has introduced hazardous waste management legislation to their legislature which will provide them with authority to conduct the national program. We are proud of this progress. According to the consultants, WAPORA Study for the Office of Solid Waste, the number of impacted industries in Region VII is

8,600 in Missouri, 2,700 in Nebraska, 5,400 in Iowa, and 3,000 in Kansas.

It is with great pleasure that I welcome you to Region VII for what I hope will be a fruitful and spirited discussion of the Section 3001, 3002, and 3004 hazardous waste regulations.

With that, I will introduce our assistant administrator for Water and Waste Management, Tom Jorling.

Tom.

MR. JORLING: Thank you, Carl, and good morning.

I, too, would like to welcome you.

This effort is part of sort of a road show that EPA has under way in the rule-making process. We initiated the formal hearings on the R.C.R.A. hazardous waste regs in New York last week, move back to Washington next week, and then move back west to Denver and San Francisco in the remaining two weeks, and the comment period then closes, and the Task sets out to take the proposal from its stage now into the final rules so that we can bring into being a program of regulation which the statute calls for and the American people are asking for.

R.C.R.A. was enacted to give the Environmental Protection Agency authority and the states authority in 1976 in the area of hazardous waste.

The statute called for, the regulations which we

are holding these hearings on, to be promulgated to be in effect by June of 1978. They have an effective date after promulgation of six months. We are obviously behind that date. We were subject to several complaints in federal court because we had failed a nondiscretionary duty, and the courts issued us an order which calls for these regulations to be promulgated by December of 1979. The effective date would then be 1980.

I say that because many have said, "Gee, you're moving too fast." In fact, we are not moving too fast. We're probably moving much too slow, at least when we apply the regulations to the dimensions of the problem; but on our schedule, which is an ambitious one, we will not have these regulations into being and have their effect until July of 1980, and that requires everyone then to stick to the rules we have laid down on the rule-making process so that we can, in fact, achieve that objective.

Many have asked why hazardous waste has been a problem which the government is now only responding to. In contrast to air and water pollution, which are immediately obvious to the people, to the public--they see the water, they breathe the air. Hazardous waste has been a practice which generally occurs on private property. The disposal practices have been out of sight and out of mind.

Another difference from the two earlier pollution

areas in which there have been aggressive action is that the pathways of effects are often very indirect. They are down through ground waters, migrating ground waters, and then contaminating public or private wells, so that the cause-effect relationship is opened up and spread out; and, as a result, we have not at the federal level moved in the area of hazardous waste.

I would also like to note that the program we are holding these hearings on is the one that is directed at present and future activities, and that certainly is an ambitious task of itself. We have estimates or our estimates show that some thirty to thirty-five million tons of waste will be classified as hazardous; and of that amount, roughly 80 to 90 per cent is at the present time being improperly disposed of, and improperly disposed of here means by inference that it does represent threats to public health and the environment.

We are also intersecting with this rule-making package a business/commercial pattern which is extremely complex, and, as a result, the rule-making is itself complex to match that complexity; but there should be no doubt as to the need. As we have begun investigating these efforts seriously and the events have been disclosed, such as Love Canal in Salsbury Labs in Iowa, the result is an accumulation of additional cases across the country of great magni-

tude, but those kinds of problems will not be addressed specifically by these regulations. It's another dimension of the program or the problem which our statute at present doesn't give us a great deal of authority, and we are presently investigating other types of statutory authority which would help us and the states and local communities address accumulated abandon problems that exist across the countryside; but this program is very ambitious. It requires "cradle to grave management" of hazardous wastes. Therefore, it requires generators, transporters, and storers and disposers to undertake certain duties and obligations.

There is a manifest system to track the movement of hazardous waste. There are requirements for issuing permits to both on- and off-site disposers. All of these are very ambitious tasks that will tax and test our ability as government both at the federal and state level to carry out.

One of the things we're very interested in are reactions with respect to the administrative capability in implementing this program.

The purpose of these hearings, as standard rulemaking hearings, is to hear from the affected public or the interested public on the regulations which we have proposed.

The proposal that we are holding hearings on covers many of the provisions in the overall hazardous waste program. There are still some to come, especially in the

administrative permit part of activity in the state activity. Those regulations will also be subject to public hearings beginning in approximately six weeks. I don't know whether there is any scheduled for St. Louis, but they will be held around the country in the permit areas, but it is to hear from those who have read these regulations, evaluate how they apply to them if they be in the regulated community; or if they be in the interested community, whether or not the regulations provide the degree of public health and environmental protection the statute calls for, and people's reaction to them with respect to their just general application and whether or not they will achieve the results that are expected.

So our purpose is in listening to the reaction of the proposal that we have made. We look forward to that. We find these hearings very, very helpful. Their rulemaking process is one in which there is tremendous interaction between our agency and the affected community, and we expect these regulations will be improved as a result of this process.

So I would like to welcome you and look forward to the testimony that you will be giving. I won't be able to attend a great deal of the hearings, but it is something that you can well imagine is a very high priority in our agency.

We hope to keep the program on schedule, and we

will deliver a product which the people can be proud of in the time frame we have now set forth for ourselves; namely, by December of this year, so we look forward to your participation in that.

Now, Jack, you have some opening remarks that will help people put the overall set of regulations into context, and then we will move on.

MR. LEHMAN: Thank you, Tom.

My name is John Lehman. I'm the director of the Hazardous Waste Management Division of EPA's Office of Solid Waste in Washington.

For a brief overview of why we are here, the EPA, on December 18, 1978, issued proposed rules under Sections 3001, 3002, and 3004 of the Solid Waste Disposal Act as substantially amended by the Resource Conservation and Recovery Act of 1976, Public Law 94-580, better known by the acronym of R.C.R.A. or "Ric Ra".

These proposals respectively cover, first, the criteria for identifying and listing hazardous waste, identification methods and a hazardous waste license; second, standards applicable to generators of such waste for recordkeeping, labeling, using proper containers and using a transport manifest; and, third, performance, design, and operating standards for hazardous waste management facilities.

These proposals, together with those already published pursuant to Section 3003, on April 28, 1978; Section 3006, on February 1, 1978; Section 3008, on August 4, 1978; and Section 3010, on July 11, 1978; and that of the Department of Transportation pursuant to the Hazardous Materials Transportation Act proposed on May 25, 1978, along with the Section 3005, permit regulations, which Tom mentioned earlier, constitute the hazardous waste regulatory program under Subtitle C of the Act.

EPA has chosen to integrate its regulations for facility permits pursuant to Section 3005 and for state hazardous waste program authorization pursuant to Section 3006 of the Act, with similar proposals under the National Pollutant Discharge Elimination System required by Section 402 of the Clean Water Act and the Underground Injection Control Program of the Safe Drinking Water Act.

This integration of programs will appear soon as proposed rules under 40 CFR Parts 122, 123, and 124.

This hearing is being held as part of our public participation process in the development of this regulatory program.

I would like to introduce the panel members who share the rostrum with me; and from your left to right, they are: Chet McLaughlin of the Hazardous Waste Management Section, Hazardous Materials Branch, in Region VII in

Kansas City; next, Amy Schaffer with our Office of Enforcement, headquarters in Washington; next, Dorothy Darrah from Office of General Counsel in EPA headquarters in Washington; Fred Lindsey who is chief of the Implementation Branch of Hazardous Waste Management Division in Washington; Alan Corson who is the chief of our Guidelines Branch in the Hazardous Waste Management Division, again in Washington; and, of course, Mr. Jorling whom you have met.

As noted in the Federal Register, our planned agenda is to cover comments on Section 3001 today, Sections 3002 and 3003 tomorrow, and Section 3004 the next day. Also, we have planned an evening session tomorrow night covering all four sections, and that session is planned primarily for those who cannot attend during the day.

The comments received at this hearing and the other hearings, as noted in the Federal Register, together with the comment letters we received, will be a part of the official docket in this rule-making process. The comment period closes on March 16 for Sections 3001 through 3004.

This docket may be seen during normal working hours in Room 2111D, Waterside Mall, 401 M Street, N. W., Washington, D. C.

In addition, we expect to have transcripts of each hearing within about two weeks of the close of the hearing. These transcripts will be available for reading

at any of the EPA libraries. A list of these locations is available at the registration table.

With this as background, I would like to lay the groundwork and rules for the conduct of this hearing.

As Tom mentioned, the focus of a public hearing is on the public's response to a regulatory proposal of an agency, or, in this case, agencies, since both EPA and the Department of Transportation are involved.

I might point out for our hearings tomorrow on Section 3003, there will be a representative of DOT present.

The purpose of this hearing, as announced in the April 28, May 25, and December 18 Federal Registers, is to solicit comments on the proposed regs, including any background information used to develop the comment. So this public hearing is being held not primarily to inform the public, nor to defend a proposed regulation, but rather to obtain the public's response to these proposed regulations and thereafter revise them as may seem appropriate.

All major substantive comments made at the hearing will be addressed during preparation of the final regulations.

This is not a formal adjudicatory hearing with the right to cross-examination. The members of the public are to present their views on the proposed regulation to the panel, and the panel may ask questions of the people presenting

statements to clarify any ambiguities in their presentations. Some questions by the panel may be forwarded in writing to the speakers. His or her response, if received within a week of the close of this hearing, will be included in the transcript. Otherwise we will include it in the docket.

The Chairman reserves the right to limit lengthy questions, discussions, or statements. If you have a copy of your statement, please submit to the court reporter.

Written statements will be accepted at the end of the hearing; and if you wish to submit a written rather than an oral statement, please make sure that the court reporter has a copy. The written statements will also be included in their entirety in the record.

Persons wishing to make an oral statement who have not made an advance request by telephone or in writing should indicate their interest on the registration card. If you have not indicated your intent to give a statement and you later decide to do so, please return to the registration table, fill out another card, and give it to one of the staff.

As we call upon an individual to make a statement, he or she should come up to the lecturn and identify himself or herself for the court reporter and deliver his or her statement.

At the beginning of the statement, the Chairperson will inquire as to whether the speaker is willing to entertain questions from the panel. The speaker is under no obligation to do so. Although within the spirit of this information-sharing hearing, it would be of great assistance to the agency if questions were permitted.

Our day's activities, as we currently see them, appear like this. We will break for lunch at about 12 o'clock and reconvene at 2 p.m. Then, depending on our progress, we will either conclude the day's session or break for dinner at about 5 o'clock.

Phone calls will be posted on the registration table near the entrance to the hotel, and restrooms are located immediately outside of this room directly down the hall on your right-hand side.

If you wish to be added to our mailing list for future regulations, draft regulations, or proposed regulations, please leave your business card or name and address on a three by five card on the registration desk.

Now, the regulations under discussion at this hearing are the core elements of a major regulatory program to manage and control the country's hazardous waste from generation to final disposal. The Congress directed this action in recognizing that disposal of hazardous waste is a crucial environmental and health problem which must be con-

trolled.

In our proposal, we have outlined requirements, which set minimum norms of conduct for those who generate, transport, treat, store, and dispose of hazardous waste. These requirements, we believe, will close the circle of environmental control begun earlier of regulatory control of emissions and discharges of contaminants to the air, to the water, and to the oceans.

We do not underestimate the complexity and difficulty of our proposed regulations. Rather they reflect the large amounts of hazardous waste generated and the complexity of the movement of hazardous waste in our diverse society.

These regulations will affect a large number of industries, other nonindustrial sources of hazardous waste, such as laboratories and commercial pesticide applicators, as well as transporters of hazardous waste will also be included.

EPA has information on over 400 cases of the harmful consequences of inadequate hazardous waste management. These cases include incidents of surface and ground water contamination, direct contact poisoning, various forms of air pollution, and damage from fires and explosions.

Nationwide, half of all drinking water is supplied from ground water sources, and in some areas contamination

of ground water resources currently poses a threat to public health.

EPA studies of a number of generating industries in 1975 show that approximately 90 per cent of the potentially hazardous waste generated by those industries was managed by practices which were not adequate for protection of human health and environment.

Subtitle C of R.C.R.A. establishes a comprehensive program to protect the public health and environment from improper disposal of hazardous waste. Although the program requirements are to be developed by the federal government, the Act provides that states with adequate programs can assume responsibility for regulation of hazardous waste.

The basic idea of Subtitle C is that the public health and the environment will be protected if there is careful monitoring of transportation of hazardous waste and assurance that such waste is properly treated, stored, or disposed of, either at the site where it is generated, which we usually refer to as on-site, or after it is carried from that site to a special facility or an off-site facility in accordance with certain standards.

I'm going to review briefly for you the seven guidelines and regulations which are being developed and either have been or will be proposed under Subtitle C of

R.C.R.A.

Subtitle C creates a management control system which, for those wastes defined as hazardous, requires a cradle-to-grave cognizance, including appropriate monitoring, recordkeeping, and reporting throughout the system.

It is also important to note that the definition of solid wastes in the Act encompasses garbage, refuse, sludges, and other discarded materials, including liquids, semisolids and contained gases, with a few exceptions, from both municipal and industrial sources.

Hazardous wastes, which are a sub-set of all solid wastes, and which will be identified by regulations proposed under Section 3001, are those which have particularly significant impacts on public health and the environment.

Section 3001 is the keystone of Subtitle C. Its purpose is to provide a means for determining whether a waste is hazardous for the purposes of the Act and, therefore, whether it must be managed according to the other Subtitle C regulations.

Section 3001(b) provides two mechanisms for determining whether a waste is hazardous; first, a set of characteristics of hazardous waste and, second, a list of particular hazardous wastes. A waste must be managed according to the Subtitle C regulations if it either exhibits any of the characteristics set out in proposed regulation or if it is

listed. Also, EPA is directed by Section 3001(a) of the Act to develop criteria for identifying the set of characteristics of hazardous waste and for determining which wastes to list. In this proposed rule, EPA sets out these criteria, identifies a set of characteristics of hazardous waste, and establishes a list of particular hazardous waste.

Also, the proposed regulation provides for demonstration of non-inclusion in the regulatory program.

Section 3002 addresses standards applicable to generators of hazardous waste. A generator is defined as any person whose act or process produces a hazardous waste. Minimum amounts generated and disposed of per month are established to further define a generator. These standards will exclude household hazardous waste.

The generator standards will establish requirements for: recordkeeping, labeling and marking of containers used for storage, transport, or disposal of hazardous waste; use of appropriate containers, furnishing information on the general chemical composition of a hazardous waste; use of a manifest system to assure that a hazardous waste is designated to a permitted treatment, storage, or disposal facility; and submitting reports to the Administrator, or an authorized state agency, setting out the quantity generated and its disposition.

Section 3003 requires the development of standards

applicable to transporters of hazardous waste. These proposed standards address identification codes, recordkeeping, acceptance, and transportation of hazardous wastes, compliance with the manifest system, delivery of the hazardous waste; spills of hazardous waste and placarding and marking of vehicles. The Agency has coordinated closely with proposed and current U. S. Department of Transportation regulations.

Section 3004 addresses standards affecting owners and operators of hazardous waste treatment, storage, and disposal facilities. These standards define the levels of human health and environmental protection to be achieved by these facilities and provide the criteria against which EPA or state officials will measure applications for permits. Facilities on a generator's property as well as off-site facilities are covered by these regulations and do require permits. Generators and transporters do not otherwise need permits.

Section 3005 regulations set out the scope and coverage of the actual permit-granting process for facility owners and operators. Requirements for the permit application, as well as for the issuance and revocation process, are defined by regulations to be proposed under 40 CFR Parts 122, 123, and 124.

Section 3005(e) of the statute provides for in-

terim status during the time period that the Agency of the states are reviewing the pending permit applications. Special regulations under Section 3004 apply to facilities during this interim status period.

Section 3006 requires EPA to issue guidelines under which states may seek both full and interim authorization to carry out the hazardous waste program in lieu of an EPA-administered program. States seeking authorization in accordance with Section 3006 guidelines need to demonstrate that their hazardous waste management regulations are consistent with and equivalent, in effect, to EPA regulations under Sections 3001 through 3005.

Last but not least, Section 3010 requires any person who generates, transports, or owns or operates a facility for treatment, storage, and disposal of hazardous waste to notify EPA of this activity within 90 days after promulgation or revision of regulations identifying and listing a hazardous waste pursuant to Section 3001. It is important to note that no hazardous waste subject to Subtitle C regulation may be legally transported, treated, stored, or disposed of after the 90-day period unless this timely notification has been given to EPA or an authorized state during the above 90-day period. Owners and operators of inactive facilities are not required to notify.

As Tom mentioned, EPA intends to promulgate final

regulations under all sections of Subtitle C by December 31, 1979. However, it is important for the regulated communities to understand that the regulations under Section 3001 through 3005 do not take effect until six months after promulgation. That would be approximately June of 1980.

With that as a summary of Subtitle C and the proposed regulations to be considered at this hearing, I return the meeting to our Chairperson, Dorothy Darrah.

CHAIRPERSON DARRAH: Thank you.

Before we get started, I would like to make a couple of announcements.

First of all, there were some corrections to our December 18 proposal. Some of you may have been looking for a lost paragraph or two or thought that some of the numbers didn't quite jibe, and I want to let you know that in today's Federal Register our correction notice is being published which is it's just mainly typographical errors that you're just going to have to go through and change.

Secondly, I think you probably realize that the comment period does close March 16. We had announced in the previous preamble for 3003 that the comment period would remain open until 60 days after all the regulations had been proposed. In February 7th's Federal Register there was an announcement which gives you our explanation for the March 16 closing date which is that we are, as Tom

mentioned, under the court-ordered promulgation schedule, so that the comment period of 3001, 3002, 3003, and 3004 does close on March 16.

We do have nine speakers that I have on my list who want to speak this morning. I think that probably most of you have kept your remarks fairly limited. I will not be cutting people off unless they go more than 15 minutes or so, and, also,we will probably not cut off questions for the panel unless there seems to be some line of discussion that isn't getting resolved.

So with that, let me go ahead and call Dr. Stacy Daniels from Dow Chemical to start off.

STATEMENT OF STACY L. DANIELS

MR. DANIELS: Good morning, Ms. Chairperson, and Panel.

I'm Dr. Stacy L. Daniels, research specialist in environmental sciences of the health and environmental sciences department of Dow Chemical U.S.A.

As chairman of our corporate RCRA Task Group, I would wish to summarize our concerns in response to the Agency's solicitation for a comprehensive review of all issues raised by the Agency in the preamble to the Proposed Guidelines and Regulations for Hazardous Waste, the background documents, and the drafts of the Environmental Impact Statement and the Economic Impact Analysis.

We have worked closely with the Agency, and with various trade associations, professional societies, and standard setting groups, over the past two years to help develop a consistent set of meaningful regulations for hazardous waste management that will provide adequate benefits in protection to public health and the environment from unreasonable risks while demanding realistic expenditures of resources.

Toward this goal, we are providing comments pertaining to all major aspects of the draft regulations and those previously proposed. Today we wish to summarize our major concerns and recommendations in three areas; one, the schedule for promulgation; two, the interpretation of hazard; and, three, the general regulation of hazardous waste management facilities.

In regard to the schedule for promulgation, all regulations for Subtitle C are scheduled for promulgation in 1979, as Jack indicated. We agree that regulation of hazardous waste is a time-consuming and difficult undertaking requiring careful assessment of many complex issues. We state for the record that although the regulations for Sections 3001, 3002, and 3004 were proposed on December 18, 1978, the 4,294 pages of background documents were not available for review until January 8, 1979, and published copies of the draft Environmental Impact Statement were not available for

distribution until early February.

The integrated permit regulations pursuant to Section 3005 of the RCRA and the National Pollutant Discharge Elimination Systems and Underground Injection Control Programs have yet to be proposed. Regulations for Sections 3003, 3006, 3010, and 4004 were previously proposed in mid-1978 before characteristics of hazardous waste were fully developed and will require modification. This piecemeal proposal and promulgation has made coherent overall assessment of the kaleidoscopic changes occurring among the individual sections of the regulations extremely difficult.

We recommend, therefore, that the comments on all sections of the regulations, the EIS, and the EIA be accepted until closure of the comment period for the last section of Subtitle C to be proposed.

In regard to interpretations of hazard, the interpretation of what actually constitutes a hazardous waste is the most critical decision in the entire set of regulations. If characteristics of hazard, specific listings, and testing protocols are adopted as presently proposed, it will result in essentially all solid wastes in many industrial and municipal sectors being classified as hazardous. The total volume of such wastes may exceed the total economically available U. S. disposal capacity. Inherent in the Agency's interpretation of hazard is the application of the worst possible

scenario of improper management to all discarded materials. This approach does not recognize that there are varying degrees of hazard and that hazard is a function of both effect and exposure. The Agency has confused characteristics of effect with characteristics of exposure. Certain characteristics of effect, such as toxicity and mutagenicity, are overemphasized while other characteristics of exposure, such as persistence and degradability, are generally ignored.

We recommend that the characteristics of both exposure and effect be restructured to recognize the degrees of hazard.

The quantity of waste constituting generation has been a major issue. The Agency has proposed a conservative exclusion of 100 kilogram per month or less from these regulations. A higher level of 1,000 kilograms per month is considered within the EIS and EIA. The approach of hazard because of quantity alone, however, does not recognize the associated factors of concentration and chemical form; that is, availability, which together quantitate exposure.

The Agency has attempted to regulate certain large-volume, low-hazard wastes by either specific exclusion, such as sludges from publicly-owned treatment works, POTWs, or by creation of six special waste standards within RCRA. We agree with the categorization based on both hazard and volume. We do not agree that sludges from non-POTWs are

categorically more hazardous than sludges from POTWs.

We recommend that reasonable levels of exclusion be established and the factors of concentration and chemical form as well as quantity be considered.

The Agency has proposed a maximum of three months beyond which a discarded material is allowed only in permitted storage facilities. This limit is overly stringent and does not recognize many commercial operations of reclamation and reuse which occur further in time. The Agency has moderated their original approach and now proposes to allow certain used materials to be reused such as not to constitute disposal. The recovery of energy values from used oils and other materials, an objective of the RCRA, however, has not been accepted.

We recommend that the storage period for materials that are used for energy and/or material recovery be extended to one year.

A dichotomy exists in the listing and delisting of specific hazardous waste, sources, and processes. Testing for inclusion is restricted to only four characteristics: ignitability, corrosiveness, reactivity, and toxicity, for which specific testing protocols were considered to be available for verification or refutation. Testing for exclusion, however, includes additional characteristics: mutagenicity, bioaccumulation, and toxic organic substance, for which

testing protocols are unavailable and which are still under consideration within the ANPR.

We recommend that all listings based solely on the characteristics of mutagenicity, bioaccumulation, and toxic organic substance be delayed pending further review.

And the third area, hazardous waste management facilities--the Agency has recognized that many operations involving storage, treatment, and disposal of hazardous wastes may be fully integrated within the same corporation and conducted entirely at a single site. We encourage this approach which reduces duplicate monitoring and reporting. Sufficient latitude should be given, however, to the interpretation of "on-site". This will avoid needless duplication of facilities for locations in proximity but not necessarily geographically contiguous.

We recommend that "on-site", therefore, be interpreted to mean on the same or geographically contiguous property, or on adjacent property separated by rights-of-way, or within reasonable proximity.

The adequacy of solid waste management facilities (4004 facilities) does not prevent the disposal of low-hazard wastes therein, but rather it is the supposed lack of control over transport and the potential for mixing with degradable, nonhazardous waste which could develop into a hazardous condition. Manifesting could be required, however,

from the generators of all industrial wastes transported off-site while providing the option for segregated disposal of certain low-hazard wastes into solid waste management facilities.

We recommend that disposal of low-hazard wastes be allowed in segregated solid waste management facilities.

Another major concern is the overspecification of design and operational guidelines by the Agency. We believe that the regulations would be greatly streamlined by prescribing what performance is required and allowing flexibility in what procedure be used. Overspecification of procedural guidelines complicates the regulations, restricts flexibility of choice, and demands demonstration of equivalent performance to obtain variances using alternative procedures. The combined effect is the suppressed development of new technologies and more cost-effective solutions.

Effective destruction of hazardous wastes is obviously preferrable to perpetual care. The overly stringent procedural guidelines for incineration, however, may force the disposal of wastes by less desirable modes of disposal. The Agency contends that solid wastes require greater management than pure materials or the same wastes under existing air, water, wastewater, transport, or occupational safety regulations. Yet the Agency has transferred wholesale lists of hazardous materials, testing protocols, and operating

standards from regulations developed for pure materials for different reasons.

We recommend that all procedural guidelines be deleted and provided in a manual of recommended practices.

There are several examples of regulatory overlap in the proposed regulations. We object to the specific inclusion of surface impoundments and basins, and other facilities which are used exclusively for chemical, physical, or biological treatment of dilute aqueous wastes. Such facilities are already adequately regulated under the Clean Water Act. We also object to the inclusion of oil production brines as special waste. Such brines are specifically cited and are to be regulated within the Underground Injection Control program of the Safe Drinking Water Act.

We recommend removal of unwarranted regulatory overlaps pertaining to wastewater treatment facilities and underground injection control facilities.

The Agency has relied heavily on waste-specific standards of management but applies industry-specific standards to listing of processes by Standard Industrial Code. The proposed regulations reflect standards that do not vary according to the source and the contention that most hazardous wastes require similar management techniques. The Agency contends, however, that hazard is a result of improper

management which indeed is dependent upon site-specific disposal operations. We encourage the consideration of waste-specific effects and site-specific exposures.

We recommend that waste-specific effects and site-specific exposures be considered in the regulations.

The Agency has considered the possible phasing of the Subtitle C program within the EIS by progressively reducing the quantity of waste constituting generation and the time of storage over a period of five years, and by periodically proposing additional characteristics of hazard and new listings of specific wastes. We agree that hazardous waste management is a dynamic situation subject to future assessment of new data and technology. We do not believe, however, that phased implementation of the regulations will serve any useful purpose and will result only in further confusion.

We recommend, therefore, that phased implementation be discouraged.

We will provide detailed comments on specific sections of the regulations at future hearings, and thank you for the opportunity.

This concludes the remarks. I have an attachment to these comments, a bibliography of our papers, comments, testimonies, and previous presentations on solid and hazardous wastes.

CHAIRPERSON DARRAH: Dr. Daniels, thank you.

Would you answer questions from the panel, please.

DR. DANIELS: Yes, I would.

MR. LINDSEY: Dr. Daniels, one of your recommendations which I would like to explore a little further if we could, you say that we recommend that storage period for materials that are used for energy and/or material recovery be extended to one year. It was our intent with the whole 90-day storage, I guess you could call it exclusion, the intent here is to allow the accumulation of economic quantities for shipment off site without unduly burdening the nation with paperwork that might not be needed. We were afraid, however, that if the storage goes on too long without, in an uncontrolled manner; that is, without permits and so forth involved, that we would begin to see the deterioration of drums and other containers in some fashion. Do you think we are off base on that, that we can safely go to a year in that regard?

DR. DANIELS: I think the original assumption is flawed partly in that you are assuming that all materials will be going off site for recovery. I am also considering on-site recovery, particularly those plants that generate materials for recovery that are block operated or operated on seasonal products, and these require more extended storage periods or, for example, the dredging of a lagoon once a

year or something like this for recovery of the material, something that is over a longer time period.

MR. CORSON: The last comment that you offered had to do with your concerns about the phased implementation; and in that, you indicated that we do intend to add to the lists, we further intend to possibly add characteristics. Are you suggesting that you think we should either hold up until we have all of the characteristics of concern, all the lists of concern, before we promulgate or propose, or that we should take what we have gotten and quit at that point?

DR. DANIELS: I guess that was primarily directed at the phase implementation of the quantity from a million kilograms per month down to 100 kilograms per month within five years or the storage period from twelve months down to three months within a five-year period. I think that's just a target and doesn't serve the purpose.

With regards to the list and things like this, I believe that there should be further justification for quite a number of the compounds on the appendicized list because, while the Agency is contending that there may be 160 odd processes in hazardous wastes, by the time you add up all the materials in the appendices, this could be several thousand.

With regards to the characteristics, I firmly be-

lieve that there are a number of characteristics which just definitely require further consideration before they are promulgated in the form presently proposed.

MR. CORSON: One other question area, I think right at the beginning, your concerns about interpretation of hazard, and you have indicated in your comments some desire or a need you feel for categorizing certain wastes by degree of hazard. As you are aware, I'm sure, in the preamble, we did indicate at least in a discussion with regard to small quantity generation that we are considering or will be considering some relation of that small quantity to degree of hazard. I am wondering whether you can possibly furnish to us in your written comments, if not today, what thoughts you might have on how we might take care of degree of hazard, particularly as we consider the waste movement through its normal pathways from the generator to disposal, recognizing that degree can change at each of the steps along the line.

DR. DANIELS: We have that intention, to provide an alternative classification of hazard to the Agency, because we feel that the Agency has already recognized three and possibly four different areas of hazard from the special wastes under the 3004, the 4004 wastes, and also the small generators already, and what we are proposing in addition, that there should be a tiered approach within the 3004, and

this could result in either an increase or a decrease in the quantity per month that would constitute hazard, but it also should recognize concentration and both effect and exposure.

MR. JORLING: I have just one question on that theme. Does Dow presently categorize its waste according to relative hazard?

DR. DANIELS: Yes, we do.

MR. JORLING: Could you make that categorization available for the record?

DR. DANIELS: We have already submitted a previous document, about one year ago, to this effect.

MS. SCHAFFER: Dr. Daniels, I have a couple of questions, one going back to Fred's question concerning the length of time for storage. If you think we should extend the storage period for energy and material to be recovered, how can we or can you give us some suggestions as to how we can enforce that storage versus storage of other material that is just being sent off site, so that we can tell the difference between what is going to be used as energy and recovered material versus that which is just being gathered for economic transportation?

DR. DANIELS: Sometimes it is not easy to separate energy recovery from material recovery. In some cases, you are recovering both energy and material from the same product.

One of the concerns that is hard for both sides really is the accumulation of a material in a storage tank that is constantly being depleted on the other end for resource recovery, and this inventory problem is something that should be addressed within the regulations rather than a discreet amount of waste that is being piled up for off-site recovery.

MS.SCHAFFER: One other question concerns your definition of on-site rather. You said that we should extend the definition of on-site to include sites within reasonable proximity. Can you give us an example of what you mean by reasonable proximity?

DR. DANIELS: Some of the states have had probably extreme limits of upwards of 50 miles or so. I don't believe that that type of a number is useful; but if there are plants that are across the street from each other but down the road apiece, this should be considered so that you don't have to build a several million dollar incinerator on both sides to take care of essentially the same waste, or possibly two or three plants located in the same town.

MS. SCHAFFER: Thank you very much.

MR. MC LAUGHLIN: Doctor, one further question. Some of the states have been allowing surface impoundments to go into operation that are designed to leak, and it is my understanding that this regulation is meant as an attempt

to plug that hole in the regulatory programs of the states that are allowing the discharge, direct discharge, of hazardous materials into the ground water, and I don't understand your allusion that there is an overlap here.

DR. DANIELS: I am thinking specifically of those that are in the train of the waste water treatment plant; the basins,clarifiers, large containments such as that where waste is in a dilute form flowing through, sludge is removed and treated effluent is discharged. This is strictly an N.P.D.S. facility.

MR. MC LAUGHLIN: But N.P.D.S. facilities do not cover impoundments that do not have a discharge, and many of these impoundments are built so that they don't have a discharge to avoid an N.PD.S. permit, yet they leak out the bottom, and they still avoid an N.P.D.S. permit.

DR. DANIELS: But that's not entirely clear by the regulations.

MR. LEHMAN: Dr. Daniels, I'd like to clarify that if I might, you alluded to the fact that the Agency had provided specific exclusion, for example, sludges from publicly-owned treatment works, and then later on you say:

"We do not agree that sludges from non-POTWs are categorically more hazardous than sludges from POTWs."

I would like to, just for the record, make it clear that the Agency intends to regulate sludge management

from POTW's under Section 405 of the Clean Water Act, and, in effect, the Agency has dual authority under RCRA and under the Water Act, and we do not intend to allow POTW sludges to escape any regulatory permit.

DR. DANIELS: Yes, we recognize that, Jack. It's just that we feel that sanitary sludges from non-POTWs should be in the same category, realizing that there is some difficulty in transferring those type of sludges from Section 405 of the Clean Water Act.

CHAIRPERSON DARRAH: I just wanted to clarify one remark you made. When you I think answered Fred's question, you said that other than the four characteristics for which we give tests you didn't agree that we should be basing listings on the mutagenicity, bioaccumulation, and toxic organic, and then you later said that there were some characteristics that you thought weren't well developed enough. Were you referring to specifically those characteristics rather than the four?

DR. DANIELS: Yes, the ones in the ANPR; mutagenicity, bioaccumulation--that one, incidentally, is the one with some merit which we will comment on later; but bioaccumulation by itself should not be a characteristic of hazard. We feel that this dichotomy of requiring testing for delisting but not testing for listing indicates that these petitions to put these compounds on lists should be re-

solved. We don't believe that the methods are currently available for these particular characteristics that are cited within the ANPR at this present time and require further study.

MR. LINDSEY: You are referring to the protocols for delisting?

DR. DANIELS: Yes, they are required, but yet they are only offered in the ANPR.

MR. LINDSEY: You feel that they are not sufficiently available or developed to do that?

DR. DANIELS: No.

MR. LINDSEY: As opposed to that, then what alternative approach would you recommend for delisting, if you will, if we don't use some sort of testing protocols, and what other option would there be, or are you saying we should not have any means of delisting?

DR. DANIELS: Definitely there should be a means for delisting, but they should be limited to the four characteristics for which there are tests.

MR. LINDSEY: In other words, the only way to get on the list is by meeting one of the characteristics that's under the previous section, then, right?

DR. DANIELS: That has acceptable tests.

CHAIRPERSON DARRAH: Thank you very much.

(The document referred to follows:

HEARING INSERT

RESOURCE CONSERVATION AND RECOVERY ACT

Hazardous Waste Management

General Comments

by

Dow Chemical U.S.A.

to the

U.S. Environmental Protection Agency

Hazardous Waste Management Division

Office of Solid Waste

Public Hearing

St. Louis, Missouri

February 14, 1979

Mr. Chairman, I am Dr. Stacy L. Daniels, Research Specialist in Environmental Sciences in the Health and Environmental Sciences Department of Dow Chemical U.S.A. As Chairman of our corporate RCRA Task Force, I wish to summarize our concerns in response to the Agency's solicitation for a comprehensive review of all issues raised by the Agency in the preamble of the Proposed Guidelines and Regulations for Hazardous Waste (43 FR 58946-9, December 18, 1978), the background documents, and the drafts of the Environmental Impact Statement (EIS) and the Economic Impact Analysis (EIA).

We have worked closely with the Agency, and with various trade associations, professional societies, and standard setting groups, over the past two years to help develop a consistent set of meaningful regulations for hazardous waste management that will provide adequate benefits in protection of public health and the environment from unreasonable risks while demanding realistic expenditures of resources. Toward this goal, we have provided comments pertaining to all major aspects of the draft regulations and those previously proposed. Today we wish to summarize our major concerns regarding: (1) the schedule for promulgation, (2) the interpretation of hazard, and (3) the general regulation of hazardous waste management facilities.

(1) Schedule for Promulgation

All regulations for Subtitle C are scheduled for promulgation in 1979. We agree that regulation of hazardous waste is a time consuming and difficult undertaking requiring careful assessment of many complex issues. We state for the record that although the regulations for Sections 3001, 3002, and 3004 were proposed on December 18, 1978, the 4,294 pages of background documents were not available for review until January 8, 1979, and published copies of the draft Environmental Impact Statement (EIS) were not available for distribution until early February. The integrated permit regulations pursuant to Section 3005 of the RCRA and the National Pollutant Discharge Elimination Systems (NPDES) and Underground Injection Control (UIC) programs, have yet to be proposed. Regulations for Sections 3003, 3006, 3010, and 4004 were previously proposed in mid-1978 before characteristics of hazardous waste were fully developed and will require modification. This piece-meal proposal and promulgation has made coherent overall assessment of the kaleidoscopic changes occurring among the individual Sections of the regulations extremely difficult.

We recommend that comments on all Sections of the regulations, the EIS, and the EIA be accepted until closure of the comment period for the last Section of Subtitle C to be proposed.

(2) Interpretations of Hazard

The interpretation of what actually constitutes a hazardous waste is the most critical decision in the entire set of regulations. If characteristics of hazard, specific listings, and testing protocols are adopted as presently proposed, it will result in essentially all solid wastes in many industrial and municipal sectors being classified as hazardous. The total volume of such wastes may exceed the total economically available U.S. disposal capacity. Inherent in the Agency's interpretation of hazard is the application of the worst possible scenario of improper management to all discarded materials*. This approach does not recognize that there are varying degrees of hazard and that hazard is a function of both effect and exposure. The Agency has confused characteristics of effect with characteristics of exposure. Certain characteristics of effect, such as toxicity and mutagenicity, are overemphasized while other characteristics of exposure, such as persistence and degradability, are generally ignored.

We recommend that the characteristics of both exposure and effect be restructured to recognize degrees of hazard.

*Unsegregated disposal of hazardous and solid wastes in an unlined landfill and subject to biological degradation resulting in leachate capable of migrating with only minimal attenuation directly into an underlying aquifer which is an immediate source of drinking water.

The quantity of waste constituting generation has been a major issue. The Agency has proposed a conservative exclusion of 100 kg/mo or less from these regulations. A higher level of 1000 kg/mo is considered within the EIS and EIA. The approach of hazard because of quantity alone, however, does not recognize the associated factors of concentration and chemical form (availability) which together quantitate exposure.

The Agency has attempted to regulate certain large-volume, low-hazard wastes by either specific exclusion, e.g. sludges from publically owned treatment works (POTW's), or by creation of six special waste standards within RCRA. We agree with categorization based on both hazard and volume (quantity). We do not agree that sludges from non-POTW's are categorially more hazardous than sludges from POTW's.

We recommend that reasonable levels of exclusion be established and the factors of concentration and chemical form as well as quantity be considered.

The Agency has proposed a maximum of three months beyond which a discarded material is allowed only in permitted storage facility. This limit is overly stringent and does not recognize many commerical operations of reclamation and reuse which extend

further in time. The Agency has moderated their original approach and now proposes to allow certain used materials to be reused such as not to constitute disposal. The recovery of energy values from used oils and other materials (an objective of the RCRA), however, has not been accepted.

We recommend that the storage period for materials that are used for energy and/or material recovery be extended to one year.

A dichotomy exists in the listing and delisting of specific hazardous wastes, sources, and processes. Testing for inclusion is restricted to only four characteristics [ignitability (I), corrosiveness (C), reactivity (R), and toxicity (T)] for which specific testing protocols were considered to be available for verification or refutation. Testing for exclusion, however, includes additional characteristics [mutagenicity (M), bioaccumulation (B), and toxic organic substance (O)] for which testing protocols are unavailable and which are still under consideration within the ANPR.

We recommend that all listings based solely on the characteristics of mutagenicity, bioaccumulation, and toxic organic substance (M,B,O) be delayed pending further review.

(3) Hazardous Waste Management Facilities

The Agency has recognized that many operations involving storage, treatment, and disposal of hazardous wastes may be fully integrated within the same corporation and conducted entirely at a single site. We encourage this approach which reduces duplicate monitoring and reporting. Sufficient latitude should be given, however, to the interpretation of "on-site" to avoid needless duplication of facilities for locations in proximity but not necessary geographically contiguous.

We recommend that "on-site" be interpreted to mean on the same or geographically contiguous property, or on adjacent property separated by rights-of-way, or within reasonable proximity.

The adequacy of solid waste management facilities (4004 facilities) does not prevent the disposal of low-hazard wastes therein, but rather it is the supposed lack of control over transport and the potential for mixing with degradable, non-hazardous waste which could develop into a hazardous condition. Manifesting could be required, however, from the generators of all industrial wastes transported off-site while providing the option for segregated disposal of certain low-hazard wastes into solid waste management facilities.

We recommend that disposal of low-hazard wastes be allowed in segregated solid waste management facilities.

Another major concern is the overspecification of design and operational guidelines by the Agency. We believe that the regulations would be greatly streamlined by prescribing what performance is required and allowing flexibility in what procedure is used. Overspecification of procedural guidelines complicates the regulations, restricts flexibility of choice, and demands demonstration of equivalent performance to obtain variances using alternative procedures. The combined effect is the suppressed development of new technologies and more cost-effective solutions.

Effective destruction of hazardous wastes is obviously preferrable to perpetual care. The overly stringent procedural guidelines for incineration, however, may force the disposal of wastes by less desirable modes of disposal. The Agency contends that solid wastes require greater management than pure materials or the same wastes under existing air, water, wastewater, transport, or occupational safety regulations. Yet the Agency has transferred wholesale lists of hazardous materials, testing protocols, and operating standards from regulations developed for pure materials for different reasons.

We recommend that all procedural guidelines be deleted and provided in a manual of recommended practices.

There are several examples of regulatory overlap in the proposed regulations. We object to the specific inclusion of surface impoundments and basins, and other facilites which are used exlusively for chemical, physical, or biological treatment of dilute aqueous wastes. Such facilities are already adequately regulated under the Clean Water Act. We also object to the inclusion of oil production brines as special waste. Such brines are specifically cited and are to be regulated within the Underground Injection Control (UIC) program of the Safe Drinking Water Act.

We recommend removal of unwarranted regulatory overlaps pertaining to wastewater treatment facilities.

The Agency has relied heavily on waste-specific standards of management but applies industry-specific standards to listingof of processes by SIC*. The proposed regulations reflect: (a) standards that do not vary according to the source and (b) the contention that most hazardous wastes require similar management techniques. The Agency contends, however, that hazard is a result of improper management which indeed is dependent upon site-specific disposal operations. We encourage the consideration of waste-specific effects and site-specific exposures.

We recommend that waste-specific effects and site-specific exposures be considered in the regulations.

*Standard Industrial Codes

The Agency has considered the possible phasing of the Subtitle C program within the EIS by progressively reducing the quantity of waste constituting generation (1,075,000 to 100 kg/mo) and the time of storage (12 to 3 mos) over a period of five years, and by periodically proposing additional characteristics of hazard and new listings of specific wastes. We agree that hazardous wastes management is a dynamic situation subject to future assessment of new data and technologies. We do not believe, however, that phased implementation of the regulations will serve any useful purpose and will result only in further confusion.

We recommend that phased implementation be discouraged.

We will provide detailed comments on specific Sections of the regulations at future hearings. Thank you for the opportunity to summarize our general concerns.

ATTACHMENT

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Kay Drey
Feb. 14-1979
①

My name is Kay Drey and I live in St. Louis. When I first started reading about nuclear power over four years ago, I was constantly amazed by the seemingly infinite number of ways in which men and machines could function contrary to plan. I was also amazed by the quantity of potentially hazardous situations for which no plan even existed. The fact that no one knows yet how or where to dispose of the hazardous wastes from the very first successful atomic chain reaction thirty-six years ago becomes all the more incredible when we realize that this ignorance has not deterred our nation's government or industries from bringing additional millions of tons of radioactive wastes into our planet's only biosphere.

I am appearing before you today as a concerned housewife, mother and citizen to thank you for your efforts to try to find solutions to the fact that our nation is generating, according to your own EPA figures, some 35 million metric tons of hazardous wastes,

plus another several hundred millions of tons of lower risk, but also dangerous, wastes every year. Since we cannot allow these wastes to be released into the air, onto the soil, or into the irreplaceable surface or ground waters we must have to survive, your options seem to be mutually exclusive. Are we to store increasing amounts of these wastes in 55-gallon drums or canisters pretending, then, they have been isolated -- when we have actually merely delayed finding a solution? Perhaps the only permanent answers are to support the efforts of the EPA's Office of Toxic Substances to reduce the amount of wastes we create.

At the now-closed Maxey Flats, Kentucky, NRC-licensed burial site a few years ago, it was found that the exceedingly hazardous substance, plutonium, had migrated not an inch in a quarter-million years as expected, but several

P.S.

hundred feet or more in a decade. I would like to submit an article from Science magazine of June, 1978, of I- may, about a group of chemicals which may not themselves be hazardous, but which increase the potential health impact of certain hazardous wastes. In this article geochemists for Princeton and Battelle-Columbus submit that the reason that the reason radioactive wastes buried in Oak Ridge, Tennessee, had migrated far more rapidly than anticipated was due to the presence in the waste materials of certain chemicals which had been used to solubilize and thereby remove radioactive corrosion products and other wastes from nuclear facilities. The class of compounds is called chelating agents and has the ~~red~~ property of tightly binding certain ~~red~~ metallic elements, including radioactive ones. The encrusted insoluble radioactive materials become soluble by binding to the chelating agent, and can thereby be removed. The resulting complex, however, consisting of →

radioactive metals entrapped in chelating agents, can spread readily through groundwaters and be taken up by the plants and animal links in the human food chain if it leaks or is released. Furthermore, the chelating agents have been found to be surprisingly persistent. I would like to urge the EPA to consider adding a class of compounds that could perhaps be called promoters or additives which have the potential to act synergistically to increase the hazard of environmental contamination. While this article from Science magazine deals with the rapid migration of radioactive substances, this same synergistic action could conceivably occur with other hazardous wastes, as well.

I would like to suggest that consideration be given to changing the text ~~of~~ in Section 15, paragraph (a)(5) in some way so that a radioactive waste not be defined as being "non-hazardous" if it exists the amounts you presently propose -- that

ie, 5 picocuries per gram for solids or
50 picocuries per liter for liquids when ~~the~~
radium-226 and radium-228 are both present;
or if the wastes contain a concentration of
10 microcuries per liter - I don't know what measure
of radium-226 alone. According to the EPA's
"Statement of Basis and Purpose" for the Safe
Drinking Water Acts Radioactivity Regulations,
dated August 15, 1975, which in turn were based
on the estimates of the 1972 BEIR Committee report,
consumption by the population of two liters of drinking
water per day contaminated with 5 picocuries per
liter of either radium 226 or 228 "may cause
between 0.7 and 3 cancers per year per million
exposed persons. Almost all of these cancers would
probably be fatal." That is, if America's 200 million
citizens were to be exposed to radium in a
concentration of 5 picocuries per liter or 10 picocuries →

per day, the incidence of cancer could increase by as many as 600 per year. If we accept the EPA's linear hypothesis of an increased radiation dose leading to an increase in health effects (a hypothesis which, by the way, I think underestimates the risk), your proposal to exclude liquids with as much as 40 to 50 picocuries per liter could cause an increase of some 6,000 cancer deaths per year. I believe it is absolutely misleading for the EPA to define or describe such levels as "non-hazardous" thresholds as you have in the proposed regulations. The Nuclear Regulatory Commission gets around this problem by describing such concentrations as being "permissible" rather than "non-hazardous." Unfortunately, most radiation workers, employers and even government officials have been led to believe that the NRC's "permissible" levels

are "safe". Epidemiological evidence to the contrary is at last beginning to be made public. As an example of inadequate data upon which the original estimates of toxicity were based, even radium -- whose radioactivity and carcinogenicity were recognized and have been studied for many years than any other element -- even radium has taken scientists by surprise recently. Whereas in the 1950's, when today's radiation standards were initially recommended and published, the International Commission on Radiological Protection had assumed that radium-226 posed a far greater health risk than radium-228. Studies published in 1972, however, indicate that the opposite may well be the case. I would suggest that more than likely, no one knows. Radium-228 has a half life of about six years, and

Radium-226 has a half-life of 1600 years, and personally, I don't want to drink either of them.

Mistakes on estimates of the toxicity of virtually permanent toxins are irreversible mistakes. At the least, I believe that EPA should not tell the public and industry that there is a threshold of exposure or concentration below which there is no hazard. If you have decided that testing below a given level would be either technologically or economically infeasible, then I think you should say that -- and not use the description, "non-hazardous."

While I spend my full time working toward a moratorium on the generation of man-made radioactive materials (except as needed for medicine), I know that virtually every one of our nation's industries and all of our personal lives rely upon processes involving the creation and therefore potential

disposal of other toxic substances -- many of which are as hazardous, if not as persistent or long-lived, as the radioactive ones.

I would urge you to listen critically to industry's well-financed campaign calling for deregulation. Americans are being overwhelmed right now by a barrage of propaganda focused on regulatory and administrative agencies like yours -- but I believe that, if anything, we need more protection from the government, not less. The costs of health care, evacuation of carelessly contaminated communities, and of trying to remove toxins released to our air and waterways, will far exceed the costs of regulatory permit programs, governmental monitoring, and the enforcement efforts designed to detect and isolate hazardous wastes. I wish you success in your objective to regulate wisely on behalf of the health of our nation's citizens of today and of the future. Thank you. ⟶

I would also like to submit an editorial cartoon by Tom Engelhardt which appeared in the St. Louis Post-Dispatch on February 2. —

CHAIRPERSON DARRAH: Is Dr. Barry Commoner here?

STATEMENT OF BARRY COMMONER

DR. COMMONER: I don't have any written remarks, but I will be glad to take a few minutes to share with you some thoughts about the regulations and the problems that lie behind them.

First, I am not particularly concerned with the details of the regulations, although I will make a few remarks about that. I think there are general problems that the regulations are going to run into as they develop, and I want to discuss those.

The first question I want to take up is why are these regulations needed, what is there about the industry that produces these wastes that leads at this late date, because the industry developed very rapidly after World War II, why is it that now, 30 years later or more, we suddenly have to have fairly stringent regulations to control the industry.

For example, when the explosives industry was developed, everyone knew right away that you needed regulations. Why the lag in this case? Well, in my opinion, the reason for the lag is that the industry failed to recognize from the beginning that it was dealing with inherently dangerous substances. What I am saying quite specifically is that the post-war development, particularly of the synthetic

chemical industry, represented the production of very large amounts of materials, which on their face, simply by their chemical composition, needed to be regard as inherently capable of causing serious biological effects.

I'll be very blunt. Synthetic organic chemicals should be regarded as probably dangerous until proved otherwise, biologically.

Now, why do I say that? I say that because biological systems, which goes on in living cells, carry out their basic functions by means of reactions among organic chemicals generally of the type that appear in the industry. There are benzene rings, et cetera, all of these things are there.

Now, unlike the petrochemical industry, the living system has had three billion years in which to correct its mistakes. What I mean by that is that the living chemical system has evolved over a three billion year period, and those chemicals which are incompatible with the chemistry of the cell are rejected during the course of evolution. To put it very simply, my guess is that maybe two billion years ago, some cell took it into his head to synthesize DTT and hasn't been heard from since.

What that means practically is this, that an organic chemical that does not occur in living things is very likely to be an evolutionary reject, and, therefore, if syn-

thetically made and introduced into the living environment, may well cause trouble. Now, I think there is a good deal of evidence that that is exactly what happened. In other words, you take the Love Canal kind of situation, which obviously is going to be reproduced all over the country, it's clear that when that material was dumped, the industry was unaware that it contained materials which would have serious biological effects. At that time, for example, very little was known about the numbers of chemicals that caused mutations and cancer. One of the interesting things that has been happening is that the numbers of chemicals that we now know cause cancer has been going up year by year. In other words, in the last ten years, the number of new carcinogens discovered was twice the number discovered in the preceding ten years.

Now, there are two reasons for that. One is that the industry keeps making new materials, and the other is that more research is being done to detect these things. So the point I am making is that you are dealing with a situation which involves unknown hazards that are built into the structure of the industry.

At this point I want to remark about a comment made by the previous witness having to do with the detection of mutagens. As I understood it, the Dow position is that mutagenicity should not be used at this time as an index of

degree of hazard, and I think that is a very bad idea; that is, the Dow idea, because it so happens that the mutagenicity is probably the easiest and most sensitive way to detect biologically hazardous wastes.

As you probably know, there are very rapid methods for detecting mutagens. Or I will put it to you again in a very simple, operational way. In my opinion, had mutagenicity; that is, tests of material in the area of Love Canal been used, that area could have been detected years ago. If, for example, seepage into the basements of the people living in that area had simply been collected and tested by the Aims Test, which is a fast way of getting mutagenicity data, in a matter of weeks one would have known that biologically active material was leaking into the basements of the people who lived there.

In fact, I would suggest, since we now know that there are some hundreds of some similar situations all over the country, I would suggest that the most rapid, effective way of detecting would be the extensive use of the Aims Test on water seepage, on soil. For example, soil samples can very readily be--in four days you can analyze the mutagen content of a soil sample. In work done in our laboratory, for example, we have shown that in the area of the steel mills in Chicago, which put out mutagens and carcinogens, when they fall on the soil, it's very easy to analyze the

soil and show that it's there. So that I am shocked to find that the Dow Chemical people are proposing that the best tool that you have got to monitor the hazardous waste situation is the one that you shouldn't use. Now, I am also surprised because it is my guess that Dow makes very heavy use of that technique itself, and that leads me to another point because I think this type of measurement is so important.

I think it would be very important for Dow and the other chemical firms to release all of the information that they are getting on mutagenicity from different compounds. Now, how do I know that they are getting that information? It so happens that the bacteria that are used in this test all come from one place, from the Aims Laboratory, and I think if you asked Dr. Aims for a list of the chemical companies who have gotten material from them, you will discover, I think, that most of the chemical companies in the United States are doing Aims testing. I have seen very few results from those laboratories. Very often commercial laboratories do testing of chemicals, and they do it under a code name and never know the substance that they have been testing. So I happened to seize on this because I think that this is probably the most important way to monitor the situation, and I am rather surprised that the Dow witness chose that particular thing to hold off.

The last thing I want to say is that it seems to me you're going to run into trouble carrying out these regulations, and I want to talk about some of the trouble that I think you're going to run into.

I think it's important to recognize it because of the experience of OSHA, for example, in finding that its attempt to put across regulations based on hazard have been confronted by economic arguments, and I think you're going to run into economic arguments, too.

The point I want to make is that since the chemicals that are involved here are very largely inherently involved in the chemistry of this industry, what you're really talking about is a pattern of the distribution of these materials throughout the United States. Just stop and think for a moment what happens to the movement of chemicals that are synthesized by the chemical industry. In this room, they are in the plastic soundppoofing; they are undoubtedly in the plastic covering of the seats; they're in the synthetics that a lot of people are wearing; they're in the frame of my eyeglasses; they're all over. Now, what you are doing is asking where are they being consciously dumped, and it's clear from the experience in the last few years that we don't know where they have been dumped, and what I am saying is that a pattern of the production, voluntary and involuntary movement of these hazardous chemicals is what's

behind the issue that you are trying to get at. In other words, what we need is a picture of the, so to speak, of the metabolism, the movement of these chemicals throughout the United States. I don't think that the regulations will produce that.

What you have got to do, it seems to me, is to develop information about the whole pattern of movement, and it is going to have a very practical effect on what you are trying to do. For example, one thing that is not clear to me from the regulations is when you ought to move something and when you ought to keep it where it is and try to deal with it. The reason why I say that is that the shipment of hazardous wastes is itself hazardous.

One of the reasons why we are seeing more and more chemical accidents on railroads and roads is the simple fact that the rate of movement and the amount of material moved has gone up so fast because of the development of the industry.

Now, I don't understand what effect your regulations will have on the flow of hazardous material because, for example, if you set up an authorized dump, and there are going to be relatively few of them, that will mean that movement of wastes will have to be carried to that dump. In other words, what I am saying is you need an optimization study. You have got to figure out the relative value

of detoxifying or storing a hazardous waste where it exists or where it has been produced and compare it with the hazards that are involved in moving it, and I don't know that that has ever been done; and I think until you do that, you don't know the relative value of storage in one place or another.

Finally, what that is going to lead to, I think, is a good deal of evidence that certain wastes from certain processes are going to be so difficult to handle that the costs of handling them will outweigh the benefits to be derived from the material. In other words, I think you are going to run into very serious cost-benefit problems, and I noticed that the present administration keeps raising economic issues about the enforcement of regulations, and I think that you have got to be prepared for the likelihood that what you're going to require the industry to do will, in effect, put certain substances off the market.

I want to say, though, that that isn't so bad because practically everything that the petrochemical industry has introduced has replaced something that existed before. You know, 50 years ago, these chairs (indicating) would have been upholstered, too. They would be here. People would not be sitting on hard chairs. The chairs would be upholstered in wool or leather, and it isn't as though the world would end if there were no plastics.

So what I am saying is that I think you are going to run into a very serious economic situation which will require us to examine the benefits of the industry that is causing all this trouble.

CHAIRPERSON DARRAH: Thank you.

Before I see if the panel has any questions, could you identify yourself for the court reporter? I don't believe you did that.

DR. COMMONER: Yes. I'm Barry Commoner, director of the Centerfor the Biology of Natural Systems at Washington University, St. Louis.

CHAIRPERSON DARRAH: Thank you.

Would you answer questions for us?

DR. COMMONER: Yes, of course.

MR. CORSON: Dr. Commoner, I was just wondering whether you had had a chance in your review of our regulations to note that in the advance notice of proposed rulemaking where we suggest that there are other properties of toxicity which should be considered to further define that characteristic, that probably our major concern in that area was one of the mutagenetic activity, and we are suggesting in that ANPR a battery of at least three tests, one of which would be the Aims Test, and I'm wondering whether you can possibly, either today or in some other comment, provide to us your opinion as to whether or not the battery we have

suggested would be appropriate for the industries of concern or whether you think we could stop with just the Ames Test as a for example.

DR. COMMONER: First let me say I have read that section of the regulation. My remarks were not directed towards your proposed regulations but toward the objection of the previous witness to those sections of the regulations.

Our group has concentrated on the Ames Test and we have done a good deal of work on environmental materials. I have the distinct impression that where you're interested in a rapid screen; that is, rapidly picking up trouble spots, the most efficient way of doing it is to concentrate on the Ames Test. In other words, I would say that the battery ought to have another characteristic; that is, which do you start with. In most cases, if something has been picked up by the Ames Test, it is going to be a biological problem of some sort. It may be a carcinogen. It is certainly a mutagen, and mutations are serious, and I think that because it is so much easier to do and can give you results so fast, I would prefer to see it as the immediate, in other words, I would use that even if the rest of the battery, for example, isn't ready to be carried through, I would get that information first; and, then, on that basis, go to other tests, rather than say we're not going to pay any attention to re-

sults until we have looked at the entire battery.

MR. LINDSEY: Can I follow up on the Aims Test a little bit? We have received comments from time to time on the Aims Test that perhaps it's not--it's relatively new and has not been sufficiently verified and may not be sufficiently precise in terms of identifying all of the things that may be mutagenic to be used in a regulatory mode and perhaps to be acceptable in a court of law. Do you have any comments on that?

DR. COMMONER: Yes, I do. In the first place, on the question of its use, if you could find the legal basis for requiring all laboratories that have done Aims Tests to release their information, my guess is that the amount of information would go up tenfold at least. So the argument which usually comes from people who have been doing results that they haven't reported is, shall we say, in bad taste.

Now, the question of what is the meaning of an Aims Test result, yes, it's true that you may miss some mutagens with any test; but the point is that we are exposed probably to ten or twenty times more mutagens than we are even aware of because they keep finding new ones, and I fail to see any reason why the fact that a test is not complete should be an argument against using it. What it means is that we're not in perfect knowledge of our situation, but that's a lot better than the situation that we're in now,

and, as I say, I go back to the question of the Love Canal type of situation. It seems to me that there ought to be an immediate program. I understand that EPA now has some ideas about where these places are. It seems to me that an immediate program of soil testing, and, as a matter of fact, it might even be possible to do tests of biological materials as well. An immediate testing with the Aims Test would probably give you more information about where the worst situations are than any other way of going about it.

Now, the other side of it is--and it's a very strange thing--mutagenicity, and by inference, carcinogenicity, it's probably the most effective test we have for biological toxicity now, much more effective than skin tests of varias kinds and so on. In other words, it happens to be, I think, that if you look at the battery of biological problems, neurotoxicity, let's say various systemic effects, if you take into account sensitivity, accuracy, and the ease of carrying it out, mutagenicity tests, and particularly the Aims Test, are far and away the best tool that we have for picking up something that is biologically active; and I'm amazed to find that this has been singled out as the thing that we shouldn't do because it stands out as being the one thing that will help us straighten out the situation.

It may be that some people are afraid of the infor-

mation because every time we use the Aims Test we keep discovering more and more active material, and I know, you know, if you're manufacturing this stuff, you worry about it.

MR. LEHMAN: Dr. Commoner, one of your remarks dealt with the, and I believe yourstatement, if I may paraphrase it a little bit, was "Shipment of hazardous waste is in itself hazardous," and I want to just clarify whether by inference you are suggesting that the Agency should encourage on-site disposal as opposed to off-site disposal in regional facilities?

DR. COMMONER: The point of my remark was to say that there is a mathematical relationship between the choice of leaving something where it is and moving it, and, therefore, you cannot judge which is the least hazardous step unless you take into account the hazards that will arise because of transportation accidents. That has never been done. As a matter of fact, it hasn't been done--I want to make that very clear. What you need is a total pattern of where the products of the chemical industry are and how they move, in what amounts where.

Imagine a motion picture going on showing PCB's--well, we're not making them any more as of a couple years ago--but let's say insecticides and the waste product, you want to know where they are being produced, where they're

being shipped, in what amounts, where the residues are being stored; and what I am saying is once you've got that, you then can optimize for the decision as to whether something should be kept where it originated or whether you ought to move it; and that will take into account, for example, the condition of the railroads.

You see, one of the outcomes on analysis like that might be that we're going to get into deep trouble because the railroads are deteriorating; and you might, for example, get data that would show that until the railroad tracks are improved, it would be better to leave the waste where it is. That's the kind of information that you're going to have to have before you can make the decision as to whether something should be moved or not; and I think you ought to have a kind of research program attached to this entire program in order to work that out.

MR. CORSON: One more question. I would like to follow up with regard to the general area of the Aims Test. To my knowledge, what little bit I know about the Aims Test, most of the work that has been done in the past has essentially been done on testing pure substances where a company may be introducing a new product and is concerned about the mutagenicity of that particular product, and, as you are aware, in the proposal which we published on December 18, we are suggesting that for toxicity we would [illegible] an ex-

tracted procedure because our concerns are with the toxicants that might be released from the wastes. I am wondering what your feelings are about how effective the Aims Test might be on these undefined mixtures and whether or not you think that its use is suitable as a screen for these combinations of things, taking into account the fact that we have used an extraction procedure to get there with an acetic acid extract.

DR. COMMONER: Our laboratory has been doing precisely that, measurements on unknown mixtures for five years now, and, as we have shown, the Aims Test is very effective on urban air particulates. We did an entire study on dust in Chicago, and it very clearly picks up mutagenic material in such a mixture. We have shown that it's effective in analyzing soil. We have shown that it's effective in analyzing foods, again a complex mixture. We have used it on the effluent of a waste treatment plant in the Houston ship canal which is an extraordinarily complex mixture, and we're able to pick out of it two particular substances that were responsible for the mutagenicity. We have used it extensively urine of animals that are experimentally exposed to carcinogens and the urine of people who smoke cigarettes and the urine of workers exposed to mutagens and carcinogens in the workplace, and we can characterize, for example, in the urine of cigarette smokers two characteristic mutagens that

turn up in the urine in the midst of other materials, such of which have effects on the bacteria, for example, toxicity. So that at this point there is, I think, very extensive information on the ability of the Aims Test to deal with mixtures; and I might say, without getting too technical, one of the best ways of handling this is to use separation techniques together with the Aims Test.

What we do typically is to run the chromatogram which separates out different substances. Then we take each section of the chromatogram and run an Aims Test on it. In that way, we can track down biologically and characterize specific ingredients. I think that kind of information, for example, on again soil in a Love Canal type of area would be extraordinarily useful; and again, for example, an analysis of soil of that sort, you can have that done in an ordinary laboratory in a week. In other words, you take up the soil sample; and in a week, you would know whether there are agents in it that are active in the Aims Test and roughly how many.

CHAIRPERSON DARRAH: How much would a test of a soil sample cost if done with your chromatogram?

DR. COMMONER: I was afraid you were going to ask me that because--we're a university laboratory, and it's very easy to misjudge. You know, we have to pay for the mowing of the law and so on--that's overhead. I don't know,

I would say, let's say a soil test without chromatography would probably cost in the order of 100, 200 dollars in terms of labor and materials, with chromatography maybe another $100. You're talking about that order.

Now, incidentally, one of the things that ought to be done is to automate some of this stuff, and then it could go a lot faster and cheaper.

CHAIRPERSON DARRAH: I wanted to follow up on your comments also about gathering data. We received a lot of comments in New York, and I think Dr. Daniels recommends that we characterize wastes by degree of hazard, and I take it that some of the thrust of your remarks is that you would want us keeping particularly hazardous substances on site or--you're worried about transportation. Assume for a minute that we have very limited authority and that the primary aim is to give people performance standards or design standards for disposing of certain materials. Do you have any suggestions as to how we should be, if we decide to do it, to characterize by hazard, degree of hazard?

DR. COMMONER: That's an almost impossible situation. I think that you have to recognize that you are trying to correct a horrendous mistake made by a huge industry many years ago. I mean how are you going to characterize a mixture of materials which may interact chemically, which may interact biologically. For example, as you know, many

carcinogens are active only in the presence of what's called a promoter or a co-carcinogen. Now, what that means is that you may have a substance which is a carcinogen that will be relatively harmless because the co-carcinogen isn't in that drum of junk; but next time it turns up in a drum with a co-carcinogen, now it's become very dangerous; and I don't know how you are going to be able to do that.

I suppose that it would be useful to develop a kind of concept of genetic toxicants; that is, things which are capable of causing mutation, birth defects, carcinogens, and I would give those extra weight because of the fact that we won't see the biological effects for many years, and that would require, in my opinion, at least on moral grounds, a kind of extra caution; and I, myself, would think that a high level of mutagens in a drum full of waste would mark it as very hazardous and something that ought to be handled in a particularly careful way.

CHAIRPERSON DARRAH: O.K., no more questions. Thank you very much.

Next speaker this morning, it would be Mr. Joe Pound of American Admixtures Corporation.

STATEMENT OF JOE POUND

MR. POUND: Thank you, Madam Chairman.

My name is Joe Pound. I'm vice president of American Admixtures Corporation in Chicago.

My purpose today is to present in concise form the position of American Admixtures regarding RCRA and its impact upon our company and industry.

American Admixtures is an experienced, successful marketing and recycling disposal contractor for the by-products of coal-burning electric power plants. For over 30 years, we have actively and aggressively promoted the commercial use of fly ash, bar slag, and bottom ash from coal into numerous commercial applications.

Our present staff of engineers, chemists, and geologists, we utilize marketing, recycling, and ultimate disposal techniques as they are required and have the capability to plan and design, contruct and operate our own ash removal equipment and disposal sites for the coal-burning utilities.

Presently we have marketing contracts with ten different utilities in eight different states in the Midwest, including three contracts with three different utilities for total ash removal combining, marketing, recycling, and disposal.

During the course of the past 30 years, we estimate we have sold over ten million tons of fly ash commercially by incorporating the fly ash into durable concrete of many types, from enormous dams to highways; and during the past 20 years, we have been directly responsible for

the disposal of approximately twenty million tons of coal by-products from seven station locations.

Now we would like to list some of the specific concerns we have with RCRA as an impact on our company and the coal ash industry that we are a part of, which is best represented by the National Ash Association in Washington, D. C.

No. 1, the proposed special regulations imply by association that fly ash has inherent hazardous characteristics even though these products have been placed in a "special category" awaiting final determination. The fact that we are in the regulation at all builds a case for guilt by association which we consider unfair and inappropriate since the scientific evidence is not present for evaluation.

No. 2, the acid extraction procedure, the E.P., except in cases where the product is placed as a structural fill, co-disposed in a strip mine or sanitary landfill, does not represent in any way a condition typical of disposal techniques as we know them, with which we are responsible or intend to be responsible.

These worst case scenarios simply are not real scenarios where segregated and isolated disposal operations are predetermined, executed, and monitored by a permit system. We, therefore, strongly urge that acid be changed to water as recommended by ASTM. Committee D-1912, when acid

is predetermined to be present in the segregated disposal site, then use both acid and water to leach.

Further, we believe that a sample of less than 100 grams, as provided by theE.P., with fly ash, cannot be representative of a large scale reality of 100,000 tons of coal ash per year typical of many coal-burning utility plants.

No. 3, the structural integrity test, the S.I.T., does not offer relief where the utility or the recycling and disposal contractor make the decision to stabilize the fly ash or sludge waste into a low strength, low permeability, cemented condition that can prevent it from releasing any potential heavy metals that it might contain in trace amounts.

The specifics of the present S.I.T. are best compared with the sledge hammer test used as a preparation method before checking the quality of your car windshield.

Our company is actively supporting major modifications of the present S.I.T. through efforts of ASTM Committee D-19 as well.

No. 4, we are concerned that the time frame in which this act has been required be implemented does not allow an orderly process of engineering technological developments to speak to the potential dangers that any waste can generate.

With any waste, potential dangers are always real if you include the possibility of being buried alive in it. Therefore, we urgently request that the Agency use maximum efforts in extending the time required to adequately develop the technology to both control the release of any potentially dangerous materials from our products and to recognize that 30 years of commercial application of coal ash could well be destroyed if a hasty and ill-advised approach is taken to the implementation of these proposed rules.

Further, we urge that the concept of using worst case scenarios be modified to reflect reality rather than a hypothesis that has not been documented or experienced in any application with which we are familiar concerning coal ash. We are reminded of the recent decision of EPA to back off on too stringent standards on air pollution after experience indicated that the preliminary regs were too tough and unnecessary.

No. 5, we believe fly ash, as we have known it for 30 years, can best be called a valuable natural resource as the States of Maryland and Massachusetts have declared by law. The best way to control indiscriminate disposal is to first provide every possible freedom and incentive to market it into its numerous commercial uses.

Fly ash is not a hazardous waste as we sell or dispose of it and never will be unless you make it so by

tests that do not reflect any reality with which we are familiar. Therefore, we urge you to consider your decision in the context of a valuable natural resource, of energy conservation through recycling of byproducts, and land reclamation and conservation. Making it hazardous "destroys" these advantages.

Next, we see our future task as the following:

No. 1, continue to develop meaningful, scientific data to support and encourage commercial uses and recycling of coal ash.

No. 2, continue to develop stabilization techniques for recycling and disposal toward the goal of assuring that our coal ash is never judged to be hazardous.

Three, continue to encourage and execute good management techniques regarding coal ash collection, recycling, and disposal operations.

And as a corollary, we see your challenge as follows:

Strive for an optimum balance between environmental protection and the encouragement of recycling using industrial byproducts such as coal ash.

Two, special care in evaluating the microscopic test procedures for determining toxicity of coal ash within the context of the microscopic quantities of coal ash produced, which today in the United States amount to about 70

million tons annually, while our industry is currently marketing about 25 per cent of that total, or 17 million tons according to recent information I obtained from John Faber at National Ash Association.

In conclusion, we reiterate our desire to support the technological developments you require. That support includes full fly ash testing laboratory facilities located in Chicago. Our technical staff will be pleased to advise and support the ongoing educational requirements that are necessary to reach an intelligent and rational solution to the opportunities that exist for marketing and correct recycling disposal of coal ash.

For example, our company has developed information on the radioactive characteristics of most of the fly ash sources with which we are familiar and work with regularly. We are reporting on this subject as well as new developments in our fly ash marketing and recycling disposal efforts at the Fifth International Symposium of National Ash Association to be held February 26 and 27 in Atlanta.

We will mail you a copy of our remarks, along with these published technical reports that we feel support our arguments, and we thank you for this opportunity.

CHAIRPERSON DARRAH: Thank you very much.

Will you answer questions if there are any?

February 14, 1979

Joe Pound, Vice President
American Admixtures Corp.

FINAL DRAFT

TO: U.S.E.P.A., Office of Solid Waste Management

FROM: AAC

SUBJECT: Position Paper for St. Louis Hearings on Proposed RCRA Regulations, February 14, 1979

Ladies and Gentlemen, my purpose today is to present in concise form the position of American Admixtures Corporation regarding RCRA and its impact upon our company and industry. American Admixtures is an experienced and successful marketing and recycling disposal contractor for the by-products of coal burning electric power plants. For over 30 years, we have actively and aggressively promoted the commerical use of fly ash, boiler slag and bottom ash from coal into numerous commerical applications. With our present staff of sales and technical engineers, chemists and geologists, we utilize marketing, recycling and ultimate disposal techniques as they are required and have the capability to plan, design, construct and operate our own ash removal equipment and disposal sites for the coal burning utilities. Presently, we have marketing contracts with 10 different utilities in 8 different states of the midwest including 3 contracts with 3 different utilities for total ash removal, combining marketing, recycling and disposal. During the course of the past 30 years we estimate that we have sold over 10 million tons of fly ash commerically, (primarily by incorporating the fly ash into durable concrete mixes of many types from enormous dams to highways.), and during the past 20 years have been directly responsible for the disposal of approximately 20 million tons of coal by-products from 7 station locations.

Now, we would like to list some of the specific concerns we have with RCRA as it can impact on our company and the coal ash industry that we are part of and is best represented by the National Ash in Washington, D.C.

(1) Your proposed special regulations imply by association that fly ash has inherent hazardous characteristics, even though these products have been placed in a "special category" waiting final determination. The fact that we are in the regulations at all builds a case for "guilt by association" which

we consider unfair and inappropriate since the scientific evidence is not present for evaluation.

(2) The acid extraction procedure (EP), except in cases where the product is placed as a structural fill co-disposed in a strip mine or sanitary landfill, does not represent in any way a condition typical of disposal techniques as we know them with which we are responsible or intend to be responsible. These "worse case scenarios" simply are not "real" scenarios where segregated and isolated disposal operations are predetermined, executed and monitored by a permit system. We, therefore, strongly urge the "acid" be changed to "water"as recommended by ASTM D 19.12. When "acid" is predetermined to be present in the disposal site then use both acid and water to leach. Further, we believe that a sample of less than 100 grams, as provided by the EP with fly ash, cannot be representative of the large scale reality of 100,000 tons of coal ash per year, typical of many coal burning utility plants.

(3) The structural integrity test (SIT) does not offer relief where the utility or recycling/disposal contractor makes the decision to stabilize the fly ash or sludge waste into a low strength, low permeability cemented condition that can prevent it from releasing any potential heavy metals that it might contain in trace amounts. The specifics of the present SIT are best compared with a "sledge hammer" used as a preparation method before checking the quality of your car windshield. Our company is actively supporting major modification of the present SIT through efforts of ASTM Committee D 19.12 as well.

(4) We are concerned that the time frame in which this act has been required to be implemented does not allow an orderly process of engineering technological development to speak to the potential dangers that any waste can generate. With any waste the potential dangers are always real, if you include the possibility of being buried of alive in it. Therefore, we urgently request that the Agency use maximum efforts in extending the time required to adequately develop the technology

to both control the release of any potential dangerous materials from our products and to recognize that 30 years of commerical application of coal ash could well be destroyed if a hasty and ill advised approach is taken to the implementation of these proposed rules. Further, we urge that the concept of using "worst case scenarios" be modified to reflect reality rather than a hypothesis that has not been documented or experienced in any application with which we are familiar concerning coal ash. We are reminded of the recent decision of EPA to back off on "too stringent" standards on air pollution after experience indicated that preliminary conclusions were too tough and unnecessary.

(5) We believe fly ash as we have know it for 30 years can best be called a "valuable natural resource" as the States of Maryland and Massachusettes have declared by law. The best way to control indiscriminate disposal is to first provide every possible freedom and incentive to market it into its numerous commerical uses. Fly ash is not a "hazardous waste" as we sell or dispose of it, and never will be unless you make it so by using tests that do not reflect any reality with which we are familiar. Therefore, we urge you to consider your decision in the context of a valuable natural resource of energy conservation through recycling of by-products and land reclamation and conservation. Making it "hazardous" destroys these advantages. Next we see our future taks as the following:

1. Continue to develop meaningful scientific data to support and encourage commerical uses and recycling of coal ash.
2. Continue to develop stabilization techniques for recycling and disposal toward the goal of assuring that our coal ash is never judged to be hazardous.
3. Continue to encourage and execute good management techniques regarding coal ash collection, recycling and disposal operations.

As a corollary, we see your challenges as follows:

1. Strive for an optimum balance between environmental protection and the encouragement of recycling using industrial by-products, such as coal ash.
2. Special care in evaluating the microscopic test procedures for determining toxicity of coal ash within the context of the macroscopic quantities of coal ash produced, which today in the United States amount to about 70 million tons annually while our industry is currently marketing about 25% of that total or 17 million tons, according to recent information I obtained from John Faber at National Ash Association.

In conclusion, we reiterate our desire to support the technological developments you require. That support includes full fly ash testing laboratory facilities located in Chicago. Our technical staff will be pleased to advise and support the on-going educational requirements that are necessary to reach an intelligent and rational solution to the opportunities that exist for both marketing and correct recycling/disposal of coal ash. For example, our company has developed information on the radioactive characteristics of most of the fly ash source with which we are familiar and work with regularly. We are reporting on the subject as well as new developments in our fly ash marketing and recycling/disposal efforts at the 5th International Symposium of the NAA to be held February 26th and 27th in Atlanta.

We will mail you a copy of our remarks along with published technical reports that support our arguments. We thank you for the opportunity to present our case.

MR. LEHMAN: Mr. Pound, I wanted to explore with you some of your earlier remarks. You indicated that the inclusion of utility wastes as in a special waste category under Section 3004, if I remember your remarks, "established guilt by association", or words to that effect. First of all, I think it's important for the record, for further clarification here, to realize that nowhere in our proposal do we list fly ash as a hazardous waste, and you do understand that?

MR. POUND: I do. I am referring back, of course, to the title of the document.

MR. LEHMAN: The situation is under Section 3004 that if a waste is found to be hazardous, the utility waste is found to be hazardous, then it is subject not to the full range of Section 3004 regulations but to somewhat more limited requirements under the special waste category. Are you suggesting that we remove utility wastes from the special wastes category?

MR. POUND: No. Allan and I talked about this at some length, and really you are dealing with a semantic problem in part, but you are also dealing with the question of who were the brilliant ones who figured out that anything in that document ought to be called hazardous as contrasted with degree of hazard or control or numerous other words that could be used in lieu of hazard, because there's

enormous implication that, just the fact that the word comes out in the document, that John and Mary Q. Public might feel that somehow you are a hazard; and if you want to carry it to extremes, it's certainly possible. Certainly something alive in it is a hazard. That's the problem that we have, and we've heard people say that, therefore, aren't you suspect before you begin, and I'd have to say it depends on your reading; and the reading that most are getting is that somehow we're hazardous because we all breathe air. Publish this, and all of the sudden we've got a labeling. It may be gray, it may be almost white, but you've still got the attempt.

MR. LINDSEY: Let me follow up on that, then. Presumably, what you are saying is that you would like to have fly ash exempted in some fashion completely; and our information indicates that sometimes fly ash fails the characteristics test under, what is that, 250.13 of our Act; and the question is then if it fails those characteristics, and assuming, and which was our intent, that those characteristics were developed so as identify the materials which are hazardous, then are you saying that the characteristics are too strict and that we ought to make those more lenient in some manner so that materials like fly ash and things that may be similar to that do not ever fit into the picture?

MR. POUND: I think the difficulty we have is the fact that the scientific evidence and the scientific community have no basis at this time to make a judgment that we're hazardous to any degree in relation to the proposed standards; and I guess I would conclude that they are too strict at this point if they are applied carte blanche. Theoretically, the special category puts us into a special determination category as well; but the implication and the time frame--and remember, I'm combining the two--are that we will never be able to find the adequate amount of information prior to the time of implementation. So, therefore, one will conclude we'll be in limbo at the very best for quite some period of time.

MR. CORSON: I have a couple questions, Joe. One has to do with sampling.

One of your comments indicated that you thought that a 100-gram sample was inadequate, and I think what we are trying to do in our regulation--and perhaps you can help us with that--is to suggest that they take a representative sample. We have referenced where we knew them, certain ASTM sampling procedures, and obviously that includes all this standard business of quartering and quartering and quartering, but eventually you end up with some small size sample. Do you have a feel for what size that has to be? This quartering, if you use this to represent,

in essence, the equivalency of thousands or millions of tons, why cannot we get down to 100-gram sample for running the extraction procedure?

MR. POUND: Alan, to reflect on that 100-gram point, this was under the S.I.T. comments, and so I am referring to that sample of 1.3 inches by 2.8 inches that represents a small representative sample of stabilized ash, so-called, or stabilized waste, so-called, and the difficulty there is you are not going to be quartering and all that routine. That comes with the dust, and that is a possibility, but that's one of the serious questions we want to raise, as the point of the test or the timing of the test in the so-called pattern of flow of the product from the coal in the ground to the ash in its disposal site or, hopefully, commercial application. Where you make the test and when you make the test is, of course, critical, but the S.I.T. does give us a theoretical advantage in that it is encouraging, as the Act states, stabilization to prevent any possible undefined hazard from leaking out; but when you end up with a sample that weighs 100 grams to represent literally hundreds of thousands of tons, and nationwide millions, those are the kinds of relationships that I think are poorly understood, and I'm not sure that we understand it. It just seems that you are dealing with a fantastically small amount when you deal with thousands of tons.

MR. CORSON: Following up on the S.I.T. question again, the structural integrity test, what we have done, for clarification of those who may not be aware of the approach that we called for in the regulation, we originally looked at taking a sample of waste and somehow reducing its size or the pieces in size so it could go through a three-eighth inch screen. The comment was given to us in our development process that this was penalizing those who stabilize wastes, and we felt, in our minds at least, that the question of crushing to three-eighth inch size was really not crushing but was allowing for the kinds of, do we say degradation of the structural integrity of the waste that could occur in a land disposal operation or through freeze/thaw cycles of the ground, and, therefore, we tried to develop something like what we call the structural integrity of test as an alternative to grinding, and we would appreciate it if you can provide, if you are running it in your lab, some data that you think is more representative, recognizing again that our goal is to replicate what could happen in that sort of disposal environment.

MR. POUND: I agree, and we certainly will try to get that kind of--that's primarily why we are involved in ASTM; but S.I.T., a structural integrity test, is really a misnomer of first order. It's much more of a structural destruction test and not structural integrity.

MR. CORSON: Maybe we're victims of an acronym problem.

MR. POUND: In more ways than six.

MR. CORSON: One further question I would like to explore with you with regard to the extraction procedure. Somewhere in your comments I think you indicated that you felt that where there might be a co-disposal operation or where the waste might go to a site where acid might be available, that an acetic extraction might be appropriate, and I am wondering whether you have any thoughts as to how we segregate those wastes at the generator's station.

MR. POUND: We have two possibilities ourselves right now, one of where we are proposing to co-dispose in a sanitary landfill simply because of the geography, the sort distance from the generator's location, of the utility plant location; and because that is, you know, a thoroughly approved sanitary landfill under the present environmental regs, one could quickly argue that the possibility of co-disposal and acid infiltration or permeation is possible, that it would simply be handled in a conventional way because it's confined to the clay liners that are required under the present regs.

The second location is a proposal to take coal ash as a matter of disposal and put it into the very exception I mentioned in my paper about strip mining areas where acid

mine draining is a very serious reality. There again I think you are facing two operations. One is that the utility is hopeful that they can do that simply because they can moderate the acid toxicity of the acid mine drainage using the very fly ash that they are attempting to dispose of; but there's a serious problem in terms of interaction which you're concerned about in co-disposal techniques, and our conclusion is at this sitting that the co-disposal element there will be the overriding consideration, and, therefore, the utility may decide no, we choose not to do that, simply because a marginal hazard at best, and maybe nonhazard as a possibility, could be jeopardized, that category could be jeopardized by going into that codisposal operation because fly ash does have some acid neutralizing effects potential.

Does that deal with your question?

MR. CORSON: I'm still confused a little bit as to how we would develop some enforceable regulation that allows us to make the distinction of those which are going to Place A versus those which are going to Place B, because from the point you have made, Place A is O.K. and water extract might work, and Place B it will not. Now, this is the flexibility that we have provided through the 3004, 3005 process rather than 3001. Site specific, waste specific interactions are accommodated in the facility permit

combination. We have chosen to make a definition distinction at 3001 level. I am wondering what your thoughts are as to how we might mechanize in terms of making sure we are aware, transportation and what else make that distinction so the ones go where they have to go.

MR. POUND: It seems to me that the performance standard is the way to go in general, Alan, that the ultimate disposal must reflect particular performance requirements; but in the interim, until we get to the point we understand what the performance requirements will be--and I'm convinced that EPA still has only a drop of information as to what those performance standards should be, that you just simply say that if there is a co-disposal operation proposed, that the greater hazard shall dictate. I don't know any other possible way to do that, and we recognize that. All I am saying is that the utility generator, or we as a contractor, must make the decision that is co-disposal economically and environmentally sound, and it may not be--that isolated, segregated single site, single-source waste products may be the only logical answer because we are jeopardizing our category by co-disposal.

MR. LINDSEY: You indicated sometime back that you felt that our regulations, the stances that have been taken in these regulations, would, in fact, prevent, would cut off the use of fly ash in some fashion. Let me just indicate

that it is not our intent to cut off the acceptable use, or disposal for that matter, of any material; and, as Alan pointed out, that's taken care of in the regulations under 3004 and -5. On the other hand, I guess my question is did you come to that conclusion, that we were going to cut off in some fashion the use of these materials in an acceptable manner based on the regulations say. In other words, is there something in there that you have interpreted that would prevent this, or is it a matter of this guilt by association kind of thing that you mentioned earlier which would have the effect of cutting off the demand?

MR. POUND: Correct, the latter. It's the problem of being just a little bit pregnant.

CHAIRPERSON DARRAH: I hate to end on that note, but we'll end on that note.

We're going to take about a 15-minute break and reconvene promptly at 10:43.

Off the record.

(A short recess was taken.)

CHAIRPERSON DARRAH: A couple of quick announcements.

First of all, we are not trying to wear you down. We are trying to make them turn down the heat in this room.

Secondly, for tomorrow's meeting and for the final day's meetings, we will not be meeting in this room. We will be in the Ball Room rather than here.

Lastly, the background documents were mentioned, I guess, by Dr. Stacy and, as mentioned in the Federal Register, those are available in the libraries in the Regional Offices of EPA for, and I guess you probably have loan copies as well as copies to read in the library.

MR. MC LAUGHLIN: We have one copy available in our Regional Office library. The other one should be reproduced so that we have three copies available for loan and anyone wishing to borrow them, we will be glad to talk to them and make arrangements.

CHAIRPERSON DARRAH: Thank you.

Back to comments to us on the regulations.

Is Ms. Kay Drey here?

STATEMENT OF KAY DREY

MS. DREY: My name is Kay Drey and I live in St. Louis.

When I first started reading about nuclear power, over four years ago, I was constantly amazed by the seemingly

infinite number of ways in which men and machines could function contrary to plan. I was also amazed by the quantity of potentially hazardous situations for which no plan even existed. The fact that no one knows yet how or where to dispose of the hazardous wastes from the very first successful atomic chain reaction 36 years ago, becomes all the more incredible when we realize that this ignorance has not deterred our nation's government or industries from bringing additional millions of tons of radioactive wastes into our planet's only biosphere.

I am appearing before you today as a concerned housewife, mother and citizen to thank you for your efforts to try to find solutions to the fact that our nation is generating, according to your own EPA figures, some 35 million metric tons of hazardous wastes, plus another several hundred million tons of lower risk, but also dangerous, wastes every year. Since we cannot allow these wastes to be released into the air, onto the soil or into the irreplaceable surface or ground waters, we must have to survive, your options seem to be mutually exclusive. Are we to store increasing amounts of these wastes in 55-gallon drums or canisters pretending, then, that they have been isolated when we have actually merely delayed finding a solution? Perhaps the only permanent answers are to support the efforts of the EPA's Office of Toxic Substances to reduce the amount

of wastes we create.

At the now closed Maxey Flats, Kentucky, NRC-licensed burial site a few years ago, it was found that the exceedingly hazardous substance, plutonium, had migrated not an inch in a quarter million years as expected but several hundred feet or more in a decade.

I would like to submit an article from Science Magazine of June 1978, if I may, about a group of chemicals which may not themselves be hazardous but which increase the potential health impact of certain hazardous wastes. In this article geochemists from Princeton and Battelle-Columbus submit that the reason radioactive wastes buried in Oak Ridge, Tennessee, had migrated far more rapidly than anticipated was due to the presence in the waste materials of certain chemicals which had been used to solubilize and therefore remove radioactive corrosion products and other wastes from nuclear facilities. The class of compounds is called chelating agents and has the property of tightly binding certain metallic elements, including radioactive ones. The encrusted insoluble radioactive materials become soluble by binding to the chelating agents and can thereby be removed.

The resulting complex, however, consisting of radioactive metals entrapped in chelating agents, can spread readily through ground water and be taken up by the plant and animal links in the human food chain if it leaks or is re-

leased. Furthermore, the chelating agents have been found to be surprisingly persistent in the environment. I would like to urge the EPA to consider adding a class of compounds that could perhaps be called promoters or additives which have the potential to act synergistically to increase the hazard of environmental contamination. While this article from Science Magazine deals with the rapid migration of radioactive substances, this same synergistic action could conceivably occur with other hazardous wastes as well.

I would like to suggest that consideration be given to changing the text in Section 15, Paragraph (a)(5), in some way so that a radioactive waste not be defined as being "non-hazardous" if it emits the amounts you presently propose, that is five picocuries per gram for solids or fifty piocuries per liter for liquids when radium 226 and radium 228 are both present or if the wastes contain a concentration of ten microcuries per, I don't know what measure, of radium 226 alone.

According to the EPA's "Statement of Basis and Purpose" for the Safe Drinking Water Act's radioactivity regulations dated August 15, 1975, which, in turn, were based on the estimates of the 1972 BEIR Committee report, consumption by the population of two liters of drinking water per day contaminated with five picocuries per liter of either radium 226 or 228 "may cause between 0.7 and 3 cancers per year per

million exposed persons. Almost all of these cancers would probably be fatal." That is, if America's 200 million citizens were to be exposed to radium in a concentration of five picocuries per liter or ten picocuries per day, the incidence of cancer could increase by as many as 600 per year. If we accept the EPA's linear hypothesis of an increased radiation dose leading to an increase in health efforts, a hypothesis which, by the way, I think underestimates the risk, your proposal to exclude liquids with as much as forty to fifty picocuries per liter could cause an increase of some six thousand cancer deaths per year.

I believe it is absolutely misleading for the EPA to define or describe such levels as "non-hazardous" thresholds as you have in the proposed regulations. The Nuclear Regulatory Commission gets around this problem by describing such concentrations as being "permissible" rather than "non-hazardous". Unfortunately, most radiation workers, employers and even government officials have been led to believe that the NRC's permissible levels are safe, which they are not. Epidemiological evidence to the contrary is at last beginning to be made public.

As an example of inadequate data upon which the original estimates of toxicity were based, even radium, whose radioactivity and carcinogenicity were recognized and have been studied for many more years than any other element, even

radium has taken scientists by surprise recently. Whereas in the 1950's, when today's radiation standards were initially recommended and published, the International Commission on Radiological Protection had assumed that radium 226 posed a far greater health risk than radium 228. Studies published in 1972, however, indicate that the opposite may well be the case. I would suggest that more than likely, no one knows, radium 228 has a half life of about six years and radium 226 has a half life of about sixteen hundred years and, personally, I don't want to drink either of them.

Mistakes on estimates of the toxicity of virtually permanent toxins are irreversible mistakes. At the least, I believe that EPA should not tell the public and industry that there is a threshold of exposure or concentration below which there is no hazard. If you have decided that testing below a given level would be either technologically or economically infeasible, then I think you should say that and not use the description "non-hazardous".

While I spend my full time working toward a moratorium on the generation of man-made radioactive materials, except as needed for medicine, I know that virtually every one of our nation's industries and all of our personal lives rely upon processes involving the creation and, therefore, potential dispersal of other toxic substances, many of which are as hazardous, if not as persistent or long lived, as the

radioactive ones.

I would urge you to listen critically to industry's well-financed campaign calling for deregulation. Americans are being overwhelmed right now by a barrage of propaganda focused on regulatory and administrative agencies like yours, but I believe that, if anything, we need more protection from the government, not less. The costs of health care, evacuation of carelessly contaminated communities and of trying to remove toxins released to our air and waterways, will far exceed the costs of regulatory permit programs, government monitoring, and the enforcement efforts designed to detect and isolate hazardous wastes. I wish you success in your objective to regulate wisely on behalf of the health of our nation's citizens of today and of the future.

Thank you.

I would also like to submit an editorial cartoon, if I may, by Tom Engelhardt which appeared in the St. Louis Post-Dispatch on February 2, 1979.

CHAIRPERSON DARRAH: That should brighten up the record.

Would you answer questions for us?

MS. DREY: Yes.

CHAIRPERSON DARRAH: And also let me remind you and Mr. Pounds that if you do have copies of your statement, if you could submit them to our court reporter before you begin

speaking, that would be most helpful. If you don't have more than one copy, if you could give us another copy later, that would also be helpful.

MS. DREY: I have an illegible copy. After I type it, where may I send it, where I wrote initially?

CHAIRPERSON DARRAH: Yes, you can address it to us in Washington.

Any questions?

MR. LEHMAN: Ms. Drey, the substance of your remarks, I believe, was that our standard, proposed standard under Section250.15 (a)(5), regarding radways thresholds was basically too high in that you would recommend we either lower that threshold or make it clear why it is we're setting that threshold and not imply that something below that threshold is non-hazardous.

Do you have any suggestions, if you believe it is too high, as to what the appropriate level should be?

MS. DREY: Zero but I think that it is accepted nationwide, worldwide, there is no threshold below which an exposure to radiation is safe. And I don't think anyone even uses that term any more, even the NRC. Everyone has accepted the fact that there is no non-hazardous level of radiation exposure. It really is unfortunate, the NRC and before it the Environmental Protection Agency, the National Council on Radiation Protection and the International Commission of

Radiological Protection, they've all used the term permissible, maximum permissible concentrations in air and water. But in the media and in material given to workers and everywhere, people think it's safe. Here you all aren't even saying permissible. You're saying non-hazardous. And I think that's extremely misleading.

As I tried to indicate, I was using figures from the EPA which is based on the Beir Commission, the Beir Committee and those are, I think, far too conservative of the potential risk. That's like 6,000 cancer deaths a year if you say that there's a threshold of 50 picocuries per liter. And I know, I guess, the EPA for the Safe Drinking Water Act has promulgated a level of five picocuries per liter which they say will lead to 0.3 or 7 or 6, I can't remember, cancer deaths per million people.

I sort of think the public should be given the facts and told, is it O.K. if we put this amount of flop in your drinking water, you're going to have this many cancers and you agree to that. We haven't been told it in that many words, but I certainly don't think it's right to imply that the government, at this point, is accepting a threshold level.

CHAIRPERSON DARRAH: Thank you very much.

(The documents referred to follow)

HEARING INSERT

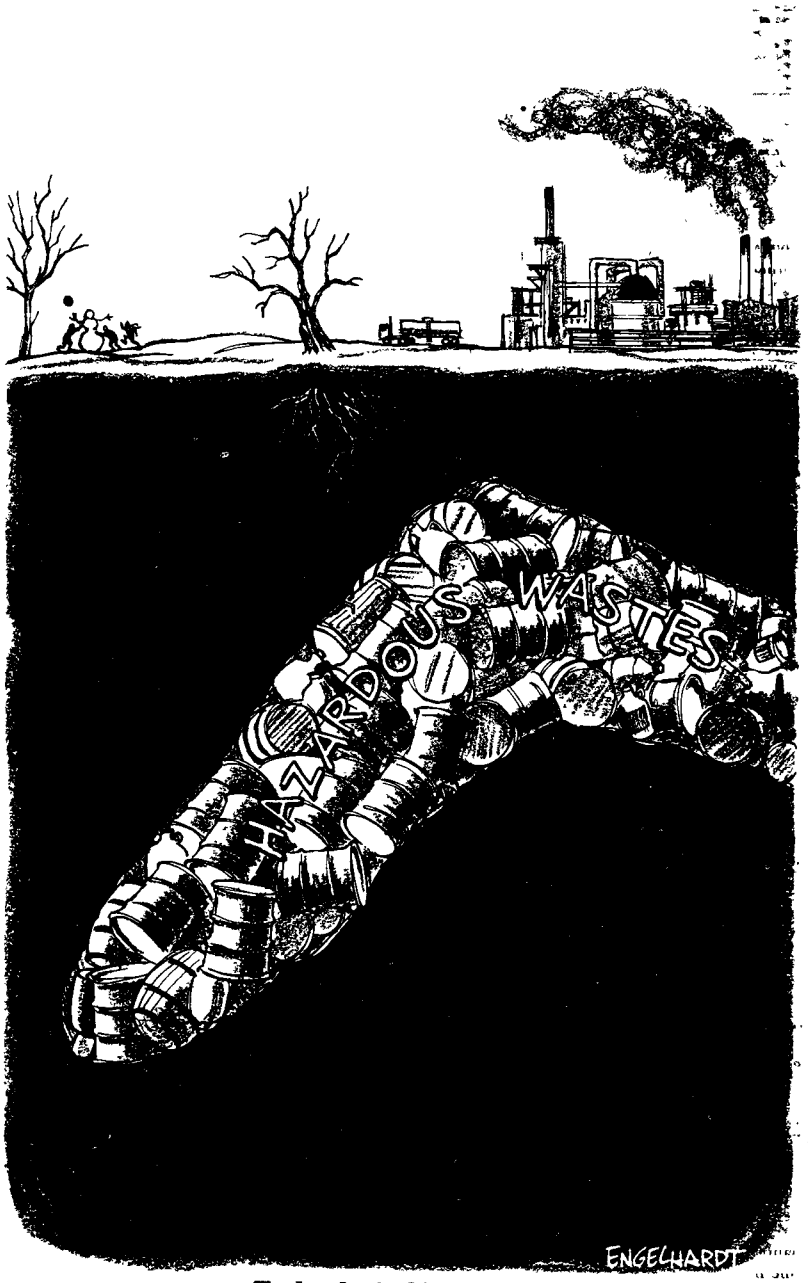
515 West Point - St Louis, MO 63130.

Kay Drey
Feb 12 1979
(6)

An addendum submitted after my testimony:

Please note that ~~the~~ chelating agents used as decontaminants at nuclear facilities are not regulated by the NRC except as they may impact upon the integrity of the pipes and metals themselves of an operating nuclear power plant or other facility. The EPA's National Pollutant Discharge Elimination System of the Clean Waters Act, as amended, may well address such non-radioactive chelating chemicals. I do not know. I believe, however, that your guidelines and regulations under the Resource Conservation and Recovery Act of 1976 should also call for the identification and control of such substances which have been demonstrated recently to have a significant synergistic effect upon the public health and environment.

St. Louis Post-Dispatch 2/2/79



Technological Boomerang

Reports

Migration of Radioactive Wastes: Radionuclide Mobilization by Complexing Agents

Abstract *Ion exchange, gel filtration chromatography, and gas chromatography–mass spectrometry analyses have demonstrated that ethylenediaminetetraacetic acid (EDTA), an extremely strong complexing agent commonly used in decontamination operations at nuclear facilities, is causing the low-level migration of cobalt-60 from intermediate-level liquid waste disposal pits and trenches in the Oak Ridge National Laboratory burial grounds. Because it forms extremely strong complexes with rare earths and actinides, EDTA or similar chelates may also be contributing to the mobilization of these radionuclides from various terrestrial radioactive waste burial sites around the country*

From 1951 through 1965, intermediate-level radioactive liquid waste at Oak Ridge National Laboratory (ORNL) in Oak Ridge, Tennessee, was disposed of in seven different seepage pits and trenches (*1*). Since 1944, solid waste at ORNL has routinely been buried in shallow trenches in six different burial grounds (*2*). Ground burial of radioactive waste is an effective means of disposal if the radionuclide can be confined to the geologic column through geochemical processes. Although the Conasauga shale, the predominant bedrock of the ORNL burial grounds, has an extremely high adsorption capacity for most fission by-products, trace quantities of certain radionuclides are migrating from both solid and liquid waste disposal sites (*3*).

Several factors have contributed to the radionuclide mobilization. One is that the annual precipitation at ORNL, over 127 cm, is greater than at any other radioactive waste burial site in the country (*2*). As a result, water infiltrates into trenches at a faster rate than it can be dissipated and mixes with the waste. In addition, groundwater levels are comparatively shallow and a high-density surface drainage network is present. There is also an abundance of fractures in the underlying rock, which diminishes the rock's sorptive capacity because the exchange sites adjacent to the fissures are saturated with the exchangeable ions in the waste (*2*). Finally, the presence in the waste of complexing agents such as organic chelates used in decontamination operations and natural organic acids from the soil promotes the formation of strong complexes with certain radionuclides that reduce the adsorption capacity of the shale and soil for the radionuclide.

It is this last factor that is of principal concern in this report. The isotope ^{60}Co has been found in concentrations up to 10^5 dpm/g in the soil and up to 10^4 dpm/ml (450 pCi/ml) in the water in areas adjacent to seepage trench 7 and in lesser concentrations in the vicinity of trench 5 and pit 4 (Fig. 1). Traces of various alpha-emitters such as isotopes of U, Pu, Cm, Th, and Ra have also been detected in water or soil from the area around trench 7 (*2–4*). We show here that ^{60}Co is transported in the groundwater from the trenches and pits as organic complexes. A portion of the migrating ^{60}Co is adsorbed by oxides of Mn in the shale and soil (*4–6*). Additional evidence suggests that some U is migrating by the same mechanism.

The following experimentally measured distribution coefficients (K_d) illustrate the pronounced effects that organic ligands have on the adsorption capacity of sediment for trace metals. We determined that the K_d values for ^{60}Co in weathered Conasauga shale at *p*H 6.7 and 12.0 were approximately 7.0×10^4 and 0.12×10^4, respectively. In the presence of $10^{-5}M$ ethylenediaminetetraacetic acid (EDTA) the K_d values were reduced to 2.9 and 0.8 (*7*).

The actual K_d values calculated from ^{60}Co concentrations in soil and water from various wells in the ORNL burial grounds are similar (*8*). The K_d values for ^{60}Co from wells in the vicinity of trench 7 range from approximately 7 to 70, averaging about 35 (see Table 1). The *p*H of well water ranges from 6.0 to 8.5 (*4*), and the EDTA concentrations are approximately $3.4 \times 10^{-7}M$ (this study). Actual K_d values for ^{60}Co in burial ground waters are therefore significantly lower than the theoretical value for neutral systems containing no EDTA and are somewhat greater than the experimental value for neutral systems containing $10^{-5}M$ EDTA.

The importance of sediment sorption capacity (or K_d) on radionuclide migration rates within geologic substrates has been modeled by Marsily *et al.* (*9*). Using variables such as K_d, rock permeability, and hydraulic gradient, they calculated the migration rates of ^{239}Pu buried at the bottom of geologic formations 500 m thick. The results show that ^{239}Pu with a K_d of 2×10^3, typical of a chemical setting devoid of complexing agents, rock fractures, and similar factors tending to reduce sediment adsorption, will not migrate to ground level until more than 10^6 years after burial, the migration rates being slowest in those geologic formations with lowest permeability. With a half-life of 24,400 years, Pu would essentially be completely decayed by the time of contact with the surface environment. At the other extreme, in a chemical setting characterized by no sorption ($K_d = 0$), Pu would reach the environment in 6 to 14,500 years, depending on the permeability of the geologic formation (*9*). That is, in the most confining formation Pu would have decayed about only one-half of one half-life before it reached the surface. In formations of low to moderate permeability, migration of Pu over 500 m would have occurred in only tens to several hundreds of years, the movement being four to five orders of magnitude more rapid than in the situation $K_d = 2 \times 10^3$.

In the Oak Ridge setting, the adsorption capacity of the Conasauga shale for inorganic forms of Co is very high. Hence, mobilization of this radionuclide in the absence of strong complexing agents, rock fractures, and other factors tending to reduce sorption would be negligible. However, in the presence of strong chelates, rock fractures, and other factors tending to decrease sorption, the K_d is drastically reduced and mobilization rates may be accelerated by several orders of magnitude.

A compilation of selected radionuclide analyses for filtered water, weathered Conasauga shale, and soil samples collected between June 1974 and June 1975 from wells in seeps adjacent to pit 4, trench 5, and trench 7 is given in Table 1 (*10*). Locations of pits, trenches, and sampling sites are shown in Fig. 1.

made by E. A. Bondietti, was that ^{60}Co in groundwater did not readily exchange with cation-exchange resins (Rexyn 101, Na^+-form). Data from several samples show that only about 5 to 10 percent of the ^{60}Co could be adsorbed by the resin, the other 90 to 95 percent being retained in solution as a tightly bonded complex. It seemed apparent that whatever agent was responsible for this effect was also preventing complete adsorption of certain radionuclides by the Conasauga shale and soil.

Subsequent ion-exchange analyses that we carried out demonstrated that the strength of ^{60}Co complexes with possible inorganic groundwater components such as sulfate, nitrate, bicarbonate, carbonate, chloride, orthophosphate, and even stronger ligands such as pyrophosphate and metaphosphate was insufficient to produce the ion-exchange elution behavior of ^{60}Co observed in the samples (*11*). However, in the presence of very low concentrations (10^{-4} *M* and less) of multidentate chelating agents such as diethylenetriaminepentaacetic acid (DTPA), cyclohexanediaminetetraacetic acid (CDTA), EDTA, and also natural organics such as humic and fulvic acids, ^{60}Co resisted adsorption by the resin.

In order to differentiate between the radionuclide-mobilizing effects of synthetic chelates of low molecular weight and those of humic substances of higher molecular weight, we fractionated groundwater samples, using gel filtration chromatography (GFC), a process which separates solutes according to size (*12*). Since most weak inorganic, metallic complexes are sorbed during the GFC process, the presence of trace metals in a given fraction of an elution profile demonstrates an association between the trace metal and a ligand in that fraction (*13*, *14*).

Elution profiles of a concentrated groundwater sample from location RS7 near trench 7 for Sephadex gels G-10, G-15, and G-25 are illustrated in Fig. 2. Each of these elution profiles contains three fractions decreasing in molecular weight to the right. The blue dextran peak coincides with the fraction of the sample having molecular weights above 700. Between 90 and 95 percent of the ^{60}Co and 70 percent of the U present in the sample are correlated with the middle fraction, which represents a group of organics with molecular weights less than 700 plus the Na^+-salts of several polyvalent anions. Between 5 and 10 percent of the ^{60}Co and 30 percent of the U are associated with the fraction having molecular weights above 700, and no ^{60}Co or U are observed with the smallest molecular weight peak, which through infrared spectrophotometry was determined to be comprised principally of $NaNO_3$ and NaCl. Reliable Pu analyses of the GFC fractions could not be obtained.

Infrared spectrophotometric data indicate that the large molecular weight fractions associated with minor ^{60}Co and U transport are humic substances. Because groundwater in and very close to the trenches is typically low in humic content, we believe that humics are not major contributors to radionuclide transport from the trenches. On the contrary, we believe that humics become associated with radionuclides some distance from the trenches, particularly in the seeps, where groundwater humic concentrations are the greatest.

After we had completed the GFC fractionations, the identities of complexing agents in the major radionuclide-bearing fractions were still unknown. We suspected that these materials were synthetic chelates, but humic substances of lower molecular weight could not be completely ruled out, particularly in view of their greater acidity and metal-complexing capacity relative to the spe-

Table 1. Selected radionuclide analyses of weathered Conasauga shale and soil and filtered water samples (0.22 μm) and corresponding K_d values from wells in the vicinity of pit 4, trench 5, and trench 7.

Well code	Date	Aqueous ^{3}H (dpm/ml)	Aqueous ^{60}Co (dpm/ml)	Adsorbed ^{60}Co (dpm/ml)	K_d (^{60}Co)*
RS3	24 June 1975	1280	90.0	NA†	
RS5	25 June 1975	1290	39.0	NA†	
RS7	26 June 1974	3050	669.0‡	43,700	65.3
T7-11§	31 July 1974	3930	518.0	16,900	32.6
T7-12	31 July 1974	3450	547.0	28,600	52.3
T7-13	8 August 1974	3740	816.0	24,500	30.0
T7-14	31 July 1974	1900	227.0	6,600	29.1
T7-15	31 July 1974	2090	153.0	1,060	6.9
RS9	24 June 1975	3130	80.9	NA†	

*See (8). †Not analyzed. ‡Water from RS7 also contains 7.5 parts per billion of U (99.3 percent ^{238}U and 0.7 percent ^{235}U). §Wells T7-11 through T7-15 are not depicted in Fig. 1. These wells are located within approximately 30 feet (9 m) of well RS7 (d. 5).

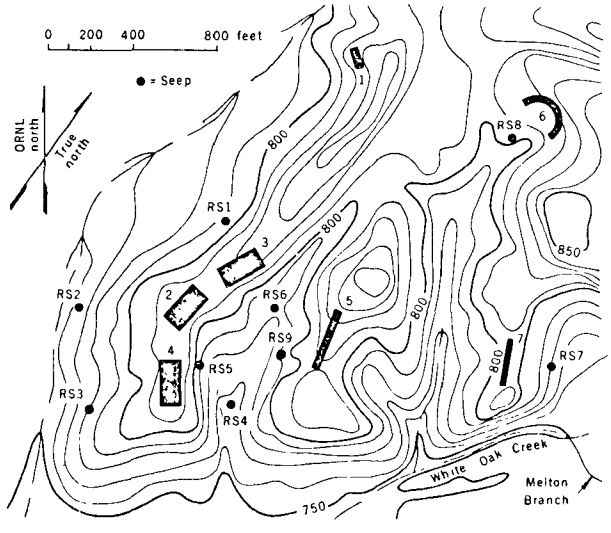


Fig. 1. Location of small seeps associated with pits 1, 2, 3, and 4 and trenches 5, 6, and 7. Contours are in feet [from (*4*)]. [Courtesy of Oak Ridge National Laboratory, Oak Ridge, Tennessee]

...ies of higher molecular weight (*15*)

We extracted the middle GFC fraction, which contained the largest radionuclide concentrations, with chloroform to remove compounds that would interfere in the subsequent analysis. All the radionuclide remained in the aqueous phase after the chloroform extraction. The aqueous layers were then evaporated to dryness and methylated to facilitate gas chromatography-mass spectrometry (GC-MS) analysis (*16*).

The GC profile for the methylated fraction is illustrated in Fig. 3. We used MS to demonstrate that the dominant peak represents the tetramethyl ester of EDTA, an extremely strong chelate commonly used in decontamination operations at nuclear facilities (*17*). Through use of an internal CDTA standard, the EDTA concentration of this sample has been calculated to be approximately $3.4 \times 10^{-7} M$. EDTA has also been detected in samples RS3 obtained near pit 4 and RS9 near trench 5 (*18*).

Other constituents detected in trench leachates include palmitic acid, phthalic acid (*19*), and other mono- and dicarboxylic acids, which are much weaker complexing agents than EDTA. The concentrations of strong chelates similar to EDTA, such as nitrilotriacetic acid (*NTA*) and DTPA, are below the detection limit of this analysis, which is approximately $5.0 \times 10^{-8} M$. Because NTA is biodegradable, it would not be expected in significant concentrations in the groundwater even if it had been originally present in the waste (*20*). Both DTPA and other multidentate chelates were used only sparingly in decontamination at ORNL during the 1950's and 1960's and consequently do not appear to be significant in the radionuclide mobilization at this site.

We thus reasoned that EDTA is the dominant mobilizing agent in samples RS7, RS3, and RS9. A minor portion of the migrating ^{60}Co and U is associated with natural organics. Ligands such as phthalic, palmitic, and other carboxylic acids may also be contributing to ^{60}Co and U mobilization to a small extent.

The identification of EDTA as a radionuclide mobilizer in the ORNL disposal area raises a question about the suitability of this chelate in decontamination operations. Although EDTA is used in decontamination because of its powerful metal-binding properties, this same characteristic also leads to radionuclide mobilization. The radionuclide mobilization caused by EDTA in the ORNL burial grounds probably does not at present impose a health hazard. However, its con-

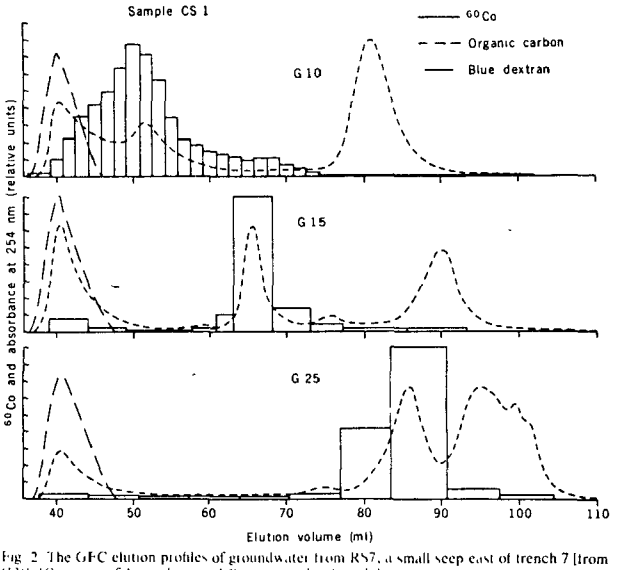


Fig. 2. The GFC elution profiles of groundwater from RS7, a small seep east of trench 7 [from (*13*)]. [Courtesy of *Limnology and Oceanography*, Seattle]

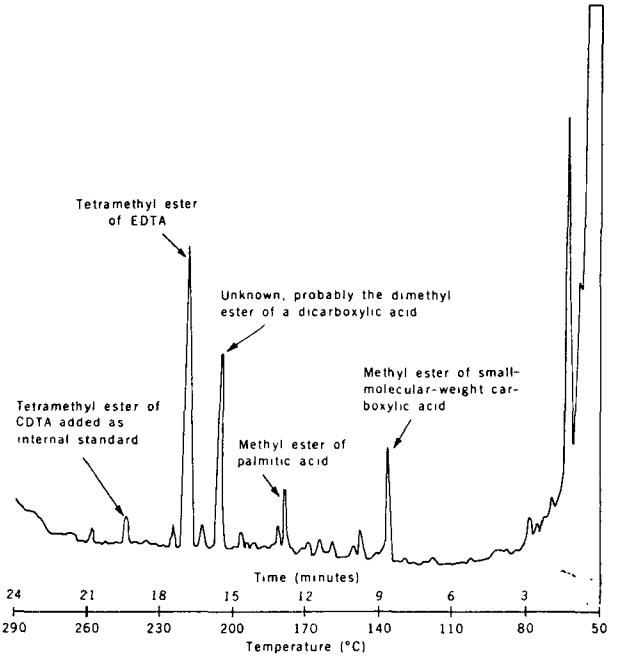


Fig. 3. The GC profile of GFC-purified and methylated groundwater sample RS7.

tinued use in decontamination operations around the country, and therefore its presence in low- and intermediate-level waste, constitutes a potential for the release of undesirable amounts of radionuclides. Because EDTA is resistant to decomposition by radiation (*21*), thermally very stable (*22*), and only slowly biodegradable (*23*), it is extremely persistent in the natural environment. Indeed, the presence of significant concentrations of EDTA in waste 12 to 15 years old attests to its persistence. Therefore, wherever EDTA and similar compounds have been introduced into terrestrial disposal sites, the aqueous transport of transition metals, rare earths, and transuranies, which characteristically form the most stable complexes with chelates, may be augmented.

There can be no question about the strong complexing capacity of EDTA and similar chelates for certain radionuclides including the rare earths and actinides. For example, all of the trivalent rare earths along with Am^{4+}, Cm^{4+}, Pu^{4+}, Pu^{5+}, Pu^{6+}, and Th^{4+} possess at least as high or higher complexity constants, K_1, for EDTA as Co^{2+} (*24*). Both EDTA and DTPA are used in the therapeutic removal of transuranies ingested by humans because of the strong complexes formed with these elements (*25*). Our evidence suggests but does not prove that EDTA is also contributing to the migration of trace levels of Pu, Am, Cm, Th, and Ra, which have been detected in the soil from seep RS7 approximately 100 yards (90 m) east of trench 7. For example, actinides were found in concentrations of 43 ± 8 dpm/g of ^{238}Pu, 110 ± 7 dpm/g of ^{241}Am, and 495 ± 20 dpm/g of ^{243}Cm in a weathered shale sample collected at a depth of 71 cm in well T7-12, which is adjacent to well RS7 (*4*, *5*). In addition, chelates increase the uptake of numerous trace elements by plants. Consequently, the ecological recycling rates of certain radionuclides such as ^{239}Pu and ^{241}Am, and therefore the possibility of their entering human food chains, increases in the presence of complexing agents (*26*).

In the United States, there are six commercial and five Energy Research and Development Administration terrestrial radioactive waste burial sites which have in the past received or are currently receiving low- and intermediate-level radioactive wastes (*27*). Varying levels of radionuclide migration from original disposal sites have been observed at four of these waste burial sites other than ORNL, including the Savannah River Laboratory, South Carolina (*28*), the Hanford, Washington, facilities (*29*); West Valley, New York (*30*, *31*), and Maxey Flats, Kentucky (*31*). The Chalk River facility in Canada has experienced similar migration problems (*32*). Actual migration of Pu, the presence of Pu in the dissolved fraction of leachates, and the existence of mobile Pu-contaminated leachates in waste pits have been reported at the Hanford, West Valley, and Maxey Flats facilities, respectively (*29*–*31*). Complexing agents are either present or suspected to be present in waste at Chalk River, West Valley, and Maxey Flats (*31*, *32*).

The use of EDTA and similar compounds in decontamination operations, and therefore their presence in low- and intermediate-level waste in the United States and the rest of the world, is widespread (*21*). Throughout the world, low- and intermediate-level radioactive waste is being buried along with chemicals that are likely to cause the migration of hazardous isotopes such as Pu over the long term. Indeed, trace levels of radionuclides are being released by groundwater transport at many radioactive waste disposal sites in this country, and migration of radioactive transition metals, rare earths, and transuranies is probably being aided by chelates such as EDTA. Consequently, if the use of EDTA and similar compounds is to continue, waste solutions should be treated for the removal or destruction of the chelates prior to final disposal in the ground. Another alternative would be to use suitable substitutes, compounds that are effective in decontamination but do not facilitate radionuclide mobilization.

One such useful substitute may be NTA, which is a potential replacement for phosphates in detergents. This compound is rapidly biodegradable (*20*) and is a strong ligand although slightly weaker in complexing capacity than EDTA.

The biodegradability of other chelates such as triethylenetetraaminehexaacetic acid (TTHA), hydroxyethylenediaminetriacetic acid (HEDTA), *N*-(2-hydroxyethyl)-ethylenediaminetriacetic acid (HEHEDTA), ethylenediamine di-(*O*-hydroxyphenylacetate) (EDDHA), and DTPA is apparently not well known. Some of these compounds are stronger ligands than EDTA and therefore would be more effective in decontamination. However the use of such compounds if nonbiodegradable, could lead to even more migration from disposal sites than that caused by EDTA.

Numerous other alternatives to the use of EDTA and related compounds are available. Hot cells, nuclear equipment, and reactors have been decontaminated by means of a wide variety of reagents including strong acids, bases, or oxidizing agents, which can be neutralized before final burial, or relatively mild complexing agents such as citrate, tartrate, oxalate, gluconate, phosphate, bisulfate, and fluoride, which will contribute to radionuclide mobility in the environment to a much lesser extent than EDTA.

Excellent reviews of different decontamination solutions and techniques are available (*21*). Many of these reagents used either alone, in combination, or in successive treatments have been shown to be extremely effective alternatives to EDTA.

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11. In the ion-exchange analyses we eluted several hundred milliliters of the desired sample through a column 2 by 50 cm filled to 25 cm with Rexyn 101, Na-form cation exchange resin, at a flow rate of approximately 5 ml/min.
12. The general GEL procedure is described elsewhere (*10*). In the present application we mon-

itored the eluted fractions for radionuclide content and absorbance at 254 nm using an in-line ultraviolet spectrophotometer We analyzed ^{60}Co using a multichannel analyzer, and U was determined by MS, with isotope dilution

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8 December 1977 revised 8 March 1978

CHAIRPERSON DARRAH: The next person on the list this morning is a representative from the St. Louis Regional Commerce and Growth Association.

Hearing no answer, Mr. Robert Robinson, Director, Missouri Solid Waste Management.

STATEMENT OF ROBERT M. ROBINSON

MR. ROBINSON: I'm Robert M. Robinson, Director of the Solid Waste Management Program for the Missouri Department of Natural Resources.

We want to commend EPA for moving towards development and implementation of these hazardous waste regulations. We also want to commend EPA for the outstanding effort they are making to obtain public comment on the regulations.

The Department has a few comments to make regarding the regulations and will provide written comments and details at a later date.

The regulations exclude sewage sludge from these regulations on the basis of public ownership of the generating facilities. It is our opinion that this is contrary to EPA's defined criteria for identifying the characteristics of hazardous waste, the criteria for listing hazardous waste, the integrated permit approach under Section 3006 of the Act and the others, which they are incorporating, and is discriminatory towards privately owned treatment works.

We recommend that EPA drop this special exclusion

and return to defining hazardous waste on the basis of characteristics of the waste or exclude all sewage sludge, except for industrial treatment plant sludges.

The waste from health care facilities have requirements under these regulations for segregating, containerizing and handling infectious waste from their facilities which take into account its infectious nature. Yet household solid waste will contain infectious agents comparable to these listed in this section from health care facilities. Therefore, we recommend that EPA provide a broader exemption for health care facilities than the practices of autoclaving and incineration such as special packaging for the disposal in a sanitary landfill in readily identifiable bags for the facility to enable immediate identification and covering.

Another alternative which we would prefer would be to delay the effective date of the implementation of the infectious criteria for health care facility in order to give such facilities more time to install necessary incinerators and autoclaves and, therefore, not interfere with implementing controls of the more serious waste types. These health care facilities are already under some type of state regulatory control that addresses waste storage and disposal, and we do not believe present a serious problem at this time.

The background document for this regulation states that EPA has determined it has no legal basis for issuing any

state authority to receive notification from persons identified by this identification and listing as they are required to notify EPA within 90 days of promulgation of Sub-part (a). It is our opinion that EPA is instructed under the Act to make every effort to issue states, at least interim authorization, if not full authorization.

If the EPA meets its court order for implementing Section 3005 and 3006 by October 31, 1979, then states such as Missouri, with statutory authority, a manifest system, a permit process and a comparable identification and listing of hazardous waste, could be issued interim authorization and be authorized to receive the notification. This would eliminate confusion, duplication and efforts on the part of persons affected. We recommend that EPA make every effort to concentrate on issuing states, at least interim authorization, so that they may receive the notification required by the Act. Otherwise, generators of hazardous waste will be required to comply with notification twice, both EPA and the state. I have serious doubt that EPA can implement these hazardous waste regulations in a timely manner. Therefore, the state should be included in the implementation process such as the notification and not confuse the generator and the public relative to what agency, state or federal, is responsible in an individual state for implementing the regulations.

Relative to an earlier concern about the hazards of transporting hazardous waste, I would point out that with few exceptions the railroad and truck spills we read about, all are involved with the transportation of hazardous materials and not hazardous waste. I recall of only one situation in the state of Missouri where a spill actually involved a hazardous waste.

Thank you.

CHAIRPERSON DARRAH: Thank you.

MR. LINDSEY: One of the points which you made, Mr. Robinson, regarded health care facilities, as I recall, and urged that there be some sort of special consideration, either in terms of the time for implementing regulations, which refer then to something more similar to that. I think it was indicated a little earlier that, I guess Jack Lehman mentioned it in his opening remarks, that the regulations for Section 3005, which is the regulations which set out the procedural requirements for receiving a permit, are not yet proposed and they will be proposed within the next four to six weeks, we hope should be.

I should point out I think we're going to make you happy there in that regard. If a hospital's facilities are covered now by a rather intensive or a state regulatory program which addresses the waste from that hospital, even in states where EPA may be running the program, there will be a

special, rather less burdensome, I guess is the word which I'm being coached on here, set of controls which will recognize the degree of state controls that are involved. In other words, it will be relatively, administratively more easy to get a R.C.R.A permit. And I think, if I'm not mistaken, that's the kind of thing you were getting at, is that right? Would that solve your problems?

MR. ROBINSON: Well, I'm not sure that they need a permit. But one thing that concerns me, there are so many of these facilities, and you so broadly defined the amount of waste that's included in these facilities, that we could essentially bog down the state program or the federal program, whichever it might be, just in taking care of those facilities. I don't think that we've seen the incidents of hazard although in some cases they may not be handled in quite a completely satisfactory manner that you and I might like to see.

We have talked to some of these people and I don't think they fully realize as to how much waste that you brought under this regulation, and many of them already have incinerators or they have autoclaves and they think they're covered so that they're going to take care of it. But their facilities are relatively small and they're really handling the real bad waste which they are more able to identify, I think, than EPA or the state and they're properly handling

those which you're bringing such a volume of waste under these regulations, that they're going to be overwhelmed and going to have to install much larger facilities is the view that we have.

MR. LINDSEY: So your problem then goes to Section 250.14(b)(1) which is the health care facilities and is basically, then, a list of sources of materials which, if waste comes from that source, then it's presumed to be hazardous, and you think that that's too extensive and should be modified in some manner?

MR. ROBINSON: I've made that point in several other meetings, in fact, recommended the whole section be dropped on previous occasions to EPA.

MR. LINDSEY: You think we should drop this whole section relative to health care waste?

MR. ROBINSON: I would for a couple of years until we know what we're doing and are able to implement a hazardous waste management program on what I consider to be really a serious waste element.

MR. LINDSEY: Following on, then, from your comment, would there be any benefit, in your mind, to considering these kinds of wastes which are listed in Section 3001, that's Section 250.14(b)(1), considering the disposal of them as special waste while we presumably gather more information on to specify how they should be controlled?

MR. ROBINSON: I think that will be very helpful, but I would reserve my approval of that approach until I see the regulations.

MR. CORSON: I think following up on that, I do want to point out that in the 3004 regulations, the preamble does indicate that we have received some information along that line from the U. A. Army Environmental Hygiene Agency and that we are considering and will be in-house studies but you have the possibility of creating a special waste category for these wastes.

MR. ROBINSON: Very good.

CHAIRPERSON DARRAH: I guess we have no more questions. Thank you very much.

The next speaker this morning should be Robert Plank from City Utilities of Springfield, Missouri.

No answer.

Is Kenneth Smelcer from Quincy, Illinois, here?

MR. SMELCER: Yes.

CHAIRPERSON DARRAH: We'll wait for you.

MR. SMELCER: I'm not sure I'm off to a good start. They told us they didn't have a room ready and I'm on already.

STATEMENT OF KENNETH SMELCER

MR. SMELCER: My name is Kenneth Smelcer. I'm the Executive Vice-President, Industrial Association of Quincy.

Quincy is about 45,000 people, about 100 miles

north of St. Louis, 100 miles west of Springfield, Illinois, and 100 miles south of Peoria. Sometimes we're called Forgotonie in Illinois. But in some ways it does help, when we try to make a statement of this nature, that we're something of an isolated area and some of the things that happen to us are the same that happen to many of the other areas but it's so much easier for us to see because there is a hundred miles between us and anywhere else.

The association that I represent has about 50 members and they run everywhere from the small assembly kind of operation to the large metal working. We have livestock, feed type operations and this sort of thing. And we have a new $37 million sewage treatment plant that we refer to as the white elephant. And now we have a new Adams County landfill that's brand new, we thought was going to be a real answer and last year,we've been waiting for about a year to be able to dump some of our industrial waste in, nothing very hazardous in our opinion, and we've had troubles getting our permits and so on which is really an argument with the state of Illinois rather than federal. But not knowing what was going to happen at the federal level, we've been kept waiting. Now we do get a chance to see it and we're quite concerned because we feel that we've been put in a box, and I won't try to be too technical in this. If we get technical, I'm going to have to call on a couple of my cohorts back there.

Basically one of our problems boils down to paint sludge. A lot of our companies are doing painting and when they're through, they have a paint sludge. They're using the water pipe boots and so on, but we're not allowed to take these materials and it looks like under the regulations, we're not going to be allowed to take them out to our new landfill site either.

Now, for us, in our particular area, this seems to be a real injustice because our landfill is really a clay type landfill and very little is going to escape from the site. We will have people here on Friday talking about the landfill situation from Quincy. But it is an excellent landfill. But we're having trouble with this paint sludge, and it's not unusual for our companies to have a hundred barrels, a hundred and fifty barrels stacked some place waiting to try to get in. We know we're going to get a little relief for a year. But the way the regulations are written, it doesn't appear we're going to be able to make it after that. There are some things that may be in the generator portion but exactly what we're at is about, it says 200,000 but my secretary made a mistake, that's about 150,000 gallons per year of industrial sludges that are being classified as hazardous.

One of the remedies that we see for things like the paint sludges is break this down, most hazardous, very little hazardous or whatever you want to call it, mildly hazardous,

so that some of these things can go into the type of landfill we have. Our landfill people feel they have no problem whatsoever handling it. We do know that we have solvent problems from our machining areas and so on that we're going to have to talk about recycling and doing these things and most of them are already doing it. Our big problem right now is what are we going to do with things like the paint sludge which comes in volume but yet do not really qualify as very hazardous material.

We understand that we're going to get caught in a further box with this in that, due to the air standards, we understand we may have to get rid of the water, well, not necessarily the water but the solvent based paints and go to the water based paints, and our people are telling us once we do that we're going to really be in trouble because then when we try to take that to the landfill site, leachability of this is going to be quite high and we could be in worse trouble. So we're going to be dead whichever way we go. This is the Catch 22 part that we're hoping that you will listen to and do something about.

I think the other thing is taking a look at some of the landfills and what they are like. For example, if it was sand, I could see a different story. But with the clay, we really don't have a problem. And, in our case, again we're not asking for the very hazardous material.

One of the things that we have in our statement is raising the amount that you could put into the landfill. We're raising it from the hundred, we felt, to a thousand but that may be a topic for tomorrow.

This is basically the problem we're having, the economic problem is going to be, frankly, some of the people in our smaller companies are going to take the law in their own hands and they're going to send it home with their employees, and I'm not sure it's beingdone now, but at some point it's going to happen. It's been pointed out to us by some of our people with 150 barrels, in 90 days they're going to be in violation of another standard. They proposed to us that maybe we can cheat, maybe we can put some emulsifiers in it and hold some water or something and we can get it out that way. But I don't think that's going to fool anybody for very long. These are the kinds of problems we're having. There's going to be an economic problem to us because again we are so far from anywhere, although I think that with these regulations, we're going to find very few sites in the country that are going to be eligible for these things, it is going to be a large transportation problem.

Our people are saying, maybe you're trying to tell us we're going to have to set up burning sites or furnaces to get rid of it this way.

Recycling the paint sludge, for example, is not

going to work for us because we have no place to put it. We've been able to do things with some of our sawdust, things like this, trying to use from our furniture people, but we can't see where we can get rid of the recycled paint sludge. For primary paint too much of it is left over.

So our recommendations are that you take a careful look at the classification that everything is not just classified hazardous. That you have maybe most hazardous, least hazardous kind of thing and that some of these things can be handled in a Class C landfill.

I think that's probably the extent of remarks I want to make now. They are different than the written comments, but we tried to be specific there. I tried to tell you about the situation we're facing in a small town without the real answer to us that is going to be readily available other than long-distance hauling or setting up burning sites, it's going to be very expensive for us when we could see a little more leniency on the standards in some areas as far as hazardous could eliminate a lot of our problems.

CHAIRPERSON DARRAH: Thank you.

Any questions?

MR. LINDSEY: Mr. Smelcer, I think you've hit on one of the dilemmas that we had to face or trying to face in developing these regulations and that is if the regulations become too stringent, then we, in effect, encourage illicit

disposal. I think that's one of the points you made.

The other side of that dilemma is the fact that if the public is going to accept facilities which receive these kinds of waste, then they need to be assured that their safety is adequately protected and so we end up with sort of a dilemma in that situation.

Let me ask you a question if I could. You indicated that your new landfill with its fortunate location and probably good design is satisfactory for handling a great many wastes as far as you can tell. What is it, then, about the regulations which would cause that facility not to be permitted, permittable? I understand that maybe there are some things in the regulations which would require some, perhaps, modifications in operation or something of that nature, but if it's a well designed, well located operation, maybe it would fit the bill.

MR. SMELCER: Again we're speaking to this on Friday with the people from the city and county being here.

But it's the cost of qualifying as a hazardous landfill that's going to really drive us out because we don't have that many industries. We're an industrial town, about 45,000, and this is the part, we really aren't saying we want to put everything we've got coming out of our companies there, it's clay, it won't make any difference, we're not saying that. Really our engineers are saying some of these

things like the paint sludge are so close that something like making a separate classification for something that's mildly hazardous, if you didn't handle it right, it could probably be a problem, but willing to handle it right and our landfill is willing to handle it and they see no problem with it at all and it's not going anywhere, it's in barrels and so on and, frankly, a lot of the stuff, we've even thought about this, just let it harden, get solid like a rock and then take it out. But, again, these things seem to be trying to get around the rules when we really should be speaking to the rule and if it's a little excessive, then trying to back off from it.

That's going to be our problem. If we try to qualify as a hazardous landfill and that's one of the things that our engineers are saying is there really isn't any difference between something that they wouldn't want in there either, they wouldn't want to live there if you put it there, versus something like paint sludge which really is not going to make any difference. And, frankly, the amount of our hazardous material which we tried to count up and the way we're handling it right now for this year, they put a barrel here, they put another barrel there. They're so far away from each other, that it really doesn't make any difference. In some of the cases, you're talking about hauling things out there like whey almost, you know, grain derivatives that dump

a little more water in it and it meets the pH factors. But again we don't feel that's the way to handle it. Number one, it's going to cost you money when you dump that water in there when we're talking about something that's really not what this should probably be designed for.

MR. CORSON: I guess I just want to focus a little bit on the point that Fred made, Mr. Smelcer, and even though I do know you are making comments on Friday, I think it's important to note at this time that the 3004 regulations really provide for an infinite amount of flexibility in terms of the specifics which a land disposal site might be used. So that if you are only putting paint sludges in and our toxicity definition is based on what would be leached from those sludges, not the content of the waste itself, if you could show that that specific waste disposed in that site would not present a problem, we see no readon why there would be any difficulty in getting a permit.

Looking at the comments in your letter which was presented to me, you point out one of the case examples, I believe, that someone has in their sludge 120 milligrams per liter of chromium where our standard is 5, and I guess we don't see how that leach, the mere fact it comes from paint sludge, would be reason to exclude it.

Similarly you point out in one of your earlier comments in the letter that there may be facilities that don't

want to take on the record keeping and monitoring and so on, and I think that our problem has been we're not sure how we provide for the requisite protection of public health in the environment without getting that kind of data from facilities that are used to dispose of waste which many have these toxicants in them. And if you're not going to provide that kind, that's exactly the reason why we need the permanent facilities to assure that we can get that data so that if for any reason in the future we find, as a result of monitoring, that something has gone wrong, we can try to take the necessary corrective action without having to wait for the groundwork perhaps to be so contaminated that it's beyond reclamation.

MR. SMELCER: Some of my comments are coming from small companies, on the back here where I say "here are some of our comments", but the companies are worried about the record keeping because of the small amount of people they have and we're talking about the hauling and a lot of other things that enter into it.

But I think basically they're not objecting, most of our companies are not objecting to saying what's going out there. We're willing to say and do what we have to to get it out there. But it is some of the things like the testing facilities, I'm not that well acquainted with it, but our testing now versus what it would have to be in the hazardous

waste of digging underneath and make the monitoring areas for 20 years out and so on, they're just going to make it absolutely prohibitive for us if we have to go that far. I'm sure our county and city are just not going to go for that kind of reconstruction at this point almost to be able to take it. We don't have a lot and I'm sure they're not going to want to spend these huge amounts of monies to us to be able to do that.

But really in some of these things, we know we're going to have problems with but when they are hazardous, we know we're going to have to deal with them, and our really big problem right now is these barrels and barrels sitting in back of the plant that they can't do anything with filled with paint sludge and this sort of thing.

CHAIRPERSON DARRAH: No more questions. Thank you very much.

Dr. Robert Poston, Carmel Energy, Incorporated.

(No response.)

CHAIRPERSON DARRAH: Dr. Brooks Becker, Residuals Management Technology.

STATEMENT OF BROOKS BECKER

MR. BECKER: My name is Brooks Becker. I am president of Residuals Management Technology, Incorporated. We're a solid waste management, hazardous waste consulting firm in Madison, Wisconsin. I want to tell you a little bit about the

background because, my background particularly because I think it applies to talking about some of the regulations.

I hold a Ph.D. in chemistry and for the last eight years prior to starting consulting firm, I was director of Wisconsin's Air and Solid Waste Management Programs and helped initiate those regulations up there. Our consulting firm has, as the two other principals, John Reinhardt and Tom Kunes, who may be in the audience and you have met and know. As chief of the Wisconsin regulatory program in waste management, I had the job of not only developing the state regulations but implementing them also in the field. One of the things I learned is if you want to have a regulatory program succeed, you have to pay very close attention to how it works in practice. I think that's a lesson that we have to pay attention to here for these regulations being proposed. One can over-regulate and by doing that minimize the amount of implementation that is accomplished in the field.

I am going to talk today about just some very narrow areas in the regulations and not try to cover the whole thing.

As consultants, we have had a good deal of practical experience in industrial hazardous waste problems and working with leaching tests in particular. In fact, we're going to be presenting a paper on the subject shortly based on some of the data we've collected.

I would just like to share with you some of our experiences and focus on a couple of points as they apply to the regulations. First, I think EPA should seriously consider an alternative approach to their single acid leach test for defining toxicity and thus hazard of a waste. We believe an alternative approach is needed, not just a different test.

Second, the definition of "waste stream" needs considerably more thought in order to avoid much expensive but useless testing by affected industries.

We believe EPA should consider an alternate leach test protocol with more steps which begins with a neutral leach test. There are several reasons for this. Clearly a single acid leach test,as proposed, will define many low risk wastes as hazardous primarily because of the heavy metal content. Other speakers this morning have alluded to that. These low risk wastes do not justify the strict criteria called for under Subtitle C.

In their introductory discussion, EPA points out that there are mechanisms for getting approval for disposal of these low risk wastes under Subtitle D criteria or special disposal criteria under Subtitle C in Sections 3004 and 3005 that have been referred to. The only new requirement, because of their definition as a hazardous waste, would be the transportation manifest system to define where the waste goes.

While, in theory, this is the case, and although the mechanism is cumbersome, I would have to say in practice it's more than that, the mechanism simply will not work. I would submit that once a waste has been classified as hazardous, no amount of further assurances or technical data or discussion is going to change that classification in the minds of the public. And in establishing a place to dispose of waste, you have to deal with the local public emotional situation. EPA has a clear example of that within 15 miles of here, the Wilsonville situation, where EPA came in on the side of the Wilsonville site to try to keep it open as a hazardous waste site and was unable to do so because of the emotional, political, social connotations of being a hazardous waste site.

We feel, from our experience as regulators and our experience as consultants, that once a waste is classified as hazardous, the public will demand, in fact, that full Subtitle C disposal protection be given to the waste regardless of any data that we produced to the contrary. Remember, I'm talking here about low risk wastes, things like the power plant ash that was referred to this morning, foundry waste, some paper mill sludges, a lot of high volume, low risk waste that exists around the countryside. I'm not talking about the ones that are clearly high risk, high hazard waste.

I might just cite one case we had in Wisconsin, to

emphasize the point, some years ago. At one of our landfill sites people were disposing of a low level nuclear waste from dismantling of an experimental reactor. What it was was concrete from the surrounding building, not the reactor shell, but the surrounding building that contained the facility. The radioactivity was hardly detectable above background but because it was labeled as radioactive waste, there was great hue and cry and finally the waste had to be removed from the facility and taken to an AEC approved site, even though, in any technical sense, there was, in fact, no hazard associated with it.

As a result of defining almost everything hazardous through an acid leach test, now I'm again thinking of heavy metal, the central purpose of controlling disposal of the major hazardous wastes which create the environmental or health problems that the Act was intended to solve, we think will be lost and dissipated. Instead much effort and money will be spent both by industry and government in trying to solve the problem that we create ourselves by defining too many things as hazardous, which really has nothing to do with protecting the environment and health. The problem of how to dispose of low risk, often high volume waste, defined as hazardous is the one we have to face.

Fortunately, a different protocol may be able to solve this problem. If one begins with a, and I'd like to

suggest that one might begin with the neutral leach test, if one does that, some waste will be classified as hazardous anyway and we would suggest that those are the more hazardous materials and should proceed on through the Subtitle C controls. Those wastes producing no hazardous leachates from the neutral test will then be addressed by the disposal techniques to be used. If the waste were destined for a municipal site, or another acid environment like is created in a municipal site of the acid test is supposed to simulate, then an acid leach test could be applied and if the waste is found to be hazardous for that disposal environment would be treated under Subtitle C. On the other hand, if the waste passed the neutral test and was scheduled for disposal in a segregated site for that waste only, approval would proceed according to the requirements under Subtitle D and that waste would not be designated as hazardous and would not carry the stigma of the hazardous regulations. This approach solves the problem of disposal of high volume, low risk wastes in an environmentally safe manner while avoiding most of the problems cited earlier. We think it is a practical alternative based on our experience. It appears to be the next best thing to defining levels of hazard, which has been suggested by a number of people and would probably be a good idea but EPA has chosen not to follow except in a few exceptions.

One subsidiary question should be dealt with. EPA

states that since they have no way of knowing if a waste actually goes to an approved facility without bringing it under themanifest system, therefore, low risk wastes should be defined as hazardous that come under the manifest system and be handled under exceptions under 3004 and 3005 as has been pointed out earlier. On the other hand, they propose rules to exclude waste from coverage that go to reprocessors or for, I guess, we feel combustion also. I would submit in the real world that those wastes, many of them,can be hazardous also and there is no way of knowing if those wastes ever go to reprocessors or, in fact, are even processed by reprocessors. We had a case some years ago, again I'll refer to a Wisconsin experience, where a reprocessor took in several barrels of PCB's and, of course, he didn't reprocess them, he just got rid of them and there was a problem, first of all, they should never have gone there and, second of all, he should never have disposed of them that way. So this seems to be, to me, to be an inconsistency in EPA's approach. They are willing to overlook the control of the transportation and so forth of waste that go for reprocessing, but they say that they have to do it from, have to control the low risk waste that are going to a segregated disposal facility or whatever in order not to miss something.

I would suggest to you that any regulation cannot cover everything no matter how desirable that might be. The

real world situation is that there is not enough regulatory staff in the state, there is not enough regulatory staff in EPA to physically do it even if it's desirable. What we would prefer to do, what I think makes a lot more sense is to focus on the real health and environmental hazards, the major ones, and write the regulations focusing on those through some sort of a screening process that we suggest.

I would like to turn just for a minute before closing to the need for defining the term "waste stream" and clarifying the question of sampling procedures. Here I simply want to raise some questions that I think EPA need to answer. For example, where wastes from several collection systems from the plant feed into the same hopper, does one sample each collection system, does one sample the hopper, or the mixed load as it goes to the disposal? That is not defined anywhere in the regulations. I think our experience shows in our work with industry that this is going to happen in many, many places where you have, because most industries do not segregate their waste streams and it's going to be a question of what do you define as a waste, where do you sample it. As it goes further down the line, you get more and more dilution, in effect, if you are only generating one small segment of waste that is "defined as hazardous", by itself it may not be hazardous later on.

In most industries small amounts of many wastes are

put into containers of one sort or another. By the time they get out of the plant, mixture is very heterogeneous. What is the waste stream here and how is that kind of a heterogeneous waste to be sampled?

Is the waste stream to be defined within a plant or as it comes out of the plant? These are all questions, I think, that need answering. Practical experience dictates to us that the place to start sampling is where the waste leaves the property or enters the disposal area, not back in the plant looking at individual streams from each individual collector or whatever.

Those are all the comments I want to make. I would be happy to answer any questions the panel may have. We will be submitting a more detailed written exhibit later.

CHAIRPERSON DARRAH: Thank you, Dr. Becker.

MR. LINDSEY: Getting back to your concept, Dr. Becker, of the neutral leach test as opposed to the acid leach test, presumably, then, I gather from what you're saying that those materials which, let's say, pass the neutral leach test but would have failed the acid leach test would then go to a Subtitle C facility. In your opinion, then, I guess what we're saying is that, what you're saying is that the Subtitle B facilities and the designed criteria under which those have been proposed, at least at this point, and the controls under them, which really are relatively limited,

they're limited only to EPA developing a list of which ones pass and fail are sufficient for these wastes?

DR. BECKER: Yes, I think that's true. But you're not quite correct in your assumption, those that would pass the neutral leach test, if they are to go to a segregated disposal site for that waste only would then go under Subtitle D as opposed to those who might be putting that waste in a municipal facility, it would still then have to follow the acid leach test.

MR. LINDSEY: Oh, I see, if a waste which would fail the neutral test, no, fail the acid test,pass the neutral test, if it were to go to a municipal landfill or some other landfill presumably which had an acid environment, then that would be subject to the Subtitle C operation, right?

DR. BECKER: Right.

MR. LINDSEY: Let me ask you this, then, with regard to that. Do you have any idea, an estimate or anything, on the volume of wastes which would exit the detail controls under Subtitle C if that change were made? Are we talking about a big percentage of the wastes which are in the system now that would not be in the Subtitle C system later, in your opinion?

DR. BECKER: In my opinion, I think, it depends on how you define big percentage. I think you would find tonnage-wise a fairly large percentage, yes, because you're talking

about things like plant ash and some paper mill sludges and a variety of very large quantity, low hazard waste. On the other hand, if you're talking about the amount based on a hazard factor of some sort, I would say it would not miss very much because you will catch many, in fact, most of the hazard waste through a neutral leach test.

MR. CORSON: I guess just following up again for a moment on Fred's question, this kind of implies that you have some data available that indicates the amount of waste that would, after extraction and analysis, would flunk the present EP with the acid?

DR. BECKER: I have no data available that represents a survey of one or more industries and detailed tonnages or all that sort of thing. We were just talking about the impression I have from our knowledge of the various types of waste and with waste, many of them that we're dealing with, have very large volume, high tonnage waste, but relatively low risk or no risk waste.

MR. CORSON: The main reason I was asking is we have done so far, we have sampled some paper sludges, some fly ashes, not many yet, and some foundry sands and found none of these yet to fail the test after we run the EP. So I was just wondering.

DR. BECKER: You mean fail the acid test.

MR. CORSON: That's correct.

DR. BECKER: Our experience, we have some data that we would be happy to share with you and we will be putting in our written comments that show that there are, indeed, some of these wastes that will flunk an acid test.

MR. CORSON: I'm sure there are.

I was also wondering from your comments, you raised the point which I think was sort of reflected by one of the earlier speakers this morning. It would appear that you're probably at least as much concerned by the, what I call, the red flag word hazardous as you are by anything else. You do recognize that there are some wastes that may require something other than the routine care of a Subtitle D facility which does not involve any record keeping, any monitoring by way of a requirement, but yet the concerns you've expressed, once we use this word, then we run into the community problem regardless of how good the site may be.

DR. BECKER: I think that can't be overemphasized at all because that is an extremely important thing in this whole hazardous waste question, as you undoubtedly know better than I, because having dealt with many of the facilities like Wilsonville. My practical experience, both from the regulatory standpoint and as a consultant, shows that that often becomes the overriding concern rather than actual data on the way the actual site specifications and all of that. It's just so critical in this program, I think that the whole thing,

if you don't recognize that early on and take account of it in the regulations, the whole program is going to falter because there is no place to take all the stuff defined as hazardous.

MR. CORSON: Let me just follow up a little bit, if I may. Do I interpret that your definition of low risk would be based on using the neutral extraction procedure and then some analysis from constituents and things which did not fail, would they be considered either low or no risk or what is your evaluation of low risk?

DR. BECKER: Basically the neutral extraction procedure.

MR. CORSON: Are you--

DR. BECKER (interrupting): I would not suggest that something that flunks the neutral extraction procedure and would be defined as hazardous under that should be defined as non-hazardous or whatever. But I would suggest that anything that flunks that procedure, if you want to look at it that way, would follow through Subtitle C procedure and be declared as a hazardous waste.

Now, this still doesn't get you away from the need to look at levels of hazard,if you will, that other people have alluded to, but this is a way of at least skimming off some of the low, the really low hazard waste without going to a full system of levels of hazardous.

MR. CORSON: You also made a distinction, I believe, in your comments that if the waste were going to be mixed with municipal waste, then we should use the acid extract. I am wondering whether there might be other industrial waste with which it might be mixed that would also suggest that we should use an acid extract.

DR. BECKER: Yes, that's right, and I suggested that municipal waste or a similar environment such as the acid leach test would apply to it.

In other words, all I'm saying is that the difference in approaching, you have to consider the disposal alternative that's going to be used. If it does not flunk the neutral leach test, now you go to look at the disposal scenario that's going to be used on waste and exclude it, if you can, based on that. Now, the thing that this doesn't do for you that you are trying to do in the current regulations is follow every single waste that has any very slight potential of being hazardous. But I submit, as I pointed out, that you don't do that anyhow because of the process or exemption, so forth. Nor probably do you want to because you simply aren't going to have the mechanism to do that.

I could submit another example from EPA programs, if you're familiar with the pesticide program and the vast amount of material they collected early on in the regulatory process, which for all I know is still sitting in the basement

of Waterside Mall and has never been looked at since. All I'm saying is you don't want to get into a paper program that is meaningless because you have too much material to worry about.

MR. LINDSEY: O.K., I guess I have one last thing. You discussed at some length the apparent paradox between the fact that we say we need to use the manifest system to control the movement of what you term low-risk kind of hazardous waste in order to be sure they get from A to B. Yet, on the other hand, the other part of this paradox, that we do not require the manifest to move with waste which are going to reprocessors.

I have one comment on that and then I've got one question. Basically our rationale with regard to that is that the materials which are moving to these processors by and large have a, our thinking is that they have an economic value and are less likely to be simply dumped. On the other hand, that's not true of the low-risk materials. On the other hand, you did point out, and this, I guess, is my question that you knew of some problem areas that had occurred with waste which were moving to reprocessors and then for some reason got dumped and maybe your argument here is more an argument that we require the manifest for waste moving to reprocessors rather than eliminating the manifest for low risk. If you have information like that in your written

comments, examples or things like that, it might be helpful to us in making final determination along these lines.

DR. BECKER: I'm really not trying to make that argument.

MR. LINDSEY: I'm sorry if I read that in. But I could maybe make that argument from what you said.

DR. BECKER: You could make that argument, but I think it's contrary to -- what I'm trying to get at is that you don't want to take on too much. I think that's not what you have proposed for reprocessors. It's not unreasonable at all even though it's quite true that, I believe, you will lose some of the waste that never gets to reprocessors. But I think that's a risk you have to take because you simply can't be 100 per cent sure of things and I'm saying the similar things should hold for a low risk waste, too, so it's not, I think that's a little different.

MR. LINDSEY: Nevertheless, either way, any problems that you have specific cognizance of that have occurred because of this would be halpful to us in making a decision one way or the other.

DR. BECKER: I certainly would be glad to provide that.

MR. CORSON: Dr. Becker, you asked where the sampling should be done. I think you ended up with the way you're disposing, actually it's an off-site, you're shipping

off, that's the waste that you sample. You don't consistently go back into the process and pick it up from each line. The trouble will occur, we see from our own point of view and probably from an enforcement point of view, and the real problem is that if you should have one of the listed waste streams, you now mix that with everything else coming out of the plant, what I think you have done is you've created a larger set of hazardous waste because we probably wouldn't include all of it as the listed waste. What we think will happen and we think should happen probably as a result of the listing of waste streams, is that plants should begin to segregate some of their waste so they're not by nature mixing causing a larger volume to be in total hazardous waste and only manage the hazardous waste in the right fashion, then the non-hazardous portion. There is nothing that says by our regulations all the wast in a specific plant must go to a single facility. You can send the office waste one place, the hazardous waste some place else. Even though that may not sound practical, we think that makes eminently good sense.

We also think the segregation of waste may, segregation and concentration may, also lead to enhance the resource recovery just by nature of the segregation and concentration.

But the other thing it does bring to mind is another question as to your comments for low-risk waste, and that is,

the problem that the more stuff you mix, the more difficult it becomes to define a representative sample from that plant to make the determination as to what you're going to do with it, whether it belongs in the system or not as opposed to single waste stream.

DR. BECKER: Let me comment that I think your points are well made that this will lead to more segregation of waste streams. On the other hand, there is a great deal of uncertainty, I believe, from our experience from industrial clients right now as to the fact that that is going to be EPA's position that you don't have to look at each stream. In many of those cases, you have a very, very heterogeneous mixture coming out and sampling is going to be a representative sampling. It's going to be very, very difficult because you have some floor sweepings in this load and none in the next load and you have air pollution control equipment, dust in one load and you have water treatment sludge in another load all mixed with various things. So the representative sampling will be very difficult. The farther from the source of the waste you get, the harder it is to find a representative sampling procedure that does what you want it to do and clearly you don't want to sample every load that goes out.

MR. CORSON: Just one last comment. I would appreciate, based on the industrial experience you have had,

anything you could provide to us to help us define a representative sample. It will greatly help. As you are aware, we did try, in the regulations, to suggest methods, calling from ASTM those we thought might be appropriate. We will probably in the final promulgation be adding more ASTM methods that are appropriate for sampling. We do reference a document which we had produced under study to Cincinnati which does talk about how we sample things out of a tank truck in the middle of a lagoon and we'll start with a bulldozer.

But we would appreciate it if you can give us any thoughts on what makes a representative sample and particularly if you have any idea as to how we might solve the problem of a representative sample every time. It would be greatly appreciated.

DR. BECKER: I think just one comment on that. The difficult balance here is between really an economic one, that the cost versus the need for your information. Obviously you can sample every load. That's the most costly approach and the most costly extreme and that's not acceptable to anyone. On the other hand, making a sample once every five years probably doesn't tell you much. I would just say we have some ideas and it's a very difficult problem and I don't think there's any clear cut one answer.

CHAIRPERSON DARRAH: I guess we have no more questions. Thank you.

We'll break for lunch now and reconvene the hearing at 1:30 in this room.

(Whereupon, at 12:10 o'clock p.m., the hearing was recessed to reconvene at 1:30 o'clock p.m. the same day.)

AFTERNOON SESSION 1:30 p.m.

CHAIRPERSON DARRAH: We would like to reconvene, please.

I do have the names of additional people who weren't on our original list who do want to speak and I'm going to go ahead and ask them to give us tneir comments and then we'll go back to the people who weren't here this morning and if there is anyone else who would like to offer comments on the record on 3001, you can indicate to the people at the registration desk and they will bring up your name to us.

The next person I have is Frank Stegbauer from Southern Towing Company.

STATEMENT OF FRANK STEGBAUER

MR. STEGBAUER: Good afternoon, Madam Chairperson and members of the panel. My name is Frank Stegbauer. I'm vice-president of Southern Towing Company of Memphis, Tennessee. I operate boats on the navigable waters of the U.S. I'm also representing American Waterways Operators, which is a trade association of shallow draft towing industry with some 232 members in the towing industry.

I think our basic concern over these regulations is how to comply with them and where we fit in the scheme of your system to collect hazardous waste. It seems like with so many regulations that we get drawn into that seem to be to us basically oriented to industrial plants and not oriented to the parameters or constraints we found ourselves operating

under in the marine environment.

The one thing that particularly concerns us is the determination of used lubricating oil as a hazardous waste. The thousands, and if you include the pleasure boat owners it probably gets up into maybe millions, I don't know, of people that will generate used lube oil. We probably, in the marine boat, are different from the land modes in that people in the automobiles drop their used lube oil drippings in the street which, in turn, go down the storm sewers into our navigable waters and the railroads, and trucks drop it on the highways and the railroads probably on the roadbeds, I guess. We can't drop it even if we wanted to. We're forbidden by the Clean Water Act. So many of us have installed oil separators on our vessels and separate our bilge slops or bilge accumulation, water from oil of which probably 95 per cent of it is water, and then the used lube oil we transfer to our fuel bunker tanks and use it for fuel. This arrangement has met with approval of the Coast Guard on the philosophy that that's better than trying to pump it ashore because every time you go into a transfer operation, you increase the risk of probably a spill of some of these oily materials.

Of course we have no trouble in determining where we stand on the Clean Water Act. It's very clear as to our obligations not to put oil and soon it will be, as soon as you put out your new hazardous material regulations, it will be

very clear what new obligations we have under that provision of Section 311 of the Public Law 92-500. But we do have some concerns in the fact that we don't generate a lot of used lube oil. I'm sure that, I know our vessels in my own company, we would generate far less than 220 pounds of used lube oil per month, except every two years when we overhaul our engines and change oil in them, we will be faced with the disposition of probably four to five drums of used lube oil. Ordinarily we will not be. I would say the majority of the people on the river are separating their slops and putting the used oil in their bunkers and using it for fuel.

We are concerned about some comments in here where there is some detrimental effect on the incineration of used lube oil. We are concerned when the regulation says persons may not generate over 220 pounds and still be exempt. When you say persons, does that mean the whole corporation as a whole or does that mean each vessel that we operate? My company operates fourteen vessels and it is strung out from one end of the river system to the other end of the river system. Collectively with those 14 vessels, we probably will generate more than 220 pounds. Singly we would be considerably below that. We are wondering what definition you apply on that.

We are wondering whether, because of the fact that we might accumulate some used lube oil aboard, do we then be-

come a generator and since we are moving from, say, Houston to Pittsburgh, do we then become a transporter? I guess what we're really looking for is some clarification and if you people have any of these answers, a number of our people are here today and we would be most interested in hearing what your proposal means when it comes to U.S. documented vessels operating on the navigable waters of the United States.

MR. LEHMAN: Mr. Stegbauer, I think your comments are well made. The basic thrust of the regulatory program is toward land transport. You're pointing out some aspects of the regulations which I think perhaps we have not adequately considered as to what the impact of these regulations would be for barge traffic or any type of river traffic.

We did consider the interaction between this law and the ocean disposal law. So we've got a pretty good interface between those two laws. But I must say some of the points that you raised here just now are new to us, and I think we're going to have to think about what you've brought up here and see which way we can go on some of these points.

I think I could reply to one of the points that you brought up, an interpretation of the word person with respect to a vessel such as yourself or a corporation or each vessel. The basic intent there of what we were trying to do was to have that conditional exemption apply to each facility within a corporation, assuming they were land based. The

analogy, in your case, I think would be that it would apply to each vessel as opposed to the total corporation. But I can see where you had some trouble interpreting this.

MR. STEGBAUER: If that be true, it would be a much more livable situation with us. I don't think that we have a problem with disposing of the waste unless you have some objection to us using it as fuel. Our position is that in the spirit of the law for recovery of energy, we are recovering this as energy form by using it as fuel and it does very well in our engines. It doesn't have a detrimental effect on them.

Probably 220 pounds is not a lot of oil. I think at lunch we were figuring that and, incidentally, we will have comments to file before the March deadline, but I think if a service station services and changes oil at approximately 17 automobiles a month, he is over the 220-pound limit. So I don't know whether you all have considered how many people are going to be affected by this, individuals, people with particularly inboard pleasure boats, which there are thousands, many more of those than there are tow boats, mariners of all kinds. When you say used lube oil, you've just about got everybody that drives an automobile or anything else. It's going to be pretty wide spread.

CHAIRPERSON DARRAH: We thank you for your comments and we'll certainly consider them.

Next this afternoon, Harold Muth from the American Waterways Operations.

MR. MUTH: Mr. Stegbauer covered all my points with the exception of the fact that under these rules, I think the United States Navy and the United States Coast Guard would be considered generators of waste every time they changed oil in their engines also.

CHAIRPERSON DARRAH: Thank you.

MR. STEGBAUER: Could I ask you one more thing?

CHAIRPERSON DARRAH: If you will come to the microphone. We will probably at the end of this time for comments take written questions which will be off the record so if it's a question, you might prefer to hold it until then.

MR. STEGBAUER: Well, I've just got one question. What is the philosophy on declaring used lubricating oil a hazardous material? The reason I ask this is because we were probably sitting back fat, dumb and happy and thinking that we were so regulated by the Coast Guard and all, thinking these regulations wouldn't bother us and then you threw this used lubricating oil in there and we find ourselves in the soup.

CHAIRPERSON DARRAH: Would you mind if we deferred that to the question and answer period?

MR. STEGBAUER: O.K.

CHAIRPERSON DARRAH: O.K. You can be first in the

question and answer period.

All right, James Kinsey from Minnesota Pollution Control Agency.

STATEMENT OF JAMES KINSEY

MR. KINSEY: Good afternoon. My name is Jim Kinsey. I'm with the Minnesota Pollution Control Agency. I'm chief of the Hazardous Waste Management Section in Minnesota.

In 1974 the Minnesota legislature passed some enabling legislation in the Minnesota Hazardous Waste Act which parallels in many ways the U. S. Conservation Recovery Act. We have been developing rules in Minnesota since then and still are trying to get them on the books.

A lot of our work was shared with the EPA when they began developing their rules and have been involved in watching the drafts as they come through and I have been most pleased with how they've been improving.

There are a number of things about this particular proposal that I think are finally beginning to take shape. You have got some clear criteria for establishing characteristics and for adding materials on to the lists and concurring with those and I'm glad to see that kind of a process actually in the rules themselves.

We heard a number of comments today from people who would like to--we disagree with the approach that the EPA is taking with respect to classifying wastes as to the degree of

hazard. I concur with the approach whereby 3001 criteria are used kind of as a tool or as a screening mechanism to get wastes into the system and then the degree of hazard is taken into account in the 3004, 3005 portion of the rules with respect to matching it up with the proper management.

The thing most of the comments against that particular scenario seem to have in common or at their base is sort of a basic distrust or basic belief, perhaps, that environmentalists tend to be fanatical and general public tends to be irrational when it comes to hazardous waste and their way of wanting to deal with that situation seems to be to not to bring things out in front of the public, to keep things, to find ways of not calling things hazardous, to zero in on the definition of hazardous and not so much on the nature of the relationship they've got with the environmentalists and the general public, and I think that the long range solution to that kind of an issue lies more in trying to address the relationship the industry has got with the general public and with the environmentalists by starting out to recognize that both of them do have valid concerns and in attending various conferences and such, I hear an awful lot of woe is me type stories where, gee, everything was technically O.K. but it was the irrationality of the system or the lack of some sort of mechanism which meant that we couldn't use this ideal facility, some little lady in the corner with her dog and she

stopped us all and bringing it to a standstill. And I don't see a recognition or a willingness on the part of industry to recognize the validity of a lot of the concerns that are being raised there. And I would rather see public information type programs. I would rather see efforts made to make the facilities more attractive to the public.

For instance, we recently had the rather disastrous experience in attempting to cite a hazardous waste demonstration project in Minnesota. One of the reasons why we were having so much difficulty was that there really wasn't a demonstratable advantage to having the particular facility located in any one person's backyard or in their area. The local residents got nothing at all except for an increased risk, and often the land is taken off the tax rolls. There is no money coming in from that type of facility. Those types of concerns aren't being dealt with.

I do have some problems, though, with other portions of 3001, in particular the toxicity characteristics. One comment has to do with the extraction procedure. I really don't understand what it is. I don't know where it came from. I don't know what it's going to do. I don't know what wastes will be hazardous and what wastes won't be hazardous. The equipment that it takes to run the extraction procedure, my understanding, it is not available or if it is available, it has just recently been made available. I'm not aware of any

work that's been done to look at the, at exactly how this test is going to go about and what kinds of wastes are going to be classified as hazardous as a result of its use and what kinds aren't.

It is, from my point of view, an unproven, untried test that is being used in preference to a system of determining toxicity within waste that is used by state governments for many years now, that of utilizing direct toxicity data, either the testing or the use of existing literature data.

I also have difficulty with the ten times the drinking water standards that you're applying it to as was discussed earlier today, the maximum permissible levels of radioactive materials don't necessarily mean that you've got a safe level, and I think much the same controversy spills over on to the drinking water standards. Many of them have their origin and levels of detection. In other words, at the time when they came up with them were looked at as being almost zero. Ten times zero is still zero. I don't see as to where you end up with any sort of validity based upon them trying to make an approach through the EP as, I don't see as to where you can say that it follows, bears on any reality, let's put it that way.

I guess the final comment with respect to the toxicity characteristic is that it's very limited in its

scope. Toxicity is a very broad term and yet the EPA looks at it from an extremely limited view that attempts to evaluate the risk of exposure through ground water contamination routes. You're not taking into account the fact that a lot of the wastes which are going to be called not hazardous are going to be picked up by commercial haulers and they will end up in packer trucks, they'll end up being compacted, they'll end up--transportation personnel in our area, it's not at all uncommon for them to get a face full of mist or dust or gasses from the truck itself, and the toxicity characteristic doesn't take into account the broader range of possible exposures during routine waste management.

My final comment has to do with the way that the term discarded is being interpreted. I understand that it would greatly simplify the administration of the program by not taking into account all materials that are being destined for recovery. But we have examples in our own state of resource recovery firms that are operated in many ways like a treatment facility which are covered under the rules, and where we've had a great deal of difficulty in terms of how they store the material on site, ground water contamination as a result of that facility being in existence, and the use of poor operational standards in both their operation and in their storage. I would oppose a categorical kind of an exemption for recycled materials. I think at a minimum we would

at least want to get the commercial recycling facilities and that would include the barrel reclaimers also.

CHAIRPERSON DARRAH: Would you answer questions for us?

MR. LEHMAN: Mr. Kinsey, you mentioned that with respect to the toxicity characteristics that you believe we should use a direct toxicity data as you implied many states do. Could you amplify and expand on that as to what do you mean by that in a little more detail?

MR. KINSEY: Well, most states that have an ongoing hazardous waste or solid waste management program make determinations as to the kinds of management that's appropriate for a waste by looking at the characteristics of the waste itself. They want to have information on the waste. I've been with the Minnesota Pollution Control Agency for the last three years and people that have been there before me say that they have been looking at toxicity data as an important step in determining what's appropriate management for a given waste. The acute toxicity data, the direct toxicity data is used because it's available. There is a lot of it out there. It's kind of an approach, in my view, it is sort of a standard for the regulatory industry right now, the regulatory people, the regulatory program. It makes more sense to me to try and bring the states up to a common standard or common level in terms of how it is they address hazardous waste and kinds of

tools that they use than it does to establish a test that has no background, that has no experience with it, that we don't know how it's going to handle, try to take us to an imaginary point which is several steps beyond which most of the regulatory agencies are now.

MR. LEHMAN: If I understood your remarks correctly, you're basically suggesting that we go back to acute toxicity information on pure substances that you find in waste. In other words, there is no such thing, to my knowledge, at least, on waste by waste basis of toxicity of waste. You're talking in terms of a toxicity of components of that waste for which there may or may not be data. So going one step further from that, the implication, if I'm correct, I want you to comment, if you would, the implication is that if you were going to draw, then, a line between hazardous and non-hazardous based on these toxicity characteristics is that you would not only have to draw a line with respect to, say, LD-50 or some other toxological number, but you would also have to draw a line with respect to concentration of that particular constituent in the waste, is that not true?

MR. KINSEY: I think that if you were to try to relate that standard to the characteristics of waste and not to the characteristics of the individual components, that that would not be true.

What you're trying to evaluate is the characteristic

of the waste. You could utilize purer component toxicity data in doing that evaluation, but that wouldn't be the point at which you could regulate it. You would be regulating it from the point of view of the characteristic of the waste.

MR. LINDSEY: That would require in every individual case that the toxological characteristics of each waste be determined on the case by case basis, right, specifically if you're going to regulate that way?

MR. KINSEY: If you mean tested, no, I don't think that means tested. I think that the listing that you've got of hazardous wastes, according to hazardous properties, a good deal of those processes have been identified as a result of acute toxicity data and that data was used, I think, pretty extensively in coming up with the list of hazardous materials that you have. If it was good enough for that, I submit that it is good enough to try and formalize that process through the criteria to provide a minimum evaluation of each individual waste.

MR. CORSON: I guess I'm still a little bit confused, Jim. I wonder if you could go through for me one more time how you would evaluate specifically the hazards or the toxicity of a waste. Can you have a sample of the way you assess its toxicity?

MR. KINSEY: What you're attempting to do is evaluate the toxological, the toxicity properties of a given

waste, you've got three different ways in which you can do that. You can test the waste itself. You can take a look at the existing data either on the pure compounds that are in the waste or on the existing data of similar types of waste, or you could use some sort of experiential type of data relating exposures to some descriptive standard.

CHAIRPERSON DARRAH: Let me try and clarify one thing. You complimented us on having these four characteristics but what you're essentially saying is get rid of the toxicity characteristic and just put things on the list?

MR. KINSEY: No, I complimented you on having criteria for coming up with your characteristics and your lists. The compliment kind of fell off there, how you apply those criteria to toxicity.

CHAIRPERSON DARRAH: I just wanted to clarify that.

MR. KINSEY: I think you kind of fell apart there a little.

MR. CORSON: Let me follow up a little if I may, Jim. If we were to go back, let me again just try to do this to get a further amplification of this approach that you're referring to, if I were, for the moment, to leave out the extraction procedure, I had some technique which would allow me to analyze the waste, reevaluate the waste, and that technique would allow me to include the things that we now have in the proposal, which is the drinking water metals regu-

lated, I would include in it the ANPR which again uses all the toxicity data that exists, that we're aware of, is that the kind of approach you're recommending, just evaluate the toxicity of components as one approach? One you have a specific incident from that waste, which we know has caused damage,which is another approach. And the third one, I think if I heard you correctly, would be to draw the analogy between this waste and another waste which is very similar. Do you feel that would be a proper thing?

MR. KINSEY: From what I understand of what you're saying, yes. Similarly my analogy there was, my comment there was referring to the possibility of industries, for instance, the metal plating industry being able to collectively address the types of waste that they offer and to be able to do a study of the waste industry wide as opposed to each individual industry studying its own individual waste.

What I'm looking for is more flexibility in interpretation of what is hazardous.

MR. CORSON: Let me ask another question. We try--at least part of our approach with using an EP, forgetting for the moment the specifics of the individual EP, was to show concern for contaminants that might be released from the waste as opposed to those contaminants which might be bound up. I'm wondering whether in your system you would have some concept which would allow out those things which while analysis

might show that there's arsenic there, we still want to give credit to the fact that it's bound up and not released from that waste in the present form of the waste.

MR. KINSEY: Well, first of all, the biological tests, to some extent, account for that type of thing in that in order for a chemical which is in a waste, say arsenic, to come in to exert its toxic property, it has to come into contact with the, it has to actually be absorbed into the organism and there you're taking into account some not only acquatic solubilities but also liquid solubilities. So the test animal itself does, to some extent, account for some of that. But beyond that point, I would like to see that be able to be part of the thing, part of the evaluation. But other than on a case by case basis,I'm not sure how you're going to establish standards to do that.

The thing that bothers me most about the way that you've gone is that I would rather see you wait on that type of a standard where you're looking at that kind of an issue because you don't even have the piece of equipment that it takes to do the test available. We haven't done that much in the way of trying to determine what waste will or will not be hazardous as a result of that test, and I'm kind of at a loss as to how to really comment about that EP without knowing what it's going to do. I understand that a year from now, you may have an awful lot of testing done utilizing the EP, but

that doesn't help me today.

MR. CORSON: I guess one of the things that I find here is a problem for me, at least, our extractor is a very simple piece of equipment, which I guess we think ought to be made in any garage shop. From the drawing that's available in the proposal itself, someone could make it. I think that all the industry has is that they are concerned if they make one themselves, will we consider that to be an equivalent piece of equipment. I think that's a different valid question. It has nothing to do with whether or not we can make an extractor.

MR. KINSEY: My issue isn't whether or not they can make it. But my issue is that the extractor itself just showed up in the Federal Register in December, and I myself haven't seen any picture of it prior to that. And even if I wanted to make it and even if I had the money and the resources to start testing to find out how this extractor works and how this particular procedure with the specified dilution and under the specified acidic conditions, if I knew what waste would and would not be hazardous under that type of a system, but there's been no, virtually, testing done. And yet it's being proposed as a standard. It would seem to me that what we would want to do at this point is put that off for a year or so until you come up with a standard. In the meantime look at toxicity from a point of

view where it is being looked at today by regulatory agencies that are actually doing it. In other words, they are taking into account existing toxological data and they're doing it in a number of different mechanisms. They do it either by requiring testing on particular wastes. They do it by utilizing Finney's equations and similar types of things or calculating the toxicity of a given waste, or they utilize some sort of a, there's actually been a problem, some kind of experience with the waste that demonstrates that toxicological property or the lack of it.

MR. CORSON: One last one if I may. Would you estimate, if you can, whether you think we have more wastes currently that would come into the system if we used the approach that you're suggesting as opposed to whatever estimate you may have on what would come in using the toxicity definition as included in the regulation?

MR. KINSEY: I wish I could, but that's my comment, I can't. I have no idea. The approach that I'm suggesting is the continuation of the one that's being used today with respect to toxicological evaluation in those states that have got ongoing programs. And it would seem to me to make more sense to upgrade the nation to those minimal standards and to at a later date introduce the leachate test or the extraction procedure when we've got a better idea as to how that really relates to the hazard we're trying to control.

MR. LINDSEY: To change the subject a little bit to one of your other comments, you had some problem with our definition of discarded materials which would let wastes which are being recovered in some manner into products which don't constitute disposal,would let them, would identify them as non-hazardous waste or non waste, I guess. The problem which we come into here, one of the problems associated with that whole area is that we have trouble identifying where a material is a legitimate by-product which is manufactured or the myriad by-products which come out of the manufacturing industries today which are used as intermediate and as final products all over the country and the entire economy. And those things which seem to worry you and which worry us, to some extent, that may be presented as being recovered but in actuality are not recovered and we have trouble drawing that line.

The way in which we have chosen to do it is to say that, look, anything which has a value and which is going to a resource recovery facility is not as likely to get lost. But, on the other hand, it was pointed out to us earlier that occasionally something will get lost, somebody will simply foul up the law and that will happen in any event I suspect.

But assuming you don't like our approach to the thing, how else would we draw that line between what we'll call legitimate byproducts and things which are waste which

would be in the system? I don't think it's practical to get all byproducts into the system.

MR. KINSEY: In Minnesota, we have the same problem because our definition of what waste is is also tied to the word discarded, and I recognize that as a problem.

I think my understanding of the situation is that because it is a, in our case, a legislative definition, the court may be the only ones that are going to be able to determine whether or not that particular facility is handling waste or if it is handling some kind of a raw material. A byproduct is not a waste and, to me, there are situations out there that are under the guise, there are resource recovery situations out there that are definitely recovery of waste. And I would think that rather than closing the door to the possibility of your taking some action against that kind of a situation, you would want to go and keep that open. You're not going to resolve that difference, I don't think. I don't think you can because the difficulty, the lack of clarity comes from the Congress itself when they said something was discarded. But in your interpretation of that, I don't understand why you want to preclude some action in an area where you're actually needed.

CHAIRPERSON DARRAH: We don't have any more questions. Thank you.

Back to our original list. Is the representative

from the St. Louis Regional Commerce and Growth Association here?

MR. MARQUART: Yes.

STATEMENT OF ROLAND C. MARQUART

MR. MARQUART: Thank you.

I'm not a technical person per se. I have a peripheral knowledge of environmental matters so I can't tell you anything here that Chet wouldn't--Chet knows how much I don't know.

I am Roland C. Marquart, manager of Transportation Services and secretary of the Environmental Committee of the St. Louis Regional Commerce and Growth Association.

The St. Louis Regional Commerce and Growth Association is an organization of over 3,000 members, representing businesses and labor, in an area having a population of over two and a half million on both sides of the Mississippi and Missouri Rivers. Our organization,also known as RCGA, has its focus on the bi-state, metropolitan St. Louis region. Our primary emphasis is the economic development of that entire area.

The basic statement I'm presenting here was prepared by a subcommittee of our Environmental Committee. The St. Louis Regional Commerce and Growth Association--I'm skipping a couple of paragraphs there that aren't pertinent per se or pertinent but not essential. The many tragic in-

cidents associated with the improper handling and disposal of hazardous wastes have emphasized the need to develop control measures. Hopefully, the Resource Conservation and Recovery Act, Hazardous Waste Regulations coupled with the Toxic Substances Control Act and the Clean Water Act Pretreatment Regulations will enable our society to preserve human health and the environment for ourselves and our descendants.

The St. Louis Regional Commerce and Growth Association does not take issue with the intent of the proposed Hazardous Waste Regulations. We do, however, wish to emphasize the need for moderation during development of such regulations to insure against over-regulation. So often we are witness to growth stagnation from policies that jeopardize the very existence of businesses which have been the building blocks of our great nation, providing our people with the products and services we demand, and are the lifeblood of our free enterprise system. We are particularly concerned with the impact of hazardous waste and other sister regulations on small and medium sized businesses. Large corporations have been forced to develop staffs specifically assigned to handle increased administrative burdens, but the smaller company has been pushed to the limit of motivation and lacks the resources necessary to handle the numerous and voluminous federal regulations promulgated within the past ten

years.

We are concerned also that portions of the proposed hazardous waste regulations relating to intrastate controls on transportation, handling, and storing may be unconstitutionally intruding on state sovereign functions. We trust that adequate importance will be given to this possibility and that the implication of such deviation from the basic rights of local and state governments will be thoroughly evaluated.

As the time allows, we wish to address specific provisions and requirements presented in the proposed hazardous waste regulations as follows:

Section 250.13(d), we consider the definition of a toxic waste as related to the extraction procedure to be arbitrary and a fantastic notion. The EPA has taken an extremely ultraconservative position in considering a waste hazardous if its EP extract shows more than ten times the levels of contaminants allowed by the National Interim Primary Drinking Water Standards. Using such criteria, everything but drinking water will be considered hazardous. The main purpose of hazardous waste regulations is to control the entry of truly hazardous substances into the environment and thereby protect the public health. The leaching of hazardous wastes into ground water should be prevented. The assumption, therefore, that hazardous wastes will enter the ground water and receive a tenfold dilution does not appear valid and

certainly should not be used as the basis for establishing the toxicity of all hazardous waste components.

Section 250.14(b)(iii), we do not understand the reasoning underlying the separation of publicly-owned and privately-owned treatment works which would, if treating domestic sewage, produce essentially identical sludges. If the purpose of such a provision is to control industrial treatment plant sludges, the intent could be better stated so as not to place an undue burden upon those private companies producing and treating municipal sludge under contract as a business venture. The intent and expanse of this provision is unclear.

Section 250.15(f), authority is given to the Administrator to approve or disapprove a demonstration and also the power to grant or not grant a public hearing if he solely considers there are or are not genuine and relevant factual issues to be resolved by such a hearing. We consider a provision such as this gives too much power and authority to one individual who may or may not be qualified to make such decisions and rulings.

Section 250.22, we agree wholeheartedly with the concept of the manifest system as long as sufficient care is taken in defining hazardous waste and the administrative burden is minimized. The manifest system, if adhered to, will enable tracking of hazardous waste from its conception to disposal and insure adequate protection for the public and the

environment. We recommend, however, that each load of hazardous waste, meaning each economically transportable quantity, have a separate manifest accompanying it on its journey. If several separate shipments are covered under one manifest, the potential for the probability of error exists and keeping track of each shipment becomes more difficult.

Section 250.29(a), we do not consider a waste, if truly hazardous and the degree of hazard being adequately defined, should be allowed to be discharged into a facility not specifically designed and operated to handle and contain hazardous waste no matter what the weight or volume. Numerous generators of small quantities of hazardous wastes using the same facility for disposal can, by their aggregate contributions, create the potential for a public health or environmental hazard. More emphasis should be placed on defining what is actually hazardous rather than arbitrarily selecting a 100 kilograms per month or even a thousand kilograms per month exemption. The degree of toxicity is the most important consideration and should be specified.

Section 250.43-9, we are cognizant of the financial problems associated with assuring proper closure and post-closure of hazardous waste facilities and ascribe to the need for such procedures. Monies earmarked for closure and post-closure operations deposited initially in a trust fund is one way of providing future funds for proper closure and post-

closure of existing hazardous facilities. Such a requirement may, however, place a burden on the smaller operator who wishes to comply with hazardous waste facility regulations but does not have adequate capital. We are encouraged to see a provision included in the regulations which would allow the Regional Administrator to consider the financial status of the facility and provide for partial compliance and relief for the financial responsibility associated with closure and post-closure. For new facilities placed in operation after the effective date of the hazardous waste regulations, a schedule of charges, based on hazard category and weight or volume, could be developed which would enable the operator of a hazardous disposal facility to allocate a certain percentage of his disposal fee for closure and post-closure costs. The portion of the disposal fee allocated for such closure operations could be placed in a controlled interest-bearing fund. The administration of the fund could be similar to sales tax collections with any left-over portion after satisfactory closure assigned to the state government for use in other environmental protection activities associated with the control and disposal of hazardous wastes or to establish a disaster fund.

We are concerned that only the large companies with extensive capital reserves will be able to construct and operate hazardous waste disposal facilities if initial de-

posits for closure and post-closure operations are required. The potential for price fixing becomes apparent. Whatever system is ultimately chosen to insure proper closure, we trust that some means will be employed to prevent exorbitant disposal charges being assessed on those companies who must comply with hazardous waste regulations and dispose of their wastes at such facilities.

We have selected for comment today those concepts and requirements which we consider have the greatest impact on the various commercial and industrial establishments we represent. A more detailed evaluation of the various technical aspects of the regulations by qualified individuals within our organization will be prepared and submitted at a later date.

We thank you for the opportunity to voice our concerns and comments and trust that great care will be exercised in preparing the final hazardous waste regulations which we deem to have greater impact on our nation's business community than the Clean Water Act, and respectfully submit it.

CHAIRPERSON DARRAH: Thank you.

I realize you did tell us that this was written by one of your subcommittees. I wonder if we might ask you some questions.

MR. MARQUART: Certainly.

MR. LINDSEY: Mr. Marquart, one of the problems you

addressed in the last set of points had to do with the small facilities meeting the financial requirement. Was the thrust of that that they would not be able to meet the upfront--

MR. MARQUART (interrupting): Essentially, yes.

MR. LINDSEY: Therefore, I gather you would--let me make one point. The provision which you alluded to that allows the Regional Administrator to make a determination if a facility couldn't meet that has only to do with the position of that requirement during the interim status period?

MR. MARQUART: Not starting the new one.

MR. LINDSEY: And not after the facility has received a full permit. In other words, when he receives the full permit, he will have to have it all upfront.

MR. MARQUART: Yes.

MR. LINDSEY: Then are you saying that we should, as an alternative, then, that we should, in some way, expand that so that the Regional Administrator could take such problems, financial problems, into account?

MR. MARQUART: A part of it, of course, was in this, providing for the charges that would be used to pay this off, I think.

MR. LINDSEY: In other words, over a period of time--

MR. MARQUART (interrupting): Yes. You said it would be upfront. It's a question of accumulating the money over a period of time is what our recommendation is aimed at.

MR. LINDSEY: Let me just raise one of the problems that we considered that as an approach at one point and, as a matter of fact, if you've seen some of the preliminary drafts which have been floating around, you probably would have seen that provision in there. But the trouble is with regard to closure requirements, which is the only thing, if I'm not mistaken, it is the only thing that requires up-front money is that we have too many instances of facilities, new facilities, if you will, or existing facilities which simply go under. If they go under before that money is built up over a number of years, as I think your suggestion would be, then there is no money available or insufficient amount of money available to close the facility out properly which is the most important thing when a facility is abandoned.

MR. MARQUART: I recognize that problem and realize there must be a provision for proper closure, you can't get away from that.

MR. LINDSEY: Then I would submit that your approach of allowing this money to be built up over a period of years might not adequately provide that protection, there wouldn't be funds available.

MR. MARQUART: Well, if you're talking about for one single unit or whether you're talking about units as a group.

MR. LINDSEY: Well, the regulations, as they're

written now, apply to each specific--

MR. MARQUART (interrupting): When you're talking about trust funds, you're talking about something, like you have highway trust fund and other things like that where monies are collected and put into a trust fund which is used over a variety of things and allocated. As you say, the practicality of that for an individual thing would be questionable but an overall industry wide trust fund is really what we're talking about, the possibility should be considered. We're not attempting to say here today that that absolutely is what should be done. It's just a suggestion as a possibility that we would present for your consideration.

MR. LINDSEY: So as another option, we would perhaps, then,--let's see if I understand what you're saying, as another option, then, we would then perhaps consider requiring a state-wide or perhaps even nation-wide trust fund to be built up for closure?

MR. MARQUART: Yes, I think on a state basis, yes.

MR. CORSON: I have a couple of points, Mr. Marquart. One is a question. Earlier in your testimony you indicated that you felt that we were being ultraconservative with our ten times standard for defining hazardous waste due to toxicity and later on you indicated you do not feel we should allow any hazardous waste to leach at all or leach into the system. I'm wondering whether your technical people may have

some guidance or advice to us as to--

MR. MARQUART (interrupting): That would be a question I would ask them to present additional material before the March deadline in writing on that.

MR. CORSON: Two other points I'd like just for clarification. In your point two that you raised with regard to our separation of POTW sludge and others, that category is what was raised this morning, all POTW sludge will be managed under Section 405(d) of the Clean Water Act and the reason we are excluding it is because there is overlapping coverage. We don't have the authority under that section of the Act to regulate or to let out non-POTW sludge because that Act does not cover non-POTW sludge.

MR. MARQUART: O.K., sir, thank you.

MR. CORSON: The next clarifying point, and I'm just wondering which direction you're coming from, that was in your point three, Paragraph 215(f), which relates to a test that someone might do to demonstrate that their waste does not belong in the system and the purpose of that particular section is essentially to avoid what I call nuisance type public hearings where someone felt that that was the case. In other words, this is a case where an industry can submit data to show their waste does not belong in the system. If an interested person, let me just say somebody that probably believes that industry is trying to get away with bloody murder

here, they just can't demand a public hearing on the basis they want to hear the record. They've got to have, as it indicates there, genuine and relevant factual information to indicate that should come to a public hearing. If, on the other hand, the demonstration has been turned down, the data provided in the demonstration has been turned down by the Administrator, then the person submitting it may request that public hearing.

MR. MARQUART: I think maybe there was a misinterpretation of the language there it sounds to me like. Thank you very much.

MR. CORSON: I felt that just from what you said there was.

MR. MARQUART: I would presume because I think what you're saying is really what it was directed to.

MR. MC LAUGHLIN: Roland,I'm kind of curious. You alluded to the possibility of potential price fixing. How would you suggest that we might approach this?

MR. MARQUART: Well, I think that was all tied in with this question of the trust fund type of thing and all. In other words, having provisions that would permit smaller companies to get in business. So there was no thought that the EPA should be a Federal Trade Commission at any place along the line but rather that the concern with these regulations as they might prevent some smaller companies from getting into

competition, that was the only thought there.

CHAIRPERSON DARRAH: Thank you very much, Mr. Marquart.

Is Robert Plank from Springfield, Missouri, here or someone else from City Utilities of Springfield?

(No response.)

CHAIRPERSON DARRAH: Is Dr. Robert Poston here?

(No response.)

CHAIRPERSON DARRAH: O.K., that's the end of my list of people who asked to give us their comments. Is there someone else who would like to speak on Section 3001?

(No response.)

CHAIRPERSON DARRAH: O.K. We will officially close the hearing record now on 3001 and we will, I believe, pass out three-by-five cards and if any of you would like to give us written questions, if you could keep it to 3001, we would certainly prefer that because we are going to be discussing two, three and four in the next couple of days,we will attempt to answer your questions. I guess we already have one from Mr. Stegbauer and we'll start off with that.

We'll take five minutes.

(A short recess was taken.)

(See separate transcript for Question and Answer Session.)

SEPARATE TRANSCRIPT FOR QUESTION AND ANSWER SESSION

St. Louis, Missouri

February 14, 1979

MR. LEHMAN: I'll start off the question and answer session of our meeting.

Mr. Stegbauer asked the question, basically why was waste oil considered to be not a--well, I guess the gist of it was why was it singled out for special treatment under the regulations.

The answer is that we know that the use of waste oils for suppression purposes, road oiling, use of the incineration of these oils has been known to cause serious environmental effects. A very famous case occurred right here in Missouri, Verona, Missouri, for example where a waste oil collector collected not only waste oil but other things and sprayed a horse arena with that material and a lot of other roads in the area, and there were some very severe environmental effects involving the health of children and the death of animals in that area.

With respect to the incineration of waste oils, we are particularly concerned with the heavy metal content of lubricating, in particular automotive lubricating oils. We have some data that indicates it's as high as about 8,000 parts of lead in certain automotive oils as a result of capture of the lead from leaded gasoline in the crankcase oil. We feel that the incineration of such oils could very easily, if it was done in uncontrolled manner, result in some serious environmental problems.

So, for all of these reasons, we have tended to believe that waste oils, in particular automotive crankcase oils, but also I might add certain other types of cutting oils, industrial cutting oils and so on, which do include among them heavy metal shavings and so forth, do deserve some special treatment under these regulations. That's the basic rationale behind treating waste oil as we have.

Now, I have another question here relating to waste oil. It says, "Waste oils which are generated within a facility and then burned on site for fuel, heat value, why are these considered hazardous and fall under Subtitle C regulations?"

Well, here again the waste oils that we are talking about here, depending on what kind of oils you're referring to, we are specific in Section 250.10-(b) when it's saying, "Using lubricating hydraulic, transformer, transmission or cutting oil"; if it's those types of oils then they do fall into our definition of discarded materials. Other types of oils would not necessarily. I might comment on transformer oils, that the obvious problem we foresee there is the possibility that transformer oils might contain PCB's, or even if they were substituted into any kind of transformer operation which was drained of PCB's and and then substitute

other mineral oils could pick up other contamination with PCBs. So, we're concerned about those particular types of waste oil, and so it's a little difficult to answer this question without knowing explicitly what type of waste oil is being discussed here; but I think the basic point is that while we recognize that we want to encourage energy conservation where possible, that's also one of the goals of the Resource Conservation Recovery Act, it's not only public health and environmental protection but it is also recovery and reuse of materials for energy. We recognize that, but we're in essence trading off these two goals at this point with respect to waste oil.

I might also point out that it does not, these regulations do not preclude the use of waste oil as a fuel, heat value source. All we're saying is that if the type of waste oil that I've just discussed is to be used for fuel purposes then it requires a permit. In other words, we want to know about it and we want to have some control over the type of oil that goes in, the burning conditions under which it is burned, and so forth. So, that's that.

All right, let's go on to some other questions.

MR. LINDSEY: I have a couple here:

"Will the EPA and the states be able to process

disposable facility permit applications fast enough to accommodate the thousands of newly-designated generators of hazardous waste as a result of these proposals?"

First of all, the first point I want to bring out is the generators do not need permits, unless they treat, store and dispose on site. Now, Congress recognized the fact that it would take some time for EPA and the states to process permit applications, and that's why the provision in the Act for interim status is there. If someone has notified us under Section 3010, and has applied for a permit--in this case we'll have a two-part permit--has submitted Part A, then they are considered as having a permit for purposes of continuing to operate until EPA acts on the permit.

There are two reasons for that: Number one is because Congress realizes it takes time to go through a backlog of permits, and another reason is because--it has been mentioned earlier here today I think that there is a problem with the capacity of facilities. That is, there is not now sufficient acceptable capacity available for permitting right off the top. We expect to use this mechanism of interim status to help us time the permitting activity to correspond insofar as we're able with the availability of acceptable capacity.

The second question is: "Is it the Agency's

intent to include normal silvicultural management in harvesting wastes which are usually left in the forest as erosion control and game management aids under the agricultural exemption, and if not, why not?"

First of all, I doubt that those materials would be hazardous under the definition of 3001; however, insomuch as timber is a crop, I'll have to admit that it's not something which I personally have thought about and I don't know whether the rest of our staff has thought about it. Should those kinds of materials turn out to be hazardous, I would think that we would look favorably upon them in the sense that they might be covered in the same way as farm waste insofar as they are a crop, but I can't imagine them being hazardous. If somebody has information that indicates they are hazardous, where it would fail our definition here, maybe we would want to rethink that.

MR. CORSON: I have a couple of questions here:

"In the seminar in Houston last year, a representative Hawaii Conversion Incorporated reported that the company used EPA's proposed construction procedure on a sample of concrete,containing a level of .12 parts per million of cadmium. Two questions: One, do you know about this and if yes, how valid is the claim; Number two, if the claim is valid this sample would

make the weigh station hazardous waste, and do we want that?"

I guess I have heard that same report and I cannot assess the validity of the claim. I'm sure if they recorded it, then in their conduct of the test that's what they found. There have been changes made to the extraction procedure since that time. At that point we were using a buffered--a method of continuously adding acid to maintain a pH of 5 at the end of two 24-hour period, so in 48 hours it always had enough acid in it with a final pH of five. As a result of comments we got at that point in time we have modified the extraction procedure so we now have a maximum amount of acid that we add for the given sample, and I'm confident that at this point in time concrete would not fail--let me change the wording--that analyzing the extract from subjecting concrete to the extraction procedures in the analysis, that would not fail. Just as a matter of semantics, you don't fail or pass an E.P. The E.P. is a method for extracting releasable contaminants through a solubility test for the waste and we then do evaluate it according to the standard shown for toxicity under the proposal.

Another question related to "When does a waste become a waste? By way of description presently

used, sodium hydroxide to chemically metal aluminum. We discard it now, but in the future we will recover some of the spent hydroxide and reuse it. What cannot be recovered will be disposed of. Will then this sodium hydroxide solution be considered a waste before or after recovery?" The answer is it will be considered waste when you get rid of it. The recovered part is not a waste. When you're through with the spent part and you're not using it anymore, then it is a waste and subject to evaluation according to our characteristics.

Question: "With regard to the ignitable waste definition as now written, any waste which ignites at 140F, or burns air, burns vigorously or persistently when ignited, is ignitable regardless of ignition temperatures. Was this the intent of this section or should the word 'or' really be 'and'?"

By way of explanation we're using 130 degree flash point for liquids. We share with the rest of the people out there the difficulty for determining a definitive test for solids in terms of ignitability. So, we have tried to describe those things which might cause, or which could define an ignitable solid. One of them is something which will burn vigorously when ignited. The major reason for including it--and it is

meant to be 'or' as it now reads--is we would like to make sure, and 3004 deems it so, that those kinds of materials are kept out of the landfill environment where fires are more likely to occur. We really recommend that some other method of disposal or final disposition be used for ignitables.

A question: "How are the compounds listed in the priority pollutants list to be used in classifying a waste as hazardous?"

That gives me a chance to offer an explanation for three of the appendices that are listed. These are the appendices which have the selected cancelled and Arfar pesticides, the D.O.T. Poison A, Poison B, A list and the selected list of priority pollutants. Because of the limited definition we have for hazardous waste, we felt there were certain of these, to use the word, pure materials, which if the material were disposed of does require some special attention. And there are four categories that we mentioned, material which is a discarded material but if it were shipped would be defined by any of the names listed on any of those three appendices, the pesticides, the D.O.T, priority pollutant, spill cleanup residues from those same materials, off-spec materials if it's a discarded material, and containers which are going to disposition,

unless they have been triple-rinsed. So, a container--just let me amplify the last one--container which is going to a reclaimer is not another discarded material, it is not a solid waste, it is out of the system in total. Now, a container from one of these materials which has been emptied, the container is going to disposition, you're going to bury it or whatever, that container has not been triple-rinsed, it is a hazardous waste.

The other point that I should indicate at this time, though, is that there is nothing about--even though it's part of tomorrow's discussion--you may still ship those empty containers using a manifest, or a shipping paper, rather, because they may still fit in the D.O.T. standards as a hazardous material, even the ones that we have left out of the system.

Another question: "Are hazardous wastes destined for recovery or reclamation which do not have a value to the generator, are they considered hazardous and subject to 3001; the generator pays to have it hauled off, it does not have a value, it's a reclaimer?"

After many discussions and deliberations we took out of our definition of discarded material any association with value, because it's been very difficult to say how much this had to be worth, trying to put an economic value on it. We really are looking at it only

if it is being reused in a manner which does not constitute disposal, and is not a used oil as defined. In those cases it is not a waste, it's going to a reclaimer which is out of the system.

Now, as indicated earlier as a result of one of our comments, we have made some of these decisions leaning in the direction of fostering and sponsoring resources, recovery of resources utilization, while at the same time providing what we feel is an adequate amount of protection of public health and the environment. And we've left the door open, for example, we've only listed certain waste oils as being always a discarded material. We may add other things to that same list if we find that there are other that deserve that distinction of always being considered a waste because the tendency to use them in an improper manner is too high, or the things usually are frequently contaminated enough that they deserve and have the attention of this regulation.

MR. LINDSEY: I've got one here that's kind of complex and I'll see if I can wind my way through it here.

"I would like to know, or I'd like EPA to address the question of what is considered, 'significant reduction of odors, volatiles, and pathogenic micro-

organisms', and how the wastes from holding pens at packing houses be addressed by EPA. Due to present definitions and interpretations it would appear that those waste and sludge from activated sludge plants used by that industry, could not be applied to crop land."

Well now, that gets into some, gets in depth in the identification here under one of the lists, and if the person who asked this question happens to have a copy of the regs they will probably want to look at 250.14-(b), which is where this particular quote comes from. It says:

"Hazardous waste sources and processors, sources generating hazardous wates. The following sources generate hazardous waste unless the waste from these sources does not contain micro-organisms or elements of C.D.C. classes 2 through 5 of the etiologic agents listed in Appendix 6."

Well, first of all, off the top, I don't really know whether these kinds of waste have those kinds of micro-organisms or elements in them. Assuming that they do, we'll go on to the next piece, which shows up under little iii down at the bottom of the lefthand corner of that page which says:

"Sewage treatment plants, with the exception

of publicly owned treatment works, unless sludge generated by such a plant has been stabilized by means of chemical, physical, thermal or biological treatment processes that result in significant reduction of odors, volatile organics and pathogenic micro-organisms."

That specifically is the quote that the gentleman is interested in. And these processes are discussed then in a document which we have referenced here. It's an EPA document, a process design manual for sludge treatment and disposal.

Well, to address that particular point, first of all we come to the question is manure from feed lots, is that sewage? And there is at least question in my mind as to whether it is or not. Now, I don't think we've arrived at that. Maybe we need to look at the definition and determine whether it should or should not be sewage. If it's not sewage, then it wouldn't be covered here, and I'm not sure I have the answer for that right now. We'll have to take that into account and address that point.

Second of all, if the gentleman treats it in an activated sludge plant as he indicates is done by the industry, then it's also not covered, because that's one of the process designs which is in this manual. So, by and large, through one of the given situations

which he's discussing here, through one of those three possibilities that particular material is probably not listed in the sense that 250.14-(b) identifies waste, and thus it could be disposed of on cropland, I would assume. We will have to take a look at it; the one point which is brought up here which I don't think we fully thought through, or if we have, I'm not aware of it, whether or not feedlot waste constitutes sewage. When we talk about sewage we normally are talking about human waste.

In any event, I guess the bottom line of all that is that the material's almost certainly not covered, given the situation which he gave us.

MR. LEHMAN: I have a number of people concerned about waste oil and I haven't gotten through all of these questions, but I can answer one of them:

"Waste oil, I did not understand your response. If you have waste oil from motors, hydraulic applications, et cetera, can you use it in boilers, incinerators, liquid, as fuel; if not, what exactly do you do with it?"

The answer is, yes, you can use it in boilers and incinerators as fuel. I indicated that these regulations did not preclude the use of waste oil in those or for those purposes. What you do need, though, is a

permit to do it. In other words, you can do it if you have a permit.

Here's another one related to some extent to this, but not really; it says:

"With the current shortage of oil, namely gasoline, do you not feel that these broad hazardous waste regulations will cause further shortage due to hauling hazardous waste long distances to permitted facilities?"

Well, this is not a simple question to answer, because our information is that there likely to be movement in both directions. In certain industries it appears that there will be a shift from on-site disposal to off-site disposal, which would imply further use of gasoline to haul it. On the other hand, we have information that there are certain industrial sectors where the opposite is true, where current off-site disposal will shift to on-site disposal, because of the generating industry wanting to have better control over the disposal of waste it generates. So, at this time it is not--we are not able to say with any assurance which of those two is going to predominate. The best information we have right now is it looks like it might be a wash; in other words, there will be about equal amounts shifting from one type of disposal to the other, therefore,

we don't anticipate any impact on the shortage of gasoline.

Another question, different subject:

"What medical advisory support does EPA have to aid you in medical-related concerns related to these regulations?"

Well, the working groups developing these regulations include, among others, members not only from the office of Solid Waste, but EPA biologists and toxicologists from the Office of Pesticides Programs, Office of Toxic Substances, the Carcinogenic Assessment Groups, and so forth, and also biologists and toxicologists from the National Institute of Health.

MR. LINDSEY: I've got one more here. This is another rather new question for me anyway:

"Under what conditions can containers which cannot physically be triple rinsed--paper bags, for example--can they be considered non-hazardous? What procedures similar to triple rinsing can be used so that this large volume of empty cleaned containers can be disposed of in sanitary landfill?"

Well, the answer that I have here from the staff is that basically now triple rinse does not refer to anything except things which can be triple rinsed in accordance with the definition, under 250.21,

so that that definition would not now apply to empty paper bags, for example, because as this particular person points out you can't triple rinse them. So, there is no procedure. If in fact they flunk the characteristics, then they're hazardous and would have to be disposed of accordingly. On the other hand, staff indicates to me--and I'll throw this out--that there are--that they are considering and have considered some sort of a procedure which would be equivalent and perhaps adding "or the equivalent" to the triple rinsing definition, and that might include something like shaken, tapped, air-blasted, or some sort of technique like that.

I guess the person who asked this question might have some ideas along those lines, and we would not be averse to hearing them. If someone wants to make comments along the lines for containers which cannot be triple-rinsed physically in accordance with the definition here, what other alternative cleaning approaches for other kinds of containers would be equivalent to triple rinsing? If someone wants to make those kinds of comments to us and get them in before March 16, it might be helpful.

Another note here that I have from the staff is that the real test here might be what the Department

of Transportation considers to be empty, and if the question or intent here of the person's question is to dispose of large numbers of bags off-site, they may also require D.O.T. shipping papers, irregardless of any regulations which we may have.

Here's another one, and I think this person may be misinterpreting something:

"The February 5 issue of the Oil and Gas Journal reported that EPA would require 300 days advance notice of intention to drill, which would allow time for I.S."--this is environmental statement--"and public hearing before a permit is issued. Could you clarify this requirement on permits to drill, along with the need for permits for creating surface pits, ponds, et cetera, for drilling mud or wastes of that nature?"

R.C.R.A. doesn't require anybody to get a permit to drill for oil or gas, which I assume is what this is. However, under the Underground Injection Control Program, injection of wastes, from the drilling perhaps, brines, et cetera, injection into subsurface, there is a set of regulations which was proposed some time ago and will be re-proposed soon, which would address that. We are not versed well enough in that area to really take detailed questions on that, and someone wants to see me

after the meeting, I can put you in touch with the people who you should talk to.

On the other hand, the question did go a little bit further and talk about surface pits and ponds for drilling mud and perhaps for storage of brines and so forth. If hazardous, those materials would be covered by the Special Waste section, under Section 3005. That's included as one of the special wastes, and if I can find it here I'll tell you what section that is--3004, excuse me--regulations under 250.46-(6), the last thing in the regulations, in which those materials are considered to be special wastes until we have time to collect additional information and decide how or whether these materials should be regulated in the broad sense. It gives me a chance to explain a little bit the special waste categories.

The special waste categories are there because by and large these are very large volume kinds of materials which, according to the limited information we have thus far, appear to in some cases fail the characteristics or some portion of them does in many cases. Very large volumes, relatively low on the hazard scale; and appear not to be particularly amenable to the kinds of controls that we've placed on other hazardous wastes under this Section 3004 regulation.

We just don't have enough information to adequately decide how to regulate these particular things at the moment, and thus we will be collecting that information over the next period of years and will then propose some substantive regulations, probably, for those that fall out as hazardous.

There are, however, in special waste standards here, some limited regulations which apply now to these kinds of facilities. They have to do with waste analysis and some site selection criteria, security criteria, keeping records and doing monitoring activities so that we can gather information on these particular wastes.

Incidentally, under Section 3005, which has not, as we pointed out earlier, been proposed yet--it will be within the next four to six weeks--we will be, or I expect we will be proposing, I'm not so sure until they show up, but I expect we will be proposing that these specific special wastes, while during this period while we're considering them to be special wastes, that they will receive what we call permit by rule. In other words, if they meet these limited set of standards here they will be considered as having a permit for purposes of R.C.R.A. If they do not comply with these set of standards, then they will be in violation of all of the requirements.

CHAIRPERSON DARRAH: One announcement: There is an urgent message for Paul Williams someone brought up to me, if he wants to pick that up.

I also have a question here:

"Is the question of raising the exemption limit from 100 kilograms to 1,000 kilograms still open?"

The answer to that is yes. If you look at page 58947, we positively solicit proposals on waste to treat waste between 100 and 1,000 kilograms, whether there may be other alternatives.

The second part of this question is:

"If so, if it is still open, how do you see the chances of raising the limit?"

And the answer to that is, we don't see the chances until we see all the comments and supporting data that we get during the comment period and we have a chance to analyze that. We have to base our decision on our rule-making record, and there is really no way we can assess that sort of issue until we see what the comments are.

MR. LEHMAN: I have a question here. I'll read the question first and then comment onit, because part of the question is--really makes a statement, which is incorrect, but I'll read it as submitted:

"If a company accumulates waste oil for reclama-

tion for more than 90 days and then has it reclaimed, the company would not be a generator of hazardous waste, but if after 90 days the company had to dispose of part of the used oil, would it then be a generator and storer; would it thus become a violator of R.C.R.A. regulations?"

Well, first of all, in the case that was discussed in that first sentence, I'm assuming this accumulation is going on on-site. If the company accumulates waste oil for reclamation on site for more than 90 days, the statement says the company would not be a generator of hazardous waste. This is not correct. The generation of any waste oil makes you, assuming it's listed in our hazardous waste list, makes you a hazardous waste generator. You would also be a storer of hazardous waste oil if you stored for more than 90 days, which requires a permit, under R.C.R.A.

Now, as to the second part of that, if you disposed of this would it then be a generator-storer? Yes. In other words, whether you dispose of it or whether you send it to a reclamation thing, if you kept the oil for more than 90 days on site, you're both a generator and a storer anyway.

Then the last part of it: "Would the company thus become a violator of R.C.R.A. regulations?" Well, hopefully not. Hopefully they will get the necessary

permits and do it right. I mean, it's not a prior violation of R.C.R.A. regulations to store oil for 90 days, just have to have the right permits to do it.

Waste oil again; I don't know how we got started on waste oil.

"How will the performance standards for incinerators alleviate the heavy metals problem?"

Well, we have evidence that properly designed scrubbers can capture at least some of these heavy metals that we're worried about. This may lead, though, to the fact that the ash or the scur water may also be a hazardous waste. This is discussed to some extent in our Section 250.45-(1) (e) regulations, where we discuss the scrubber requirements for hazardous waste incinerators. Basically, though, what we're really driving at here is the use of waste oil in an uncontroller power boiler, such as used in apartment houses, schools--you name it--where the burning of many types of waste oil can lead to what we consider to be a public health problem.

MR. CORSON: One easy one because I'm going to defer it to tomorrow; someone asks:

"Are Class C explosives regulated as reactive or ignitable wastes? Can anything be said about Class C explosives as a group?"

Class C explosives is a definition used by the Department of Transportation, and I don't know enough about their definition to answer the question. Somebody suggested the questioner save it for tomorrow afternoon and we will have a D.O.T. representative here.

Another question:

"For materials of marginal reclaiming value for which a generator and/or a hauler must pay a reclaimer to take, what is to keep the material from being dumped illegally under the present definition of 3001 and 3003?"

I guess there's nothing that's going to prevent somebody from doing something illegal if they want to do it, other than whatever penalties we assess when they get caught. If somebody sets out to beat the system, I guess they're going to try until that time occurs. I only use it as an analogy: The I.R.S. has been writing tax instructions for some number of years now, and every year there are some people that are taken to court who are doing things improperly. The only thing that will happen I think, as a part of our intent at least, is if we find some of these things we are doing to encourage resource recovery, resource utilization, are leading to a widespread practice of trying to drive through the loopholes, then we are likely to clamp down and

essentially remove all of those encouragements and make everybody suffer for the few.

Question: "Have all the waste streams listed in the process description undergone the E.P., and if so what results--that is, have 100 per cent failed the E.P. test?"

There are only a few of the wastes--and I can't name them--who are not listed and have undergone the E.P. The data on most of the, or behind most of the listings--and I encourage any of you whose wastes are listed to look at the background document. There is a separate one- to three-page writeup for each of the wastes that is listed. It gives the source of the data which identifies that waste as hazardous. In many cases this includes data from industry studies which EPA conducted, data from studies and samplings done by the Effluent Guidelines Division and some of their effluent guidelines work, and in many cases of those on the list, data coming off of manifests used in the State of California which is data supplied by the generator when he sent the waste to the hazardous waste facility, coming from those same industries.

Another question: "What about wastes such as asbestos? I don't see where 3001 catches it."

We did quite a bit of looking at asbestos as

a problem waste. Our analysis of the situation was that it appeared to us that asbestos is adequately, or is managed adequately under the Air Act, as a hazardous air pollutant. The Act does provide that--I guess the only thing I thought I saw that might be missing covering asbestos might have been brake shoes coming off of cars, but any manufacturing operation, any renovation program, I think they set some minimum definition on number of apartments pulling down the piping and looking at the asbestos insulation on pipes. But that does provide for adequate management, we felt, of asbestos from those sources; therefore, we did not include asbestos in any of our lists.

Question: "Under what legislative authority are slimes, tailings and over-burns from phosphate mining included in 3001 when R.C.R.A. specifically addresses those as not being hazardous wastes since this is return to the mine for reclamation?"

I think what the Act is referring to, and I don't believe that R.C.R.A. makes that distinction but I believe that the legislative history of the House Report indicates that those wastes going to the mine for reclamation are not to be included in terms of other discarded material as defined in the act, but the very next sentence in that legislative history indicates

that this is not to stop us from naming certain of those wasts as a hazardous waste if we feel they present a problem. It is on that basis we presented these phosphate mining wastes, because we felt their radioactivity is one that required some of these special management techniques that we've called for.

"Why are nitrates and flourides that are listed in the Drinking Water Act toxic list, why have these been eliminated from the toxic list?"

The second question: "Do you think cyanide should also be on the toxic list?"

What we do when we look at the Drinking Water Standards, we selected those we felt were the key ones that we should deal with in terms of their release in the environment. We did not--we felt that the flourides were taken care of through the Drinking Water problem and the nitrates were too frequently used in the fertilizer business, we were unable to get a good handle on what we should do with it.

I do want to call your attention though to the fact that cyanides are listed. We do have, for example, on page 58957, which is in the 250.14 (a) section, we do specifically list spent or waste cyanide solutions or sludges as being both reactive and toxic.

Under 250.12 (c), which relates to petitions

for listing hazardous wastes, is it the intention of the Agency to require all petitions requesting additions to the list to supply the same information of others for demonstration of non-inclusion?"

I guess I'd better go back and read what we said. We didn't specifically state. What we do indicate in 250.12 (c), is we do expect a petitioner to show us how it meets the criteria that we have given for either identifying a characteristic, if the petitioner wishes to add a characteristic, or how it meets the criteria for listing given that that is the reason for which the petitioner is requesting the addition. So, we do expect data to come with it, the petition, not just a request to put something on the list.

MRS. SCHAFFER: O.K., I have a couple of questions, the first two concerning the 100 kilogram limit. The first one says:

"Does the 100 kilogram limit apply to the total body of waste or just the active ingredients?"

It's the total body of waste, unless that waste is separated out, and as we have discussed before, it is treated as a separate waste stream and can't go to a hazardous waste management facility versus the rest of the waste which is not hazardous can go to a Subtitle D facility. So, if you combine all your waste together,

it's the total body of waste that are considered hazardous.

O.K., second question on 100 kilograms is:

"Is a person who generates less than 100 kilograms a month of a listed waste a generator?"

No, not if he also disposes of that amount per month. So, he can generate 99 kilograms and get rid of that 99 kilograms per month without coming under the R.C.R.A. system.

My last question is:

"How do you plan to enforce the 90 day storage limit of the hazardous waste on site by a generator?"

It's kind of a two-part answer: First of all, if the generator plans to send his waste off site he must, and he does not want to come--he wants to be included in this 90 day exemption for storage--he's got to place his waste in D.O.T. containers. If he places them in D.O.T. containers they must be properly labeled and on that lable is the manifest number, and that manifest number is a serially increasing number and by using normal business records we can check to see when that waste was generated and if we can find out then we'll know when it's being held for more than 90 days.

Now, if it's an on-site--if the generator dis-

poses of his waste on site he will have a permit per se, and will most likely that type of storage will come under one of the permit conditions, will just be part of the whole R.C.R.A. permit.

MR. LEHMAN: We're still back on waste oil. I'm the waste oil person today.

Question: "Would waste lubricating oil burned in a gasoline or diesel engine mixed with proper fuel be allowed or prohibited?"

Well, as I discussed earlier, our primary concern was the use of waste oil as a fuel in power boilers. To be quite honest with you, I never even thought about the use of lube oil in a gasoline or diesel engine mixed with fuel. I believe the answer to the basic question, though, is no, I don't think we would prohibit that. In other words, we would allow that, and it wouldn't be our intention to deal with that use under our regulations. But it does point out, however, that we may need to carefully reword that definition so that we take into account a lot of these cases that are being brought out here.

Question, and this is a three-part question:

"Are oil re-refiners subject to the 3004 permitting requirement?"

Question two: "If not, is a manifest required

to deliver waste oils to the facility?"

Question three: "Assuming re-refiners need a 3004 permit, why don't solvent recovery operations need one? After all, in one case waste oils are re-refined and in the other solvents are re-refined."

Let's go back to question one: "Are oil re-refiners subject to the 3004 permitting requirements?" The answer is not formally. Now, this gets back to the definition of discarded materials and Section 250.10, where we have attempted, as we discussed earlier, to draw a line between materials that are waste and materials that are not waste. And what we're really saying here is that a waste oil which is reused after re-refining as a lubricating oil, which is the basic purpose of re-refining waste oil, then that is not prohibited, it does not need a permit, and so on. In other words, we want to encourage re-refining of lubricating oil, re-refining of waste oil to make lubricating oil out of it. So, the answer to the first question then is that oil re-refiners would not normally need a permit, if the output or the product they re-refine is used as a used lubricating oil.

I want to draw a distinction here between oil re-refiners and oil re-processers. Oil re-processing does not necessarily result in a product which can be

used as a lubricating oil , particularly in automotive engines.

The second question was: "If not"--and the answer is probably not--"is a manifest required to deliver waste oils to the facility?"

Here again the question is no, if the output is used as a lube oil. If the output is used in these cases that we cited here, namely if the output is used, if it constitutes disposal, in other words land disposal, dust suppression and that sort of thing, or if it is incinerated as fuel in boilers, then the answer is yes. We want to keep that use under control, or those uses under control.

So, the answer to the third question is somewhat moot now in the sense that they were basically trying to say why do re-refiners need a permit if solvent recovery operations don't. Basically what we're saying is I think we've got a consistent practice here; that we want to encourage solvent recovery and we want to encourage re-refining of oil. So, neither one of them would need a permit under those circumstances.

Well, let me answer another one. I think I've finally got one that doesn't deal with waste oil.

This goes back to the 1974 report to Congress on hazardous waste management. It says:

"Several issues were presented and then later aborted. Can you explain why, or their current status?

"One: A relative toxicity index was presented; why was this abandoned?"

Well, I draw a blank on that. Members of my staff draw a blank on that. Whoever wrote this question, if he would come up and see us after this session is over we'll have to discuss that some more, because we don't recall a relative toxicity--I don't have a copy of the '74 report here with me, but I don't recall that being in there.

Second point: "A concept of government-owned treatment sites for treatment of wastes; where is this now?"

That's a reference to what was known as the National Disposal Site Concept, and the thrust of the 1974 report to Congress was that if you had a set of government-owned treatment sites but you did not have a regulatory program to make it mandatory that the waste be sent to such a site, that you would end up with an ultimate billion dollar set of white elephants. In other words, the cost of operating those facilities would be considerably higher than current practice, and so we recommended that rather than set up a series of government-owned treatment sites that what was really

needed was a regulatory program--at least first you needed a regulatory program, which the Congress subsequently took care of with R.C.R.A.

And then the concept went further and said if you had a regulatory program then there was a great deal of incentive for the private sector to build and operate--in other words, the capital would come forward to build and operate hazardous waste disposals of various kinds. And through the regulatory pressures you are basically providing a lot of customers for such facilities; therefore, you probably don't need a set of government-owned treatment sites.

So, that's where it is now. In other words, the basic philosophy of R.C.R.A. follows what I've just described. The Congress in essence agreed with the EPA philosophy in that 1974 report. R.C.R.A. basically sets up a regulatory program, it does not have any provisions within it for the setting up of government-owned treatment sites; however, there have recently been some proposals to get close to that sort of thing. Congressman Finley of Illinois, who I understand will be with us tomorrow, introduced a bill last August, I believe which among other things would require that all hazardous waste facilities would be sited on federal land. Now, that's different than the federal government

owning and operating facilities there. I think the concept there was not necessarily the government putting up the capital for such site or for such facilities, but rather that all of these--in Congressman Findlay's amendment it would have meant that all of the facilities would have to be located on federal land but not necessarily owned or operated by them. But at any rate, there are at the present time, there is no provision within R.C.R.A. for this sort of series of government-owned treatment centers.

A third point: "An estimate of $65 per ton for hazardous waste treatment was presented in 1973 dollars. Is that a good figure?"

I think that is a good figure;if you take that 1973 dollars and give 1979 dollars, you're probably talking somewhere around $80-$90 a ton, and I think that's about in the range that we anticipate for treatment. It is also consistent with the costs that I know are charged in Europe for this type of treatment.

MR. LINDSEY: "If you are a disposer of hazardous waste and the method of disposal is deep well would you clarify the R.C.R.A. position? The main concern is the definition and permitting area."

Well disposal is covered under the Safe Drinking Water Act, under the underground injection or what we

call UIC program. It will not be covered by R.C.R.A.

There is an overlapping authority here, but we have chosen to cover that under the underground injection control program. Surface facilities, however, that an operation has that also may have a well would be covered if they're handling wastes, for example waste was trucked in, goes through some sort of a treatment mechanism perhaps or maybe there is some wastes are treated in one way and others are well-disposed, those would be covered, or could be covered under R.C.R.A. if the waste involved is hazardous.

I should also point out that under the permitting regulations, under Section 30005 of R.C.R.A., we are currently integrating those procedural regulations for getting a permit with similar regulations under MPDES and under the underground injection control program, so it will be possible for those people who have a deep well disposing of hazardous waste which would be covered by the underground injection control program, and those people who also have the need for a R.C.R.A. program because of other treatment or disposal activities, to make their application all at once, if you will, and the processing of that application would be conducted together. We're even going so far at this moment as trying to come up with a single permit application form and

things of that nature in order to speed this up. So, there is an integration activity going on there.

Here's something that I should have given Mr. Lehman here because it has something to do with oils. Anyway, I'll handle this one:

"Are recycled transformer oils, cleaned and put in central receptacles for use in other transformers to be classed as hazardous, and would a permit be required?"

And there's a little footnote here which says: "Assume the absence of P.C.B.", so that really makes a change because P.C.B. is covered under phosphate regulations.

The answer to that is no; if you look under 250.10, which is essentially the scope section of the 3001, you can see how oils are handled, and I think we addressed this before, but at the risk of being repetitious I'll go over it again.

A waste which is reused is not part, is not covered. Now, on the other hand, there is one minor change to that and that is if the material is a waste oil and is reused, and this would be a waste oil at this particular instance, and that reuse is through incineration or burning--we're talking about plain combustion here--then it would be covered. But this is not plain

combustion, they're putting it back into transformers, so it's simply a recycling method and the material would not be considered a hazardous waste for purposes of the definition under this Act.

On the other hand, if you have waste oils and you either reuse them in such a way as use constitutes disposal, meaning spread them on the ground in some fashion, or if you burn them through plain incineration, then they are covered; otherwise, they are not.

Hopefully, that clarifies that a little more.

"Is any concentration of a selected priority pollutant considered hazardous under conditions outlined in 250.14 (a)"--that's the hazardous waste list--"To qualify, must the waste be shipped, stowed, or exist as a residue in a container? There seems to be much room for interpretation here."

The intent here is that any material in those big long lists, under--of chemicals, if you will, in Appendix 3, 4, and 5, which are lists of chemicals--if those constitute a waste in themselves; in other words, you have a waste which contains--I don't offhand have in mind what one of those chemicals is--here's a good one--phenylanom-if you have phenylanom as a chemical and you want to throw it away in a technical grade or some reasonable concentration which is normally a product

and you want to throw it away, it will become a waste, a hazardous waste, and will be listed. On the other hand, a waste which incidentally has a small amount, a few parts per million or whatever, of phenylamon in it, in other words it is not phenylamon as a product, then it would not be considered phenylamon. It would not be covered unless it failed or met one of those characteristics which are back in 3001. If the material is spilled, a product is spilled and that spill-cleaned material is then cleaned up and it is phenylamon that is spilled, then that would be covered. So, it's not every material which contains some minute concentration of a chemical which is listed that's covered. That's not the point. The point is if a product gets spilled or somebody wants to throw it away because it's a bad batch or they no longer need it, then that would be covered.

"Will POTW's"--publicly owned treatment works for those of you who aren't into acronyms--"face the same financial responsibilities, reporting requirements and record-keeping requirements under 405 of the Clean Water Act as hazardous waste disposal facilities managing sludge from privately-owned sewage treatment works?"

I don't know the answer to that for sure. A different group of people are working on those particular regs. I can say, however, that the concept is that the

degree of control, the degree of protection which would be provided under those regulations is to be equivalent in the broad sense to our regulations. I would seriously doubt that the same mechanisms for providing that protection would be adopted under those regulations because of the difference in the nature of the materials that are being involved. But the degree of--the concept of equivalent control and equivalent protection is what's being put into those regulations.

"If a manufacturer has not previously analyzed his wastes, would they automatically be hazardous since it appears most waste would be under the extraction method?"

Well, our information which we've got so far on the testing we've done with the extraction procedure against the regs which are here indicate that maybe 10 to 15 per cent of industrial waste is going to be hazardous. On the other hand, the answer to that would be I wouldn't do it. I wouldn't simply, unless it was a very small volume, I wouldn't simply assume that it was hazardous. On the other hand, one could do that; one could just make the assumption, particularly if he has a small volume of waste and doesn't care to test it or have it tested, he may simply assume that it's hazardous and treat it accordingly, enter it into the system, mani-

fest it if he's shipping it and so forth.

We should also point out that small volumes, if you get down to the 100 kilograms or below, are not covered either, the generation of those wastes is not covered.

I should also point out one complication here: While anyone can consider their waste hazardous and enter it into the system, there are some problems with doing that under the D.O.T. regulations, under the Hazardous Materials Transportation Act. They have very specific requirements with regard to placarding and things like that, and if I understand their regulations correctly, they don't like for people to put placards on the sides of the truck and say "Poison A" or Poison B, or whatever the definitions they use are, if in fact the material doesn't meet those characteristics. So, for shipping purposes you might have problems with placarding, but otherwise, you can assume it is hazardous as far as R.C.R.A. is concerned, if that's what you want to do.

"How will EPA determine what causes an NPDS facility to be included under R.C.R.A. regulations?"

Well, the only NPDS facilities which would be covered under the R.C.R.A. regulations are those which contain a lagoon basically, which could leach, and in that case one simply tests the contents of the lagoon

and if it's leaching, or has the potential to leach, then it would be covered if it meets the criteria of the hazardous waste; otherwise not.

I should also point out that NPDS facilities as a result of clarification and other processes which are used there, might generate a hazardous waste, that is the sludge coming out of the clarifier for example, if it meets the criteria could be a hazardous waste and thus if shipped off site would need a manifest or if disposed on site, would need a permit.

This is the last one I've got, and I'll turn it over, because this is a rather complex one:

"If a manufacturer produces a small amount of sludge with a low pH"--I'm assuming from this that it's over the 100 kilogram limit,O.K.? Because if it's not then he wouldn't be covered. --"can that generator mix this sludge with pH neutralizing waste as an acceptable method of treatment for the toxicity characteristics? If so, at what point would this be considered treatment and would need to be licensed?"

The answer to that is yes, you can mix waste together in order to synergistically reduce the hazard level of them, there's no problem with that.

The second part of the question is: "When would it become a treatment process for purposes of

R.C.R.A, and does need a permit?"

O.K., this gets to a problem we've had all along, and that problem is trying to draw the line on where a waste becomes a waste and is not part of the process. As a means--and I'll admit it's got some problems with it--but as a means of identifying that, we have been using what we call a pipeline concept in which we're saying that any treatment process which is hooked directly to a production process, be it a continuous pipe or conveyor operation, and from which materials can escape to the ground presumably, that those would not be covered and this waste would not become a waste until it exits that system, if you will. Now, this is only for treatment processes. It has nothing to do with disposal. Anything that ends up on the ground or anything of that nature is, by definition, disposal and not treatment. So, any treatment process which is hooked directly to a production manufacturing product production, manufacturing process, via direct, continuous pipe or conveyor operation, would not be covered as a treatment process for purposes of this. Now, there may be some gray areas here and as that occurs we'll have to make decisions on those on a case by case basis.

MRS. SCHAFFER: Two more questions:

"If distinct areas within a given plant generate

less than 100 ilos per month, can they be isolated?" A good example: A lab facility which may have a distinct waste requiring totally different handling than the process areas."

I think the real issue here is what is the definition of a person, and we've been kind of going over this in EPA and we'll try to clarify it in the final regulations. I think our intent is that a facility is a person--or the person would be one facility--and if the two wastes that are being generated at the lab and in the process are both hazardous and they total more than 100 kilograms a month, then the facility is in fact a generator and must comply with the regs.

The second question is:

"Section 250.10 (d) (1) (4), which requires that generators of solid wastes which are listed under 250.14 who have demonstrated that their wastes are not hazardous, must"--the requirement is that they repeat the testing annually--and the question is: "Why does the generator have to repeat the necessary testing annually if there is no change in the feed material?"

It's a precaution to make sure that there is also no change in the waste. There may be a process change even though the feed material is the same, or there may have been testing inaccuracies in the original

testing. And I think it's a precaution on both the generator's side and on the EPA side to make sure that any hazardous wastes are being handled properly.

CHAIRPERSON DARRAH: "Under the integrated permit system being considered for NPEDS, UIC and R.C.R.A, under 3005, would violation of one permit jeopardize the permit in another in any way. For example, an NPEDS violation affecting R.C.R.A. or UIC?"

Now, I'm answering this without benefit of the proposed regulation, but as of right now the answer is no, these are separate permits and unless the Act that puts the permit holder in violation of one permit is also an Act that puts you in violation of your other permit, then you wouldn't--there isn't a connection just because there's an integrated system, as they are separate permits.

We're going to take a 10-minute break now. We'll come back at 4:00 o'clock and we'll go until 5:00. I think we probably have enough questions to do that.

(Whereupon, a short recess was taken.)

MR. CORSON: We're going to try to start again, and I'll get rid of a couple of easy ones first. Someone questioned--without embarrassing me too much--apparently we have picked a bad number or bad ASTM spec for sampling

soil like material. Evidently, at least according to this comment, they say methods for sampling to determine ground water levels--well then obviously we picked a bad one. You caught our boo boo, and our intent there is to offer where we can sampling protocols that other people are using, and when we promulgatewe will have additional ASTM methods listed.

CHAIRPERSON DARRAH: Let me just interject something here: If anybody--I realize there's an overlap between comment and questions--if the answers to questions lead you to think that we ought to change the regulations it would really be helpful if you would submit something in writing. You can do that either with your over-all comment March 16, or you could also do it orally the next two days, or you can just write something up, attach your card or sign your name, and submit it to the court reporter for the record, because this is a comment for the record; because we are off the record as we're answering your questions, and certainly we're going to be taking things into account, but it's very helpful if we do get things in writing or in the formal hearing that we're conducting here. So, just try and keep that in mind, if you would.

MR. CORSON: This next one fits in the same category. In our definition of reactive waste we use

the word, "mildly acidical base condition". I'd like to get that back in the way of a comment. We will better define that when we promulgate. We will define the limits on pH we're talking about in terms of mildly basic or mildly acidic.

This is a question--let me answer an easier one first--one that Fred answered this morning or this afternoon, which talks about the dilution of hazardous waste with an inert substance, and that's fine. We are worrying about the waste as disposed and we then look only at the resultant ways to see whether or not it met our hazardous characteristics.

This is another question with regard to priority pollutants and how they are covered by the Act. As a result of discussions I've had during our short break, let me make a couple of clarifying statements so everybody understands where we're coming from.

As the regulations are now proposed in toxicity when you do the extraction procedure the only thing you are evaluating for are the eight listed metals and six listed pesticides, that's all. Correct definition of toxicity includes only those things, it does not include any list of priority pollutants or any list of D.O.T. hazard items, just the listed metals and pesticides.

We have, however, in the ANPR indicated an intent

downstream in time to modify the toxicity definitions by including other properties of toxicity. That is likely then to include many of the organic toxicants that occur on the priority pollutant list. We are only looking at priority pollutants in the fashion they are defined in the listing. That is, if you were shipping the material, and in shipping it you would have to use a name that is in that priority pollutant list, the D.O.T. list, or the cancelled or selected pesticides list, then--and it's a described material--then it is a hazardous waste. We are not analyzing wastes to look at parts per million or things that are in the priority pollutant list.

This is a Jack Lehman question, but I'll answer it anyhow:

"We are presently purchasing non PCB filled capacitors. The oil is produced by General Electric who has done many toxicity bio-accumulation, et cetera, tests, and found no evidence of any sort of hazard. Will these capacitors when disposed of be considered a hazardous waste? Can adequate information on lack of hazard allow us to dispose of these in a landfill permanent under Sub-title D?"

The answer certainly to the second half is yes, you don't necessarily have to generate new data

to be responsive to us. If you already have that data that describes all the properties that we are using in our proposed regulation to define a hazardous waste, you don't have to generate it again. I think that answers that one.

Another good comment, I think it's a comment with a question:

"There have been several comments today recommending that EPA establish regulations based on the degree of hazard. What are the major stumbling blocks to this approach?"

Well, that depends really on what someone means by degree of hazards in these regulations. We thought when we wrote the regulations the way we did that we would accommodate this problem by using the 3001 regulation as a go-no-go gauge to determine those wastes which require something other than very routine management, which is what we define in Sub-title D. And we allowed for what we consider to be almost infinite flexibility in 3004.

Now, apparently some people are having a little difficulty with the notes approach that we used in 3004; under many of the requirements of 3004, we've indicated a note which indicates that there can be a deviation from the standard, given that you can show that this

accomplishes the objective of that particular approach. So, we think we have a degree of flexibility in which provides for a degree of hazard.

If you are referring--and I think many people have been--that we should define degree of hazard in 3001, then we solicit your comments in writing supported by data if you can, to help us do that. Now, we recognize that we may also say in our officiality under 3002, which uses some thresholds for establishing quantities with regard to degree of hazard, again based on some artificial basis, because we indicated that we would look at that, and we will. We offer that option by stipulating it in the preamble. But we do find that we have some problems with degree of hazard. We think that we've got to make the association with where the waste is in its management cycle. Certain characteristics are a different hazard in transfer, during the transportation load, for example; we're more concerned about ignitability and possibly reactivity than we are when something is buried 30 feet under the ground, whereas in the ground we are very concerned about the toxicity.

We similarly have concerns, we looked at one point, the point that Jim Kinsey made this morning of using Finney's Additive Law which comes up with a technique for adding plant toxicity to marine toxicity to

fish toxicity and coming up with an over-all toxicity rating and that presents some problems because we do have some cases, some people can get very unhappy because the waste might not fall under any individual constituent toxicity but might fail if we added them up. Similarly we have the problem of, do we raise the case now where by putting a lot of low toxicity items into a single land disposal environment, at some point along the line that land disposal environment now becomes a high toxicity environment because it has crossed some threshold by nature of the quantity of low-toxicity items that it has accepted. So, we recognize that we have a very complicated problem there, looking at the degree of hazard. We do solicit any information you can provide to help us define that. We are not opposed, if we can come up with a way of doing it which doesn't make the 3004 regulation even more complicated than we feel they are today.

I've got another one of--this is Fred's question:

"Would sawdust be considered hazardous, woodchips, bark; has the TEP been tried on these materials? If these are hazardous, could these wastes be considered a special waste like utility fly ash?"

I guess I can't conceive of sawdust, woodchips

or bark flunking the extraction procedure. I guess it is conceivable in my mind that sawdust at a given constituency, degree of fineness, might be explosive. But I would defer that to my D.O.T. counterpart tomorrow who has much more experience with it. But in the event that these things did fail, and it could happen, obviously we've opened the door on special wastes. I think we would want to see data provided to us to show that these things fit the same sort of category as we did with the other wastes which are listed as special wastes.

"Do the SIC's listed in 250.14 (b) imply that all manufacturing processes listed under a specific SIC code"--SIC code--"are covered by Section 3001, Sub-title C, or just specific process associated with specific SIC come under the 3001 sub-title?"

I guess that's one we thought we had explained and obviously we didn't. What we are trying to indicate there is the SIC number is there as advisory only. Any industry that has the specific listed waste stream, that is a hazardous waste. But in regard to specific questions, for example, if I pick up 2865, we are not trying to imply that all waste streams produced by anyone that is covered by 2865 has a hazardous waste. It is only the specific listed waste streams under 2865 that are hazardous.

Question: "Is the intent of the EP to find

out what is leachable or what may happen to a particular waste in a landfill, or was EP designed to simulate landfill conditions?"

I guess the answer is part of all the above and not any of all of the above.

What we did do with the EP, if you go back, for example, to--we were faced with a problem defining a hazardous waste with the problems presented to us by both the requirements under Section 3001, which told us to define the criteria for and characteristics and list of hazardous wastes, as well as the definition of hazardous waste in Section 1004. And Section 1004 (27), if I'm correct-- (5), rather, which defines a hazardous waste, does indicate that it can be a waste without using all of their words, which present some problems if improperly managed. So, as we explained in the preamble, and we a further detailed explanation of it in the toxicity background document--again, that's available for reading and possibly copying at regional office libraries or the headquarters reading room--what we were trying to do was to essentially model improper management. And our modeled improper management was the co-mixture of the waste with waste that was similar to municipal waste in a land environment such that there was ready access of the leaching to the ground water. And that's all we

were trying to do. So, it is in essence a solubility test, it is not meant to replicate any existing or any proposed or any specific land disposal environment. And as we have tried to say, the site specific, waste specific interactions, your waste might interact in a specific land environment that is a 3004-3005 problem. We think it appropriate, we believe the notes cover that you could produce site-specific leaching data to show how that waste would operate in that site and use it in applying for the permit.

MR. LEHMAN: There's a question here concerning the notification regulations, Section 3010. I'm not going to answer--maybe we should have made this clear at the beginning of the proceeding. It is really not appropriate for us to discuss Section 3010 regulations because the comment period on Section 3010 has closed and we are really not at liberty to discuss that now.

This is another question similar to the one that Al just answered, but I'll do it again:

"Under processes generating hazardous waste, is SIC 2911 API separator sludge specific to the petroleum refining industry? API separators are used in numerous industries and the sludge may or may not be hazardous."

Well, let's go back to what Alan just said.

You've got to see a note which is associated with Section 251.14. Let me just read it. It says:

"Process waste streams are listed by standard industrial classification or SIC codes for ease of reference only. SIC classification of the industry generating the waste has no effect on the listing of that process waste as hazardous."

Therefore, API separator sludge, which is listed under 2911, is a hazardous waste, regardless of what industry sector it happens to be in.

It says, "The commercial product section provides a suggestion that if a recycled product does not pose a greater threat to the environment than the virgin product it replaces, it would no longer be subject to Sub-title C." Question: "How does EPA propose to determine the environmental impact of this recycled material?"

First of all, the commercial product section that this question is aimed at, I believe, unless I'm reading an old draft, is not in the regulations, it's in the preamble. Aside from some very explicit requirements for certain radioactive waste products in the special waste section, there is no commercial products section in the regulations. As we stated in the preamble we did consider having commercial product regulations at

one point. But we decided not to for the proposed rule making; however, we did--the gist of this Card's statement is from the preamble in which we said this is one possible way to get at this whole issue, and we requested comment on that.

So, rather than for me to say how does EPA propose to determine the relative environmental impact of this recycled material, I would just alert you to the fact that we have flagged that issue and are requesting comments or suggestions as to how to do it, so I'll throw that ball back in the court.

This question has to do with aerial applicators of pesticides. It says:

"If an aerial applicator of pesticides triple rinses his pesticide containers would he be considered a generator of hazardous waste?"

The answer to that is no, probably, in the sense that if he triple rinses the containers, the containers are no longer hazardous because of Section 250.14 (a), the last listing there. It says, "Containers" --this is saying what is hazardous, and it says, "Containers, unless triple rinsed, which have contained materials normally shipped using names listed in Appendix 2, 3, 4, or 5." And so, basically what we're saying is if you do triple rinse a container that has contained one

of those materials, then the container is no longer a hazardous place; however, the rinse agent that you rinse it with, unless you put it back in the spray tank, could easily be a hazardous waste, and therefore, an aerial applicator could be a generator of hazardous waste in that sense. You would not be a generator if he put the rinse agent back into the mixing tank, however.

Another question, same card:

"An aerial or custom applicator doesn't appear to meet the farmer definition, therefore is not eligible for exemption."

That is true. Aerial applicators are not eligible for the farmer exemption. We are reserving that for those whose principal occupation is farming.

Third part of this question says:

"How does EPA approvedpesticide label fit with this--fit in with this proposal?"

Well, EPA-approved labels are legally binding on the users, and therefore, the users must follow them. The R.C.R.A. regs basically provide only that triple rinse--that the rinse agent, triple rinsing, be added--excuse me--that we will be adding to the label requirements a requirement for triple rinsing in order to get out of the hazardous-based category. This has not yet been posed, but it is our intention, we are working with

the Office of Pesticide Programs, that we will add onto the label requirement a requirement for triple rinsing. So, basically we feel that the regulatory scheme under the FIFRA will be adequate to handle the disposal problem for farmers and their pesticide containers.

Here's some quickie answers:

Question: "Is a vessel that holds its sewage on board in conformance with the Clean Water Act a generator of hazardous waste?"

No.

"Is used oil which is to be re-refined, that is, returned to new condition, not a hazardous waste?"

True, it is not, as we discussed earlier.

"Does a crude oil refinery which recovers slop oil from waste water treatment, then adds the oil back into the fractionation system to redistribute it into its proper place in the refinery product, does it need a permit, do you need a permit to put the oil back into the system?"

No, lube oil additives, et cetera, would have been added . The answer is no, we have no intention of-- we consider that to be really basically part of the refining process itself.

I think that we've answered most of this, but I'll go over it once again:

"What prompted EPA to classify used lube oil as a hazardous material?"

I think we've gone through that. I won't go through that one again.

"It is common practice for a towing vessel to use used lube oil as a fuel for its vessel propulsion engines and electrical generators. Do you see any problem in continuing this practice?"

No. We mentioned earlier that was not our intent to get at the use of lube oil or used lube oil in that type of application.

Question: "If we can continue to use used lube oil for fuel in our vessels, does this procedure make us a generator of hazardous waste with the attendant paperwork associated with its designation?"

No.

Question: "Will this disposal method require governmental approval as a disposal facility with attendant paperwork?"

No.

O.K., 3001: "You stated that a material is not considered a waste until it is gotten rid of, but you also state the intent of including lube oil as hazardous is to prevent errors, such as the horse track incident. If a generator has intent to use waste lube oil as dust

control on roads, is the waste oil a hazardous waste while being stored before use?"

The answer to that is yes.

MR. LINDSEY: "If material from a chlorinated solvent plant is incinerated to produce salable grade hydrochloric acid, would that incinerator need a permit?"

Not normally; normally that would be a reused, a product which is being reused and would not then be a waste under Section 250.10. On the other hand, I should point out that if we find some of these things that do cause problems the way in which we would handle those--I'm not sure this does create an environmental situation that we need to worry about, but if it should, we could make the decision under 250.10 (b) (2) (ii), which is under the scope of this regulation, which lists waste oil, the thing we've been talking about all afternoon; that is, where waste oil is listed as a material--where it is listed as hazardous waste regardless of the reason. If we have the same problems with something else what we can do is take Piece B, where it says "reserved" and add on to the list and thus then include it, and we can do that at a later date. If you will notice there is a note which says "other materials" in there, and it will be included to an amendment on this list that upon a finding by the EPA it is necessary to con-

trol such practices. So, that's the way we work it.

"I understood you to say that a treatment facility which comprises part of a continuous process system would not require a permit. Would this encompass an incinerator which is tied into a process system or would that also require a permit?"

That gets back to the pipeline concept that we worked on before, and as I indicated our problem here is trying to decide where the process ends and the waste treatment starts. What we're trying to do is to get into the system in some way which is reasonably clear, most of those things that we need to control and get out of the system those things that we don't need to control. The best way we've found so far is the pipeline concept.

Under this question, if there is an incinerator I suppose you call it a boiler which is tied directly to the process system--by process system, we're talking about production line, production line under the way we interpret this--now, this would not be covered.

I guess I should point out that we don't think this has very much--as a matter of fact, I don't know of anyplace where it happens. If it does, however, and we find it becomes very widespread, then I suspect we would probably change the regulations, because incinera-

tion of hazardous waste is one of the things which Congress intended that we control.

I did give an answer, which was not wrong when I gave it, but maybe a little bit misleading: That has to do with the paper bag and triple rinsing, if you can remember back to that. And I said there really was no way, equivalent way, to handle paper bags, at least under the regs, and I should point out, however, that under 250.29 (b) (1), if the material, if that bag contained pesticide and if the person wanting to dispose of it is a farmer, if he follows the regulations which are, the regulations--if you read that little paragraph you'll see what I'm talking about--if he follows the 250 regulation and the information that's on the label, then he can dispose of it in accordance with those. In addition, he has to be a farmer, it has to be a pesticide.

"Many industries will generate greater than 100 kilograms a month of hazardous waste from one process and will be subject to all the regulatory requirements under R.C.R.A., but the same generator will generate less than 100 kilograms per month of other hazardous waste from support facilities such as maintenance generated waste solvent. Is there some thought toward a categorization by major and minor generators to exempt industry from all the record keeping, et cetera,

required for limited small quantities of numerous waste materials?"

Some thought, yes; I think the intention in these regs is no. The intent for getting the small generator, and by that the small volume generator, those who generate only a small volume out of the system, is because we have found that by and large they are handled in conjunction with the routine municipal waste kind of activity and they don't have information that indicates that creates a problem, plus the fact that tryhg to apply the control procedures to all of this additional large quantity of generators that would be included if we included only those small people, the total number of generators that would be in the system would swamp it with paperwork. Those are the two considerations that went into the small generator exclusion.

What we have here is the same plant who is already in the system because he's got one or more large volume wastes, and he also happens to have a couple of small ones; well, that doesn't enter any significant additional paperwork that we can see, and normally large generators of waste don't handle the waste in the same way that small generators do that, along with municipal trash and garbage.

Someone may want to make some comments on that because, as I say, we have thought about such an approach from time to time, and this person may want to address that in some comments.

"Section 250.14 (a) and (b)"--this looks like the same person, writes very small, gets a lot on the card--"includes certain wastes"--no, excuse me.

"Section 250.14 (a) and (b) includes certain industries under R.C.R.A."--let me address that first:

It doesn't include certain industries; it includes certain wastes which may come from industries. It doesn't include an industry as such and all the waste from an industry. It only includes the waste which is listed there.

--"By so doing this will place a double burden on these industries. They must categorize and report all hazardous waste under R.C.R.A. requirements and they will have the additional burden of testing an application for exemption under 250.15 for those wastes, products or streams that are not hazardous."

Well, I'm not sure we don't have a misinterpretation here. Just because one waste stream from an industrial category, SIC category, is listed does not mean that all the wastes from that industry are listed. Only the ones specifically lined out there are con-

sidered by the Agency to be hazardous. Thus, if the same plant or industry has a variety of other wastes which are not listed, they're not necessarily hazardous and would not have to go through this whole business of getting an exemption to the list.

From the tone of the question I gather that there might have been a misinterpretation.

"Since the penalties for not reporting are stringent and EPA must rely on generator's initial assessments of his sampling and waste categorization, why are the regulations proposed in this matter?"

I guess when we get right down to it we're talking about why do we have these lists? First of all, let me address that: We give these SIC codes here, four-digit SIC codes, for example, and we don't--I guess we don't think it's difficult to determine whether or not you're in that category or not, for the most part. In some of the other lists which don't have SIC codes, things like surgery departments and wards and things like that, we don't think that it's going to be terribly difficult to determine whether or not a plant fits those categories. But to get to the broader question, why do we have lists? Well, the lists were designed as a means for those wastes which we find are always hazardous, or almost always hazardous, of making it easier for

the regulated community to know whether they are in this system or not in the system.

Theother alternative is just to go with an expanded set of criteria or characteristics and have everybody then pretty much having to run tests to determine whether they're in or out, unless they know an awful lot about their waste.

There's another very good point which is the statute says we have to have lists; that's another good reason. Of course, the question is to what extent do you have them, and the reasons why that I addressed had to do with why the lists are this extensive.

"Do you interpret the regulations to mean that an industry"--this is the same person here--"Do you interpret the regulations to mean that an industry which treats a waste stream prior to discharge"--in other words by neutralizing--"to be a generator and a hazardous waste treatment facility?"

Well, I've got a lot of questions I'll pump back to this person. Discharge to where? Where is he discharging? If he's discharging this as an effluent to the stream then he's not covered under R.C.R.A. unless he does his neutralization in a leaching lagoon, in which case he would be covered.

Another question: Is the resulting waste

hazardous, this waste that he discharges, assuming he discharges it to land, is that hazardous? And if the answer is no, that's not hazardous, then he wouldn't need a permit to discharge it. If the material going into the process were hazardous, we come back to that whole business of the pipeline that we've talked about before. If the process, the neutralization proces--and this frequently is the case--is simply attached to the production process in a continuous manner, then no, that wouldn't be covered. A lot of industries and plants have neutralization facilities that are virtually integrally incorporated into the exit of the process waste from the production process.

Ninety-day storage limit: "Are items which are being stored for the purpose of going to a waste exchange subject to the 90-day storage limit?"

Yes; for example, if it takes six months to accumulate, say, one ton or three or four barrels, enough to justify transport, if it's beyond 90 days he would have to get a permit to store it. There is, of course, this 100 kilogram limit, and that could enter in if it's small enough volume. This gets to the whole problem, though, of people that said, "Well, look, if it's going to go to recycle or recover, you're not going to cover it anyway downstream, so why have them subject to the 90-day

storage limit?

Well, the problem here is that we have trouble with companies, or we understand there are problems with companies, who simply pile stuff or dump it in the lagoon, et cetera, and when asked say, "Well, I'm going to recover that some day when the economics gets better or next year or five years from now, or whatever", and maybe their intent is to that and maybe it isn't. So, what we're saying here is if you're going to store stuff for more than 90 days and it's the kind of thing which is normally a waste, you're going to have to get a permit for that, because we don't know whether you're really storing it or not storing it--I mean, if you're really going to recycle it or not recycle it, and your options along those lines might change as economics change.

If then later, at the end of a year--you have a storage permit and at the end of a year you decide you're actually going to sell it, well, then when you do that that's the end of it, you're out of the system.

"In the iron and steel industry mill scale, blast furnace scrubber sludge and iron-bearing wastes are processed in a cinder plant and used as a raw material in a blast furnace. Will this cinder plant be considered a treatment facility?"

That would be a recycling operation as I would

interpret it and under 250.10 (b), it would be reused, and thus would not be considered a hazardous waste.

"If Section 1004-24 of the Act addressed converting solid waste to energy, why do the proposed regulations exclude oils burned for recovery of BTU value from the less stringent resource recovery regulations?"--in other words, the other discarded material definition.

The reason why is because of two reasons, really: First of all the heavy metals and other materials which are in the waste oil, which if widely burned--and they are widely burned--indiscriminately in school boilers and the like, are admitted directly in the air. The second reason is because it has been common practice and probably still is at this point to slip other goodies into the waste oil and thus get rid of all kinds of stuff with the waste oil, and we're not saying that you can't do either one of these things; all we're saying is it's going to have to be in a controlled manner in conjunction with these regulations, which means you have to get a permit to do it.

MR. LEHMAN: I'd like to just take a minute and amplify the previous question about waste exchange.

We like waste exchange, we want to foster waste exchange. What we don't want to foster, as Fred pointed out, is an intent for waste exchange which may or may not

come about. In other words, when you're storing materials the environment doesn't really know whether you're storing them for waste exchange or whether you're storing for disposal, or what you're doing. So, what we're saying basically is that if you are in the act of waste exchange, then you're out of the system. In other words, you have a contract, the material is flowing, then you're out of the system. If you're just storing the material and hopeful to arrange a waste exchange, you've got the stuff listed in some waste exchange brochure or something, that commendable and we encourage that, but until you actually have a waste exchange contract in being, you are still part of the system, presuming that material is hazardous waste.

I hope that clarifies that point a little bit.

MR. CORSON: I have a couple:

"In the EP, no alkaline material is specified to raise pH to five plus, minus point 2, which is required test range."

And the answer to that question is again, as I explained earlier, we developed an area which talked about improper management, we come up with the approach we did. If people feel we should have an alternate test for some wastes which require the additional of alkaline material, then we'd certainly like to see that data.

"Toxic organics, how can milligrams per kilogram of body weight be compared to milligrams per liter in waste water and what is the basis for the .35 factor?"

This relates to the definition that is used, I believe, to get some materials off the list, as well as the one that we are suggesting in our ANPR, and in that case we have a scenario which again is described in the toxicity background document which relates to the location of ground water wells to land disposal sites, the dilutions of material going from the disposal site to the ground water well, the ingestion of two liters of water a day by a 70 kilogram person, you multiply all those numbers out you get .35, and that's how we come up with that number.

A question in a similar area: "In the toxic organic, we use a calculated human LD-50 based on the footnoted procedure which indicated we can use rabbit-mouse data or LD-50 as listed in the NIOSH registry. We can use that without validation; the other data must be supported by specific and verified laboratory reports", and they want to know why we chose that approach.

As we understand the NIOSH Registry, two sets of data come in through that Registry to NIOSH on the same substance, they use the more stringent data, the lower

value. Therefore, we're suggesting in our validation note that your data you are suggesting is that the substance is not as toxic as NIOSH indicates it to be and we feel for that deviation we would like the validation. If it is for a substance which is not listed in NIOSH Registry, we suggest you send it in to NIOSH, have it accepted, which they will do, and then you won't have to verify it.

"How is waste activated sludge from a food processing plant, for example, a corn wet milling plant, viewed if this sludge is typically land applied, considering first of all the restricted definition in 250.14 (b) (iii)"--and that's the one that lets out POTW's--"and two, that its heavy metal content is considerably below that for POTW land applied sludges?"

Again, this gets back to the same answer which I think we've given before, but I think it's worth bringing out again with respect to this specific question. POTW sludges are going to be managed in accordance with regulations and guidelines developed under Setion 405-D of the Clean Water Act. It will be our attempt in developing those guidances and regulations--which are incidentally being developed in the Office of Solid Waste--to make them consistent with R.C.R.A. R.C.R.A. does not have the authority--well, let me get

back--the Clean Water Act does not have the authority to regulate non POTW sludges. So, while there may be a permit required under 405 to land apply those sludges, in the case of coming from an industrial sludge, plants produced by industrial plants, it would be a R.C.R.A. permit for that land application. There is nothing about that sludge which will necessarily deny land application. It may be that you will require a permit to do it.

The last question I have:

"If a hazardous material is spilled and a hazardous waste generated, is a manifest required from the spill site or does the waste enter the system at the hazardous waste treatment storage or disposal facility, and is the clean up contracted to the generator or is it the spiller?"

Well, the general answer to that question is the spiller is the generator of that waste. That may be a trucking firm, could be a train, but it is the person who spills it that is the generator. If he wants to, and this frequently does occur, that the generator calls in clean up specialists, contractors, he can use them to provide the technical expertise he needs to provide the data. If there is no emergency to get that spill cleaned up, then a manifest is required and the

spiller being the generator will have to fill out that manifest. If it is an emergency, then the spill clean up and delivery to an adequate facility takes the dominant control and a manifest is not required.

In any case, a D.O.T. report would be required with regard to the spill, EPA will get a copy of that report, and you obviously have to clean it up, because if you don't that will probably fit the definition we have for open dumping, which will be illegal.

MR. LINDSEY: "What provisions are being proposed to assure that bulk trailers and other reusable containers are completely emptied and cleaned?"

I think this more appropriately has to do with the Hazardous Material Transportation Act, and DOT regulations which have come out under that.

I should point out that I believe Allan Roberts from D.O.T. is going to be here tomorrow and the person who generated this question might want to generate it again tomorrow for Allan.

"If waste is stored in a storage tank prior to on-site incineration and the tank turnover is less than 90 days would this storage tank require permit even though it is never emptied?"

I think the best--as far as the 90-day exclusion business goes, the best place to look at the explana-

tion there is probably on page 53971, which is part of the preamble. Basically, the 90-day exclusion limit applies to storage prior to shipment off site, and not to treatment on site, and thus the answer to that would be, yes, it would have to have a permit, but it would have to have a permit for incineration anyway, so, it's simply an extension of that.

MR. LEHMAN: Question: "Will waste oil haulers have to get a manifest from every service station, garage, truck terminal for any small generator or crankcase drainings, or will the hauler have to do this paperwork? Please go into detail on waste oil hauler responsibility on all pickups."

Well, this whole issue is addressed again in the preamble to Section 3002 on page 53974, and I think I'll just read the applicable portions of that, because it directly answers this question.

"Problems have resulted from the indiscriminate disposal of waste oil. In an effort to lessen the regulatory burden on the large number of generators of waste oil, as well to promote resource recovery, these regulations provide for a procedure whereby any transport regulated under Sub-title C or a treater, storer or disposer regulated under Sub-part D, may assume a generator's responsibility for all obligations imposed by

this regulation, except the duty to apply for a generator ID code under Section 220.24."

In other words, if a waste oil hauler enters into a contract with a number of service stations, truck terminals and so on and so forth, the waste oil hauler then assumes the generator's responsibility, and it is the hauler who originates the manifest, paperwork, and so on.

Now, in Section 250.28 of the regulation, again reading from the preamble, outlines the requirements for a contractual agreement which must be formed between the generator and the transporter or treater, storer or disposer, assuming the generator's responsibilities. "Once that contract is in place, a transporter or treater storer or disposer becomes liable to properly perform the applicable duties therein; although the generator cannot completely transfer his own liability under the Act for failure to perform, EPA enforcement actions will focus on the transporter or treater, storer, disposer, rather than on the generator if the proper contractual agreement is in force."

So, I think those statements pretty much spell out in detail what the responsibilities of the waste oil hauler are. If you want to go into that in more depth, we'll be glad to respond.

CHAIRPERSON DARRAH: Well, we're a whole five minutes early ending today.

I want to thank you all for your attention. We will reconvene our public hearing tomorrow morning at 8:30 in the Pavilion Ballroom.

(Whereupon the meeting was adjourned at 5:00 o'clock p.m., Wednesday, February 14, 1979.)

C E R T I F I C A T E

This is to certify that the attached proceedings before: Environmental Protection Agency

In the Matter of:

Public Meeting on Improving Environmental Regulations

Place: St. Louis, Missouri

Date: February 14, 1979

were held as herein appears, and that this is the Original Transcript thereof for the files of the Department.

Jennifer Lockhart

Bernice M. Jackson Reporting Co.
1139 Olive Street Suite 310
St. Louis, Missouri 63101

UNITED STATES OF AMERICA

ENVIRONMENTAL PROTECTION AGENCY

In re:

Public Meeting on Improving Environmental Regulations

Breckenridge Pavilion Hotel
One Broadway
St. Louis, Missouri

Thursday, February 15, 1979

The public hearing in the above-entitled matter was convened, pursuant to adjournment, at 8:30 o'clock a.m., Dorothy A. Darrah, presiding.

BEFORE:

DOROTHY A. DARRAH	Office of General Counsel, EPA, Washington, D.C., Chairperson.
AMY SCHAFFER	Office of Enforcement, EPA, Washington, D.C.
JOHN P. LEHMAN	Director, Hazardous Waste Management Division, Office of Solid Waste, EPA, Washington, D.C.
ALFRED LINDSEY	Chief, Implementation Branch, Hazardous Waste Management Division, Office of Solid Waste, EPA, Washington, D.C.
ALAN CORSON	Chief, Section 3001, Guidelines Branch, Hazardous Waste Management Branch, Office of Solid Waste, EPA, Washington, D.C.

CHET MC LAUGHLIN	Solid Waste Branch, EPA, Region VII, Kansas City, Missouri.
HARRY TRASK	Program Manager, Sections 3002 and 3003, Guidelines Branch, Hazardous Waste Management Branch, Office of Solid Waste, Washington, D.C.
TIM FIELDS	Program Manager Assessment and Technology Branch of the Hazardous waste Management Division in Washington, D.C.
ALAN ROBERTS	D.O.T., Washington, D.C.

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PROCEEDINGS

MR. LEHMAN: We would like to begin the hearing. Take your seats, please.

Good morning. My name is John P. Lehman. I am Director of the Hazardous Waste Management Division of EPA's Office of Solid Waste in Washington, D.C.

On behalf of EPA, I would like to welcome you to the public hearing, which is being held to discuss the proposed regulations for the management of hazardous wastes.

We appreciate your taking the time to participate in the development of these regulations, which are being issued under the authority of the Resource Conservation and Recovery Act, better known as RCRA.

The Environmental Protection Agency on December 18, 1978, issued proposed rules under Sections 3001, 3002 and 3004 of the Solid Waste Disposal Act, as substantially amended by the Resource Conservation and Recovery Act, Public Law 94-580.

These proposals respectively cover, first, criteria for identifying and listing hazardous waste, identification methods and a hazardous waste list.

Second, standards applicable to generators of such waste for record keeping, labeling, using proper containers and using a transport manifest.

Third, performance, design and operating standards for hazardous waste management facilities.

These proposals, together with those already published, pursuant to Section 3003, on April 28, 1978, Section 3006 on February 1, 1978, Section 3008 on August 4, 1978 and Section 3010 on July 11, 1978, and that of the Department of Transportation, pursuant to the Hazardous Materials Transportation Act on May 25, 1978, along with Section 3005 regulations for facility permitting, constitute the Hazardous Waste Regulatory Program under Subtitle C of the Act.

EPA has chosen to integrate its regulations for facility permits pursuant to Section 3005 and for state hazardous waste program authorization, pursuant to Section 3006 of the Act, with proposals under the National Pollutant Discharge Elimination System required by Section 402 of the Clean Water Act, and the Underground Injection Control Program of the Safe Drinking Water Act.

This integration of programs will appear soon as proposed rules under 40-CFR, Parts 122, 123 and 124.

This hearing is being held as part of our public participation process in the development of this regulatory program.

The panel members who share the rostrum with me today are Chet McLaughlin of the Hazardous Waste Material--or, excuse me, the Hazardous Waste Management Section of the Hazardous Materials Branch of Region VII office in Kansas City.

Amy Schaffer of our Office of Enforcement in Washington, D.C.; Dorothy Darrah, of the Office of General Counsel of EPA's headquarters in Washington; Fred Lindsey, Chief of the Implementation Branch in the Hazardous Waste Management Division, EPA, in Washington and Harry Trask, who is the Program Manager for the Section 3002 and 3003 regulations in the Guidelines Branch of the Hazardous Waste Management Division in Washington.

As noted in the Federal Register, our planned agenda is to cover Sections 3002 and 3003 today, and 3004 tomorrow.

Also, we have planned an evening session tonight covering all four sections.

This session is planned, primarily, for those who cannot attend during the day.

The comments received at this hearing and the other hearings, as noted in the Federal Register, together with the comment letters we receive, will be a part of the official docket in this rule-making process. The comment period closes on March 16 for Sections 3001 through 3004.

This docket may be seen during normal working hours in Room 2111-B, Waterside Mall, 401 M Street, Southwest, Washington, D.C. In addition, we expect to have transcripts of each hearing within about two weeks of the close of the hearing. These transcripts will be available for reading at

any of the EPA libraries. A list of these locations is available at the registration table outside.

With that as the background, I would like to lay the groundwork and rules for the conduct of this hearing.

The focus of a public hearing is on the public's response to a regulatory proposal of an agency, or in this case, agencies, since both the EPA and the Department of Transportation are involved.

The purpose of this hearing, as announced in the April 28th, May 25th and December 18, 1978, Federal Registers is to solicit comments on the proposed regulations, including any background information used to develop the comment.

This public hearing is being held not primarily to inform the public, nor to defend a proposed regulation, but rather to obtain the public's response to these proposed regulations and thereafter revise them as may seem appropriate.

All major substantive comments made at the hearing will be addressed during preparation of the final regulation. This will not be a formal adjudicatory hearing with the right to cross-examination. Members of the public are to present their views on the proposed regulation to the panel and the panel may ask questions of the people presenting statements to clarify any ambiguities in their presentation.

Some questions by the panel may be forwarded to the speaker, in writing. His response, if received within a

week of the close of this hearing will be included in the transcript. Otherwise, we will include it in the docket.

The Chairman reserves the right to limit lengthy questions, discussions or statements. If you have a copy of your statement, please submit it to the Court Reporter.

Written statements will be accepted at the end of the hearing. If you wish to submit a written, rather than oral statement, please make sure the Court Reporter has a copy. The written statements will also be included, in their entirety, in the record.

Persons wishing to make an oral statement, who have not made an advance request by telephone or in writing, should indicate their interest on the registration card. If you have not indicated your intent to give a statement and you decide to do so, please return to the registration table, fill out another card and give it to one of the staff.

As we call upon an individual to make a statement, he or she should come up to the lecturn after identifying himself or herself to the Court Reporter and deliver his or her statement.

At the beginning of the statement, the Chairperson will inquire as to whether the speaker is willing to entertain questions from the panel. The speaker is under no obligation to do so, although within the spirit of this information sharing hearing, it will be of great assistance to the

Agencies if questions were permitted.

Our day's activities, as we currently see them, appear like this. We will break for lunch at the end of the comments on Section 3002 and reconvene at 2 p.m. for comments on Section 3003.

Then, depending on our progress, we will either conclude the day's session or break for dinner and reconvene at 7 p.m. for the evening session.

Phone calls will be posted on the registration table at the entrance and restrooms are located outside on the promenade.

If you wish to be added to our mailing list for future regulations, draft regulations or proposed regulations, please leave your business card or name and address on a three by five card at the registration desk.

Section 3002 addresses standards applicable to generators of hazardous wastes. A generator is defined as any person whose act or process produces a hazardous waste.

Minimum amounts generated and disposed per month are established to further define a generator. These standards will exclude household hazardous wastes.

The generator standards will establish requirements for record keeping, labeling and marking of containers used for storage, transport or disposal of hazardous wastes, use of appropriate containers, furnishing information on the

general chemical composition of hazardous waste; use of a manifest system to assure that a hazardous waste is designated to a permitted treatment, storage or disposal facility and submitting reports to the Administrator or authorized state agency, setting out the quantity generated and its disposition.

Section 3003 requires the development of standards applicable to transporters of hazardous waste. These proposed standards address identification codes, record keeping, acceptance and transportation of hazardous waste, compliance with the manifest system, delivery of hazardous waste, spills of hazardous waste and placarding and marking of vehicles.

The Agency has coordinated closely with the proposed and current U.S. Department of Transportation regulations.

EPA intends to promulgate final regulations under all sections of Subtitle C, by December 31, 1979. However, it is important for the regulative communities to understand that the regulations under Section 3001, through 3005, do not take effect until six months after promulgation. That would be approximately June of 1980.

Thus, there will be a time period after final promulgation during which time public understanding of the regulations can be increased.

During this same period, notifications required under Sections 3010 are to be submitted and facility permit applica-

tions required under 3005 will be distributed for completion by applicants.

Now, I want to also note that Mr. Alan Roberts of the Department of Transportation may join our panel here later in the morning or during the day. I presume he was on his way here and was held up, due to fog at the airport. He was scheduled to be with us. He may arrive later on in the day.

With that as a summary of Subtitle C of the proposed regulations to be considered at this hearing, I return this meeting to the Chairperson, Dorothy Darrah.

CHAIRPERSON DARRAH: Good morning and welcome back.

We have two people who weren't able to get here yesterday because of the weather and I am going to ask them to speak first. I assume they are primarily going to be addressing 3001 and then we will go through the list of people who want to offer comments on Section 3002.

So, first of all, is Robert Plank here, from City Utilities of Springfield, Missouri?

MR. PLANK: Thank you. I am R. David Plank. I am manager of the Engineering Department of City Utilities of Springfield, Missouri. I am speaking as a generator or potential generator. I am representing the Board of Public Utilities of Springfield. We are a publicly-owned utility.

STATEMENT OF R. DAVID PLANK

MR. PLANK: We have two power generating stations, Southwest Power Plant and James River Power Plant. These stations both generate utility wastes, but according to recent testing, do not meet the criteria of the Hazardous Waste Act.

We do feel the current state and federal laws now being enforced are adequate for the control of the disposal of these wastes.

There have been no problems encountered under the present system for disposal of our utility wastes. However, if our wastes did meet the criteria of the Act, the cost incurred by City Utilities to meet the proposed standards would be cost prohibitive to our 59,000 customers.

We do have a position I would like to go through, some data.

We are a municipally-owned public utility operated as a division of the City of Springfield, Missouri, under the City Charter. The electric distribution system of City Utilities presently covers approximately 119 square miles with 1,156 miles of distribution lines serving approximately 59,000 customers.

Our revenues for fiscal '79-'80 are estimated at $40,000,000. Power production facilities include a five-unit coal-fired generating plant located near the James River on the southeastern edge of the city and a single unit coal-fired

generating plant located on the southwestern edge of the city.

The James River Power Plant has nameplate generating capacity of 259 megawatts. The nameplate capacity of the Southwest Power Station is 194 megawatts. In addition to these facilities, there is a 30 megawatt oil-fired peaking turbine located at the Main Street Station, near the center of the city.

The James River Power Plant consumes an average of 150,000 tons of coal per year. The Southwest Power Station utilizes an average of 434,000 tons of coal per year and 54,000 tons of limestone, the latter being used in the flue-gas desulfurization system.

By-products produced in the form of fly ash, bottom ash and scrubber sludge from the flue-gas desulfurization total 85,000 tons per year for the two facilities.

Of this total, 9,000 tons of fly ash and bottom ash are produced at the James River Power Plant and 76,000 tons of fly ash and bottom ash and scrubber sludge are produced at the Southwest Power Station.

Present disposal of these wastes at James River involves the use of an ash sluicing system that discharges into an ash holding and settling basin. This ash pond is operated under the N.P.D.E.S. permit No. MO-1961 and the effluent is continuously monitored for the parameters outlined in the permit, according to the Federal Water Pollution

Control Act and the Missouri Clean Water Law.

The Southwest Power Station utilizes a two-cell settling pond for bottom ash. The cells are periodically cleaned and the settled ash is removed and deposited in a landfill along with a fixated mixture of fly ash and scrubber sludge.

The ash pond is operated under N.P.D.E.S. Permit No. MO-899340, as is the settling pond for the coal ash and scrubber sludge landfill. Effluents from these facilities are continuously monitored for the parameters outlined in the permits.

The coal ash and scrubber sludge landfill was built and is operated as a state-approved landfill in accordance with the regulations set forth in the Missouri Solid Waste Management Law, Permit No. 707701.

In addition to the monitoring and testing conducted as prescribed by these permits, City Utilities conducts regular monitoring schedules with respect to the environment surrounding these facilities.

These include twice weekly monitoring of the leachate collection system within the Southwest Power Station Landfill, monthly sampling of the landfill settling pond, periodic testing of the springs in the vicinity of the James River ash pond and frequent monitoring of the springs around the Southwest Power Station and Wilson Creek above and below the outfall

from the permitted Southwest Power Station facility.

We have a testing program and the results of this is that we have been engaged in a testing program involving the discharges of these facilities for the past few years.

To date, the analyses performed by independent laboratories and by our own laboratories have shown that none of these discharges meet the criteria set forth to be designated hazardous wastes.

Recent investigations using the Toxicant Extraction Procedure show that wastes treated according to the protocol set forth in this test do not come under the criteria for toxic wastes. These tests were performed on coal ash and scrubber sludge.

We feel that since our own testing does not show any results of a hazardous nature and since no definitive environmental risks have been demonstrated to be directly or indirectly attributable to coal ash and scrubber sludge, that these wastes should not be included for management under the Resource Recovery and Conservation Act.

We also feel that existing statutes under the Federal Water Pollution Act, the Missouri Clean Water Law and the Missouri Solid Waste Management Law provide sound and adequate management practices for handling the disposal of these wastes.

The fact that we produce over 85,000 tons of this

waste per year and that over 66,000,000 tons of this waste per year is produced throughout the country presents a definite problem when considering disposal in a hazardous waste landfill.

The capacity of acceptable sites in relation to the quantities involved preclude sufficient management when compared to the successful way in which these wastes are presently being handled.

Existing management practices have proved to be satisfactory in preventing pollution problems. We see no reason to change to an unwieldy, expensive process that will achieve the same end result.

The inclusion of utility wastes in the Hazardous Waste Management Act of the Resource Recovery and Conservation Act of 1976 could have a staggering economic impact upon City Utilities and its customers through capital investment, increase in personnel and operating expenses.

Existing landfill operations would cease, due to reasons cited below and we would be forced to either relocate our landfill operations or ship our waste to approved landfills in other parts of the state, and perhaps even out of state.

The geologic conditions at our existing sites are unsuitable for development and operation of hazardous waste landfill. The Springfield area is underlain by a highly

soluble jointed limestone in which karst development has resulted in an extensive, well-integrated subsurface drainage system.

Groundwater migration does not proceed through the rock mass but, rather, is confined to joints, fractures and solution channels in which movement is rapid and filtration is minimal. Utilization of monitoring wells to detect leachate migration would be ineffective. This area is also subject to catastropic sinkhole collapse, which would affect the structural stability of a landfill liner.

We do have a detailed geologic description and that is in the final statement. The depth to the water table in that area varies from 100 feet in upland areas to a few feet in the lowlands.

The shallow aquifer is separated from a deeper aquifer by a widespread shale formation. Most residential and agricultural wells draw from the shallow aquifer.

Sites suitable for the development of a hazardous waste disposal site could be located at a distance of 30 to 40 miles from Springfield.

Another option is that in lieu of developing our own site, we could utilize existing sites operated by outside concerns.

Modes of transportation to either of these sites could be by truck or rail.

I do have some cost figures. I will just summarize those here. We think the capital cost of developing our own landfill for transportation by truck, and we have some concerns because of the type of trucks that may be available that would actually seal this material and keep it from spilling on the road.

Anyway, for an offsite facility, the capital cost of $9,779,000. That doesn't include all the bonding costs we might have to incur.

That option, we think, would have about a $1,314,000 cost to us as an annual operating cost involving 20 employees and fuel and maintenance on the vehicles.

If we were not able to use the truck option, the rail facility would cost $23,156,000 and again, that does not include all the bonded costs that would be incurred and would have an annual operating cost of $1,386,500 and would require 24 personnel.

If we were to use a commercial site and there is one near St. Louis, I understand, but it is limited in size, land area, and would not last the entire time of the economic life of our plants. Our capital improvement cost would be $3,100,000 for additional ash handling equipment and rail loading facilities, with an annual operating cost of $4,280,000. That includes the dumping fee.

Or, if we were able to transport it by truck, our

capital costs would be $1,204,000, plus an annual operating and maintenance cost of $4,660,000.

I think you can see from the figures on the $40,000,000 revenue, we are talking about incurring increases in cost to our consumers of, in the range of, eight to twelve per cent on the base rates.

In conclusion, we would, therefore, like to go on record as being opposed to the inclusion of utility wastes under regulation by the Resource Recovery and Conservation Act.

The Environmental Protection Agency has stated that such wastes are produced in very large volumes, that the potential hazards posed by the wastes are relative and that the waste is generally not amenable to the control techniques developed by the Act.

We believe that we have shown that the wastes have no potential risk when handled in the proper manner and that the disposal techniques presently in use provide an adequate control of the wastes.

We have also shown that it would be a tremendous economic burden on the City Utilities and its customers to attempt to comply with the regulations set forth in the Act.

We would ask that EPA reconsider its position of including utility wastes, even as special waste under the Act and leave the management of these wastes to the State and Fed-

eral agencies now engaged in these practices. Thank you.

CHAIRPERSON DARRAH: Thank you. Would you answer questions for us?

MR. PLANK: I'll attempt to.

CHAIRPERSON DARRAH: Thank you.

MR. LEHMAN: Mr. Plank, did I understand you to say that you have conducted tests against the extraction procedure which show that your wastes are not hazardous by our definition?

MR. PLANK: Yes, sir, and those are very recent tests.

MR. LEHMAN: So, none of this would apply to you under these conditions, is that correct?

MR. PLANK: Our concern is that coal, being such a variable material as it is, could in some way slip over the boundaries or parameters at some time in the future, if we had a different coal supply or the coal was extracted from a different vein.

MR. LEHMAN: I think you also made the statement that you felt utility wastes should not come under the purview of the Resource and Conservation Recovery Act. I just wanted to clarify that.

Even if the waste is not hazardous, it is still subject to Subtitle D of the Resource and Conservation Recovery Act. In other words, you haven't totally escaped, just be-

cause you are not a hazardous waste. You are also subject to Subtitle D. I just wanted to make that point, which is not a--it's subject to federal requirements, but these requirements are administered by state agencies, not by the federal agency. I presume you understand that point.

MR. PLANK: O.K.

MR. CORSON: Just one comment, Mr. Plank.

MR. PLANK: Yes.

MR. CORSON: Again, following up on the one that Jack asked, I believe you did indicate you had run the extraction procedure and found none of your wastes failing the tests following that.

I am wondering whether you might be willing to share with us the data dealing with the description coal? We are trying to put together a body of data for use by utilities which may be able to derive some information that relates to coal-type burning process, to what might be released in the extraction procedure, so other utilities may make then, that A-priority judgment as to whether or not their wastes are in the system.

MR. PLANK: Yes, we would be happy to send those to you.

MR. CORSON: If you would send those to us, we would appreciate it very much.

MR. PLANK: Yes, O.K.

CHAIRPERSON DARRAH: I have a couple of questions.

When you gave us the dollar figures for the landfill, I take it you were giving us figures for a landfill that would meet all of the 3004 requirements, or am I wrong?

Were you, for example, giving us figures for something that would meet the 250.46-2 special waste? That's the limited special waste standards for utility waste, which sounds to me, from your description, as though you are already meeting, other than perhaps the security or visual inspection.

I am just trying to get clear what those dollar figures were for.

MR. PLANK: They included the testing, monitoring wells, even though we think they may be ineffective in our area. I think meeting all the requirements. We can certainly clarify that for you along with the other information.

MR. LEHMAN: Can I follow up on that? I think it's an important point. Were the cost estimates for the main body of Section 3004 requirements or were they for the special limited standards under the special waste category?

MR. PLANK: I believe they were for the limited, yes. We can clarify that.

CHAIRPERSON DARRAH: O.K., and I wondered when you said you are doing--did you say monthly monitoring?

MR. PLANK: Yes.

CHAIRPERSON DARRAH: Can you tell us what parameters you are monitoring for?

MR. PLANK: We can send that data along. I can't tell you today exactly. It is as required by the N.P.D.E.S. permits on the monthlies.

CHAIRPERSON DARRAH: Thank you very much.

MR. LEHMAN: One question, Mr. Plank. I believe you also stated that your recommendation was that we remove the utility waste section or provisions of Section 3004 as a special waste category.

MR. PLANK: Right.

MR. LEHMAN: We covered this a little bit yesterday, but nowhere is utility waste listed as a hazardous waste. It is only if the material does not meet one of our characteristics or fails one.

MR. PLANK: That's true.

MR. LEHMAN: But the point is that if you remove the utility wastes as a special waste standard, then the full force of 3004 applies to waste that fail these characteristics.

The way it is now, by listing it as a special waste, there are somewhat limited standards applied.

MR. PLANK: I think we would like to have a total exclusion of utility wastes and leave it to the state. Particularly, we have a very strong state program here in Mis-

souri.

MR. LEHMAN: So, what you are really saying is you don't--if I may paraphrase what you are saying. You are saying you don't necessarily--it's not just that you want us to remove the provisions for utility wastes from Section 3004, you want us to make a total exclusion of utility wastes from the whole program?

MR. PLANK: That's right.

MR. LEHMAN: That would have to be done in the definition section of 3004 if that were to be accomplished.

MR. PLANK: Right.

CHAIRPERSON DARRAH: Thank you very much.

(The document referred to follows:

HEARING INSERT

February 13, 1979

Mr. John P. Lehman
Director, Hazardous Waste Management Division
Office of Solid Waste (WH-565)
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Lehman:

This letter is written in reference to the proposed federal law pertaining to the Hazardous Waste Act and its affect on this utility.

City Utilities of Springfield, Missouri has two power generating stations, Southwest Power Plant and James River Power Plant. These stations both generate utility wastes but according to recent testing do not meet the criteria of the Hazardous Waste Act.

We feel that current state and federal laws now being enforced are adequate in the control of the disposal of these wastes. There have been no problems encountered under the present system for disposal of our utility wastes.

However, if our wastes did meet the criteria of the Act the cost incurred by City Utilities to meet the proposed standards would be cost prohibitive to our 59,000 customers.

Enclosed is a copy of City Utilities' position on this Act.

Sincerely yours,

D.E. Caywood
Chairman, Board of Public Utilities

cc: Sen. Thomas F. Eagleton
Sen. John C. Danforth
Rep. William L. Clay
Rep. Robert A. Young
Rep. Richard A. Gephardt
Rep. Ike Skelton
Rep. Richard Bolling
Rep. Gene Taylor
Rep. Richard H. Ichord
Rep. Harold L. Volkmer
Rep. Bill D. Burlison
Rep. E. Thomas Coleman
Renelle P. Rae, Regional Administrator, EPA

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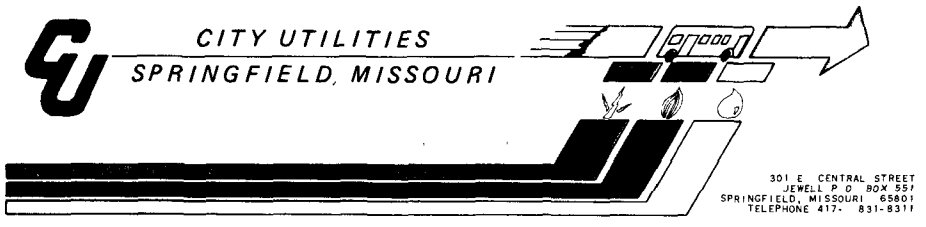

INTRODUCTION

City Utilities of Springfield, Missouri, is a municipally-owned public utility operated as a division of the City of Springfield, Missouri under the City Charter. The electric distribution system of City Utilities presently covers approximately 119 square miles with 1,156 miles of distribution lines serving approximately 59,000 customers. Revenues for fiscal 1979-80 are estimated at 40,000,000 dollars.

Power production facilities include a five unit coal-fired generating plant located near the James River on the southeastern edge of the city and a single unit coal-fired generating plant located on the southwestern edge of the city. The James River Power Plant has nameplate generating capacity of 259 megawatts. Nameplate capacity of the Southwest Power Station is 194 megawatts. In addition to these facilities, there is a 30 megawatt oil-fired peaking turbine located at the Main Street Station near the center of the city.

The James River Power Plant consumes an average of 150,000 tons of coal per year. The Southwest Power Station utilizes an average of 434,000 tons of coal per year and 54,000 tons of limestone, the latter being used in the flue-gas desulfurization system (FGD). By-products produced in the form of fly ash, bottom ash and scrubber sludge from the FGD total 85,775 tons per year for the two facilities. Of this total, 9,125 tons of fly ash and bottom ash are produced at the James River Power Plant and 76,650 tons of fly ash, bottom ash and scrubber sludge are produced at the Southwest Power Station.

Present disposal of these wastes at James River involves the use of an ash sluicing system that discharges into an ash holding and settling basin. This ash pond is operated under N.P.D.E.S. Permit No. MO-0001961 and the

effluent is continuously monitored for the parameters outlined in the permit, according to the Federal Water Pollution Control Act, P.L. 92-500 and the Missouri Clean Water Law.

The Southwest Power Station utilizes a two-cell settling pond for bottom ash. The cells are periodically cleaned and the settled ash is removed and deposited in a landfill along with a fixated mixture of fly ash and scrubber sludge. The ash pond is operated under N.P.D.E.S. Permit No. MO-00899340 as is the settling pond for the coal ash and scrubber sludge landfill. Effluents from these facilities are continuously monitored for the parameters outlined in the permits.

The coal ash and scrubber sludge landfill was built and is operated as a state-approved landfill in accordance with the regulations set forth in the Missouri Solid Waste Management Law, Permit No. 707701.

In addition to the monitoring and testing conducted as prescribed by these permits, City Utilities conducts regular monitoring schedules with respect to the environment surrounding these facilities. These include twice-weekly monitoring of the leachate collection system within the Southwest Power Station Landfill; monthly sampling of the landfill settling pond; periodic testing of the springs in the vicinity of the James River ash pond; and frequent monitoring of the springs around the Southwest Power Station and Wilson Creek above and below the outfall from the permitted Southwest Power Station facility.

TESTING PROGRAM AND RESULTS

City Utilities has been engaged in testing programs involving the discharges of these facilities for the past few years. To date analyses per-

formed by independent laboratories and by our own laboratories have shown that none of these discharges meet the criteria set forth to be designated hazardous wastes. Recent investigations using the Toxicant Extraction Procedure show that wastes treated according to the protocol set forth in this test do not come under the criteria for toxic wastes. These tests were performed on coal ash and scrubber sludge.

We feel that since our own testing does not show any results of a hazardous nature and since no definite environmental risks have been demonstrated to be directly or indirectly attributable to coal ash and scrubber sludge, that these wastes should not be included for management under the Resource Recovery and Conservation Act. We also feel that existing statutes under the Federal Water Pollution Control Act, the Missouri Clean Water Law and the Missouri Solid Waste Management Law provide sound and adequate management practices for handling the disposal of these wastes. The fact that we produce over 85,000 tons of this waste per year and that over 66 million tons of this waste per year is produced throughout the country presents a definite problem when considering disposal in a hazardous waste landfill. The capacity of acceptable sites in relation to the quantities involved precludes efficient management when compared to the successful way in which these wastes are presently being handled. Existing management practices have proved to be satisfactory in preventing pollution problems. We see no reason to change to an unwieldy, expensive process that will achieve that will achieve the same end result.

ECONOMIC IMPACT TO THE UTILITY AND ITS CUSTOMERS

The inclusion of utility wastes in the Hazardous Waste Management Act of the Resource Recovery and Conservation Act of 1976 would have a staggering

economic impact on City Utilities and its customers through capital investments, increase in personnel and operating expenses. Existing landfill operations would cease due to reasons cited below and we would be forced to either relocate our landfill operation or ship our wastes to approved landfills in other parts of the state-perhaps even out-of-state.

Geologic conditions at existing sites are unsuitable for the development and operation of a hazardous waste landfill. The Springfield area is underlain by a highly soluble, jointed limestone in which karst development has resulted in an extensive, well-integrated subsurface drainage system. Groundwater migration does not proceed through the rock mass; but rather is confined to joints, fractures, and solution channels in which movement is rapid and filtration is minimal. Utilization of monitoring wells to detect leachate migration would be ineffective. This area is also subject to catastropic sinkhole collapse, which would affect the structural stability of a landfill liner.

Available sites over the area are alluvial deposits confined to the floodplains and residual soils weathered from the underlying limestone. The residual soils are CH under the Unified Soil Classification, composed mainly of halloysites and kaolinites with small quantities of montmorillonite. Permeability is on the order of 1.0×10^{-5} cm/sec. Weathering of interbedded chert has resulted in the preservation of relict chert beds in the soil profile, which increase the permeability. Soil thickness ranges from 0 to 20 feet due to the formation of cutters and pinnacles at the bedrock surface. Thickness is highly variable over short horizontal distances.

Depth to the water table varies from 100 feet in upland areas to a few feet in the lowlands. The shallow aquifer is separated from a deeper aquifer

by a widespread shale formation. Most residential and agricultural wells draw from the shallow aquifer.

Sites suitable for the development of a hazardous waste disposal site could be located at a distance of 30-40 miles from Springfield. In lieu of developing our own site, City Utilities could utilize existing sites operated by outside concerns. Modes of transportation to either of these sites could be by truck or rail. The following tables show the economic impact of these various alternatives on City Utilities. In all cases, some capital improvements would be necessary at the power plants.

COSTS INVOLVED IN DEVELOPING AND OPERATING A CITY UTILITIES' OWNED HAZARDOUS WASTE LANDFILL * TRANSPORTATION BY TRUCK

1.	Site investigation and design development	$ 710,000[1]
2.	Purchase of property	1,422,000[2]
3.	Final design and construction	1,828,000[3]
4.	Capital improvements at James River Power Plant and Southwest Power Station	878,000[4]
5.	Landfill equipment	430,000[5]
6.	Trucks for hauling wastes	529,000[6]
	TOTAL CAPITAL COSTS	$5,797,000
7.	Escalation	1,630,000[7]
8.	Contingency	713,000[8]
		$8,140,000
9.	Engineering, legal fees and overhead	1,019,000[9]
10.	Interest during construction	620,000[10]
	TOTAL COST (1982 Completion)	$9,779,000

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1. Includes initial engineering evaluation, preliminary design and preparation of environmental impact statement as well as state approval procedures.

2. Includes fencing 640 acres and possible fees for condemnation. Of the 640 acres, approximately 500 will be used for the landfill.

3. Includes hydrological monitoring system, surface containment structure construction, soil liner, leachate collection system, treatment facility, laboratory and office building, maintenance building and testing equipment. Fuel storage tank.

4. Includes improved handling facilities at James River Power Plant and new storage silo and fuel storage tank at Southwest Power Station.

5. Includes dozer, scraper, compactor and watering truck.

6. Includes 7 tractor-trailer units with special fly ash resistant trailers. Four of these will be on the road with two working a shuttle system from James River and one in reserve.

7. Figured at 40% for capital costs exluding land.

8. Figured at 10%.

9. Figures at 13% of capital, engineering, legal, overhead and escalation.

10. Figured for 1 year at 7%.

* Estimated Life of 25 years.

ANNUAL OPERATING AND MAINTENANCE COSTS FOR HAZARDOUS
WASTE LANDFILL OWNED BY CITY UTILITIES - TRANSPORTATION BY TRUCK

Additional Personnel:	
1 Landfill Superintendent	
2 Lab Technicians	
2 Manifest Clerks	
4 Guards	
1 Sampling Technician	
1 Inspector-Sampler-Full time landfill	
1 Foreman	
3 Heavy Equipment Operators	
1 Truck Driver	
2 Maintenance Men	
2 Processing Clerks	
Total Personnel	$ 700,000
Transportation Costs	
Fuel and maintenance	87,000
Landfill Equipment	
Fuel and maintenance	121,000
Landfill Operations	
Yearly construction, etc.	306,000
Laboratory Testing	100,000
TOTAL Annual Operating and Maintenance Costs	$1,314,000

COSTS INVOLVED IN DEVELOPING A CITY UTILITIES
OWNED LANDFILL BY RAIL ACCESS *

1.	Site investigation and design development	$ 1,000,000[1]
2.	Purchase of property	1,800,000[2]
3.	Final design and construction	5,500,000[3]
4.	Capital improvements at James River Power Plant and Southwest Power Station	1,500,000[4]
5.	Landfill equipment	2,430,000[5]
6.	Engine and cars	720,000[6]
	TOTAL CAPITAL COSTS	$12,950,000
7.	Escalation	4,460,000[7]
8.	Contingency	1,741,000[8]
		$19,151,000
9.	Engineering, legal fees and overhead	2,490,000[9]
10.	Interest during construction	1,515,000[10]
	TOTAL COST (1982 Completion)	$23,156,000

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1. Includes initial engineering evaluation, preliminary design and preparation of environmental impact statement as well as state approval procedures.

2. Includes 1,000 acres for spur and landfill or which 500 acres would be useable.

3. Includes hydrological monitoring system, surface containment structure construction, soil liner, leachate collection system, treatment facility, laboratory and office building, maintenance building and testing equipment. Fuel storage tank.

4. Includes improved handling facilities at James River Power Plant and new storage silo and fuel storage tank at Southwest Power Station.

5. Includes dozer, scraper, compactor, watering truck and rotary dump machinery.

6. Includes 12 rail cars, and switch engine.

7. Figured at 40% for capital costs excluding land.

8. Figured at 10%.

9. Figured at 13% of capital, engineering, legal, overhead and escalation.

10. Figured for 1 year at 7%.

* Estimated Life of 25 years.

ANNUAL OPERATING AND MAINTENANCE COSTS FOR HAZARDOUS
WASTE LANDFILL OWNED BY CITY UTILITIES - TRANSPORTATION BY RAIL

Personnel:	
1 Landfill Superintendent	
2 Railroad Engineers	
2 Unloaders	
1 Foreman	
2 Lab Technicians	
2 Manifest Clerks	
4 Guards	
1 Sampling Technician	
1 Inspector-Sampler	
1 Foreman	
3 Heavy Equipment Operators	
1 Truck Driver	
2 Maintenance Men	
1 Processing Clerk	
Total Personnel	$ 630,000
Transportation Costs	
Fuel and Maintenance and shipping costs by rail	229,500
Landfill Equipment	
Fuel and maintenance	121,000
Landfill Operations	
Yearly construction, etc.	306,000
Laboratory Testing	100,000
TOTAL	$1,386,500

CAPITAL OUTLAY TO TRANSPORT WASTES TO COMMERCIAL LANDFILL BY RAIL *

Ash handling improvements at JRPP	$ 500,000
Ash handling improvements at SWPP	100,000
Railroad spur construction	300,000
Rotary car dump	2,000,000
Switch engine	200,000
TOTAL Capital Improvements Cost	$3,100,000

Yearly Operating Costs

Personnel:

2 Manifest Clerks
1 Processing Clerk
1 Lab Technician

Total Personnel	$ 60,000
Freight Costs	500,000
Dumping Fees	3,720,000
TOTAL Annual Operating Costs	$4,280,000

Unknown Contingencies

1. Maintenance on rotary car dump
2. Operation on rotary car dump
3. Maintenance on spur line at landfill
4. Operation and maintenance on switch engine

* 10 year maximum disposal space, then have to have new site.

CAPITAL OUTLAY FOR TRANSPORTING WASTES TO EXISTING
COMMERCIAL LANDFILL - APPROXIMATELY 220-250 MILES BY TRUCK

Ash handling improvements at JRPP	$ 500,000
Ash handling improvements and fuel storage tank at SWPP	175,000
Trucks for transporting	529,000
TOTAL Capitalized Costs	$1,204,000

Yearly Operating Costs

Personnel:

- 8 Truck Drivers
- 2 Manifest Clerks
- 1 Processing Clerk
- 1 Lab Technician
- 1 Maintenance Man

Total Personnel	$ 390,000
Truck Maintenance and Fuel	550,000
Dumping Fees at Existing Hazardous Waste Landfill	3,720,000
Annual Maintenance and Operating Costs	$4,660,000

CONCLUSION

We would, therefore, like to go on record as being opposed to the inclusion of utility wastes under regulation by the Resource Recovery and Conservation Act. The Environmental Protection Agency has stated that such wastes are produced in very large volumes, that the potential hazards posed by the wastes are relatively low and that the waste is generally not amendable to the control techniques developed by the Act.

We believe that we have shown that the wastes have no potential risk when handled in the proper manner and that the disposal techniques presently in use provide an adequate control of the wastes. We have also shown that it would be a tremendous economic burden on City Utilities and its customers to attempt to comply with the regulations set forth in the Act. We would ask that EPA reconsider its position of including utility wastes even as "special waste" under the Act and leave the management of these wastes to the State and Federal agencies now engaged in these practices.

CHAIRPERSON DARRAH: For anyone who wasn't here yesterday and doesn't recognize Alan Corson, let me introduce Alan. He's the Chief of our Guidelines Branch and works on Section 3001. We asked him to come up for the first two speakers this morning.

I also have what is marked in red, "Urgent", a message from Mr. H. Scott Durbin, if he would come pick this up.

All right, our second speaker this morning, also I believe, primarily speaking on Section 3001, is Dr. Robert Poston from Carmel Energy in Houston, Texas.

STATEMENT OF ROBERT S. POSTON

DR. POSTON: Thank you, panel members, for inviting me to speak to this group. I was commenting at breakfast today, to Paul Herbert, that I probably wouldn't have asked for an opportunity to come before this group and speak, had I not been involved, probably a year ago, in a uranium extraction process in south Texas and I got to see firsthand what the Government is capable of doing to an industry.

In underground solution mining of uranium deposits in south Texas, the EPA has required these uranium solution mining people restore completely a material, water, which contains only 6,000 parts per million of total dissolved solids.

Well, gentlemen, the value, in my opinion, of this

water, after it's restored, is no way equal to the cost. I can't see any reason for some type of laws like this to be put on the books when it costs more to restore than it does to mine. I think we really have some soul searching to do when it comes to control of the environment.

I am Robert Poston with Carmel Energy. Our home office is in Houston. We have oilfield recovery. Our production operation is in Texas, Kansas and western Missouri.

I noted there wasn't a hearing to be held in Houston. I am out of Houston, so I took this opportunity, because of our operations here in Missouri, to come before the group and speak.

Carmel is not particularly different than any other oil producing company. We drill for, we explore for and drill and complete and produce oil deposits.

However, with another arm of the Government, the Department of Energy, we have been able, over a period of eight years, to develop some technology which is enabling us to recover reserves from what is called in the industry, heavy oil deposits.

The only thing that makes this different is we generate on-site super-heated steam, CO_2 and nitrogen, so just like the gentleman with the power plant, we have to concern ourselves not only with oil field produced brands, drilling buds, but also steam drum blowdowns.

In order to keep the steam drum from passing solids overhead into the vapor state, we have to blow down this material and it represents about three per cent of our total water through the unit. So, we are talking about 15 barrels a day of fairly high solid concentrated waters.

Carmel, we have succeeded, probably, where other companies have failed, because of the more favorable relationship now between the price we receive for the oil and the costs, because of the basic entrepreneural nature of our company, and because of two U.S. Department of Energy cost sharing contracts, one of which we are now involved with in western Missouri, over in western Burn county, right on the Kansas-Missouri state line.

I believe what--and I am going to conclude here and I asked to speak yesterday and asked the panel to conclude, is oil field produced brine, drilling buds and this steam drum or cooling tower blowdown, really shouldn't be defined as hazardous material. All it is, in the case of oil field produced brines, it's concentrated solids in the produced fluids.

I will also advise the panel that in every state we operate, we are regulated from beginning to end. I noted in the Federal Register that the real goal here is to regulate the generators of hazardous wastes from initial generation to the final disposition.

Well, folks, the oil producing industry is already regulated. We are probably as regulated, if not more so, than even the public utilities. We have to get a permit to drill a well. We have to get a permit to either complete that well or to plug that well. We've got to give notice to the various state regulatory agencies and they have an opportunity to send their representative down to actually witness the plugging of a well.

We have to get a permit for salt water disposal well and here again, it's got to meet certain criteria. These wells,the shallow formations here in Missouri, and [illegible], I will elaborate on this a second. It's a very unique shallow deposit over in western Missouri, but these wells have got to be cemented from the very bottom of the formation to the top.

There is virtually no opportunity for any salt water contamination of fresh water zones. The requirements, the details on actual materials of construction, materials to be used in a casing program, all this stuff is generally spelled out.

I read very carefully through the Federal Register and the only way it seems that you people are proposing to include us, is in this one special category and then you make the statement that if our solids content, the concentrations are equal to ten times that for potable water, then

we, by definition, have a hazardous waste problem.

Also, for your understanding, perhaps, not all oil operations use drilling muds. We drill, for example, in western Missouri with air. We use air, because we find it's a lot faster, it's a lot cheaper. We don't have the pits, we don't have any disposal problem there.

We ran a great deal of surface equipment right beside one of these wells and, obviously, if you had a pit there, you don't have the bearing stress to stand up under a storage tank.

So, I think now I've already pointed out two subjects here, or two points, where all oil producing companies are not the same. One, everybody is not drilling a 10,000 foot well.

Out in western Missouri, our wells are only 150 foot deep. They cost us $4 a foot. They cost us $600 to drill and I know I'm stepping into another area, but the proposal is that we put up a $5,000 per well surety bond, cash up front bond. Good gosh, the well only costs $600, so there is a difference. Not all wells are drilled by Exxon at 25,000 feet, as we see sometimes in west Texas and Oklahoma.

We use air and we find air works very well for us, because it does give us the opportunity for a very good geologic control. We can actually check the formations every few inches as we are drilling with air. It's certainly non-

polluting. The drilling cuttings are deposited on the surface in neat little piles. We attempt to do it about every five feet and the state of Missouri asked that we send them samples periodically from the wells we drill.

Now, you all have suggested that we comment, the industry comment, on the exemption provision. We are asking you to exempt the oil producing industry from the definition of hazardous wastes under Section 3001.

I understand we would still be under this Subtitle D. We think that's fine.

In reading the Federal Register that you all pointed out there was 5,000,000 metric tons a year of wastes being, hazardous waste generation by the oil producing industry.

Gentlemen and ladies, I would like to take you all out into the field to show you we do not. The oil industry does not pollute.

You know, the days where you could drill an oil well and produce oil filled brine into an adjoining stream or lay it out on the surface, those days are gone. The states now regulate and they regulate very tightly.

Now in the case of drilling muds, a lot of wells, the majority of wells in the United States, are still drilled with drilling muds. But one of the primary reasons why muds are used is because of fluid loss control.

By using the drilling muds, the water is not leached

into the formation as you drill down to depths. A filter cake forms on the wall and this holds the water into the well bore and it's circulated from the surface down through the drill bit. It lubricates the bit, it cools the drill string and the drill bit.

Therefore, there is going to be very little in the way of water, salt water and contaminated water, that is actually even on the surface in a pit, that escapes the pit into the, you know, ground water. This was a reason given for your wanting to include this in hazardous waste, because it would contaminate, perhaps, surface waters.

I think, personally, that if you increase the exemption for special wastes from this 100 kilograms a month to 1,000 kilograms, that would make it a ton, I don't see any way a ton of contaminants would escape a drilling mud pit, even in a conventional drilling mud operation.

Drilling muds today are very expensive, so typically when a well is drilled and completed, an operator or drilling contractor or driller, he moves to another location, he likes to take his drilling muds with him. He'll pump it out and put it in a container and go over to another well, another location, and use it and cover the pit back up to the original contour and with the exception that normally it's not compacted back in, you've restored the surface to its original condition.

I have commented on your proposal of a $5,000 up

front bond to assure a well is going to be drilled, so the hazardous materials, if you stick with the definition of hazardous materials on the drilling muds, don't contaminate the environment.

I pointed out to you that not all wells are $100,000 apiece and, in fact, in our case in Western Missouri, we are looking at less than $1,000. The state of Missouri, [illegible], requires $1,000 up front bond or $10,000 for a field development bond.

So, I think it's really, I guess the word is ridiculous, to require a $5,000 per well, up front, bond.

Now finally, I would like to comment on your financial responsibility requirement. Most of the wells drilled in the United States, oil wells and gas wells, are not drilled by the Exxons and the Shells and the major oil companies. They are drilled by small, independent operators like Carmel.

The requirement or the suggestion that a $5,000,000 financial responsibility bond be made available, that would essentially eliminate small companies. I checked with our financial advisors, for example, and we don't think we can get a $5,000,000, 20-year, perpetual bond. We just don't think we can do it.

Just like the gentleman spoke a second ago, the Springfield public utility, I feel that the EPA, with respect

to this hazardous waste and definition, ought to concentrate on really gross offenders. I think, from what I see on television and read in the newspaper, that there are quite a few gross offenders out there.

But, gentlemen, we have been regulated now for, oh, certainly right after the War and the states do a real top notch job. At least Carmel, and I think the oil industry as a whole, feels that EPA should concentrate its efforts on the gross offenders and since we are already regulated, let us stay over there in this Subtitle D section, continue to monitor our activities, but at the same time, save us from the--it was a proposal that 300 days be required for us to even get a drilling permit.

Spare us from that type of agony. Spare us from the $5,000 per well cash bond and the $5,000,000 financial responsibility bond.

CHAIRPERSON DARRAH: Thank you. Would you answer questions for us?

DR. POSTON: Yes, I would be happy to.

MR. LINDSEY: Mr. Poston, I've got a series of questions here, but before I do, I think there may be some misunderstandings somewhere here.

First of all, you talked about the $5,000 bond, up front, for drilling. That's not part of these regulations. Is that a set of EPA regulations somewhere else?

DR. POSTON: I had read that as part of the oil and gas--I have to admit I did not see it in the Federal Register, but I was advised by your people in Washington that would be taken up at a later date.

MR. LINDSEY: But not under this Act. It may be under the underground injection control program or another program, which offhand I am not aware of. But, you may be right.

The other thing you mentioned was the financial responsibility in the requirement for operating hazardous waste disposal sites to maintain a $5,000,000 insurance premium for disasters, if you will.

I just want to make it clear or make sure there is an understanding here that under the special waste regulations that we have here, the type of waste which we are talking about, which is gas and oil drilling muds and oil production brines, are not subject to that, at least during this period that we are considering them as a special waste.

Did you misunderstand that?

DR. POSTON: I'm glad to have that clarification.

MR. LINDSEY: In other words, the only disposal regulations that are in place now for the special wastes are those limited set of regulations which are included here and it does not includes these insurance premiums at this point.

I will have to study the wastes some more. We may

generate regulations for these specific wastes, but at the present, that's not covered.

Let me get to a couple of additional questions, if I could. You mentioned and I think you understood this correctly, that these kinds of waste are only covered, in any event, if they fail the characteristics test under Section 3001. I believe you mentioned that.

Have you done any testing or do you have any feel for knowing the characteristics of the waste we are talking about, the steam drum blowdowns, the brines and the oil muds, whether or not they will meet or fail, if you will, these characteristics?

DR. POSTON: The only way I think you would have us caught is this arbitrary definition, in my view arbitrary, that if it's ten times your definition of potable water or drinkable water, then we're in.

MR. LINDSEY: You think it's probably going to meet that?

DR. POSTON: Oh, yes.

MR. LINDSEY: I see.

DR. POSTON: My recollection is that potable water is around 1,000 parts per million total dissolved solids and most oil field brines are going to be in excess of 10,000 parts per million of total dissolved solids and cooling tower blowdown or steam drum blowdown is going to be in excess of

10,000 parts per million of total dissolved solids. I think you have us there.

MR. LINDSEY: I don't believe there is a total dissolved solids requirement here.

DR. POSTON: Well--

MR. LINDSEY: I don't believe there is a total dissolved solids requirement in here. The requirements are for specifics from the primary drinking water standards.

There are primary drinking water standards which list a series of heavy metals and a few pesticides. So, it's only the toxic--

DR. POSTON: I did not have benefit of--you make reference to the EPA's drinking water standards in the Federal Register. I didn't have that little piece of information in my hands to know what that was.

I can tell you that from experience, when you start talking about 1,000 parts per million of total dissolved solids, if you consistently consume drinking water that exceeds those qualities, you are going to be in a little trouble.

MR. LINDSEY: The pertinent part that you need to look at, I think, is under 250.13-D, which is where the specific toxicants are listed.

DR. POSTON: Yes, I have looked that list over and we do not characteristically, typically, have those toxicants. We are out on that basis.

MR. LINDSEY: If that's the case, then those particular wastes would probably not, if you are right, would probably not be considered hazardous.

CHAIRPERSON DARRAH: I just want to clarify that for him. I'm not sure, but I think the requirement under RCRA may have been misinterpreted to you. We are using the number only for those 10 substances that are listed in here.

The fact that you have 1,000 parts per million solids does not make you hazardous waste. It would only be if you met, you know, had too much of one of these things, these ten substances.

I think what you told us is, you have to meet any of our requirements.

DR. POSTON: I just need that little piece of paper.

MR. LINDSEY: You mentioned that brine muds, brine ponds and mud pits are already regulated, leaching pits. Who is it that regulates them, the state?

DR. POSTON: The state in every case.

MR. LINDSEY: Is this only in Missouri, or are we talking nationwide?

DR. POSTON: Everywhere we operate.

MR. LINDSEY: The leaching from these mud pits and brine ponds is already covered?

DR. POSTON: Yes, if all industry has moved over a

period here of 20 to 25 years to salt water disposal well. I guess if you would say, "How much do you typically produce, how much brine is typically produced with the oil", I would have to say it's 50-50 or one to one ratio.

There are exceptions to this. Sometimes you produce very little water, but probably on the average for every barrel of oil, you produce one barrel of water.

MR. LINDSEY: The ponds then are used for what, storage ponds before injection? Is that what's normally done?

DR. POSTON: We don't even use in our operations, for example, we don't even use surface storage ponds to produce brines. We go to an underground disposal well with a pump.

The drilling mud pits are right by the individual wells and they only exist for the period the well is being drilled.

MR. LINDSEY: O.K., thank you.

MR. LEHMAN: Mr. Poston, it appears from some of your comments that you are getting a lot of your information from an article that appeared in the Oil and Gas Journal.

DR. POSTON: Yes, that's correct.

MR. LEHMAN: I was shown a copy of that yesterday and haven't had a chance to really study it, but apparently, there are some incorrect statements there, some misinformation.

DR. POSTON: I hope so.

MR. LEHMAN: I would recommend highly to you that

you take your information from the Federal Register and not from--

DR. POSTON: I did go to the effort to get the Federal Register. I went to the library, got it out, and I did read it.

CHAIRPERSON DARRAH: Thank you very much.

(The document referred to follows:)

HEARING INSERT

PREPARED STATEMENT
EPA HEARING ON HAZARDOUS WASTE GUIDELINES

by Robert S. Poston, Vice President
Carmel Energy, Inc.
1776 Yorktown, Suite 110
Houston, Texas 77056

Carmel Energy, Inc. is a very small oil producing company, privately held, that has developed over an eight(8) year period some technology which is working successfully to recover heavy oil from oil reservoirs in Eastern Kansas and Western Missouri. Carmel drilled approximately 50 wells in Calendar 1978 and plans to drill over 100 wells in Calendar 1979 to recover oil from heavy oil deposits.

Carmel's Vapor Therm™ process consists of surface generation of superheated steam, carbon dioxide and nitrogen; injection of these gases into a heavy oil reservoir and then producing oil from stimulated wells. Oil production response is a function of reservoir quality, but in general the Vapor Therm ™ process is capable of over 10 to 20 fold increase in oil production rates compared to production without stimulation.

Carmel is succeeding where others have failed due to the more favorable relationship between oil price and costs which now exists; because of the entrepreneural nature of the company and because of two U.S. Department of Energy cost sharing contracts to fund field demonstrations of our technology.

Carmel, and the oil producing industry as a whole, does not want to pollute the environment in which we live and operate and favors laws to protect the environment with stiff penalties for willful violations. The industry simply has too good a record especially in recent years to reach a different conclusion.

However, what is of particular concern to Carmel is the proposed sweeping definition of "hazardous". Hazardous by definition means risky or perilous or severly damaging. Drilling muds, produced oil field brines (connate water) and steam drum blow down are simply not hazardous materials and should not come under your jurisdiction and control.

In reading Section 3001 in the December 18, 1978 Federal Register, the only way the EPA was able to define these materials as hazardous was by "assuming" that any material with a solids concentration ten times that recommended for potable water was by definition hazardous. By this definition it would be hazardous for anyone to swim in the oceans of the world or as a matter of fact the Great Salt Lake; which we all know is foolish.

The real question of environmental concern and importance is proper disposal of oil field waters. Therefore, why not simplify the regulations and make it easier for oil companies to solve the energy crises by exempting drilling muds, produced oil field brine and steam drum blow down as non-hazardous provided these materials are disposed of properly. For example, drilling muds are to be removed from the surface pit and the pit covered back to its original contour (setting the exemption to 1000 kilogram per month). Produced oil field brine and steam drum blow down once properly reinjected back into the oil formation from which it was produced or other formation approved by the state geologist should satisfy all environmental questions. Disposal well permits as are now required should be continued.

We recommend that the EPA adopt rules which specifically exempt the oil producing industry from the definition of hazardous waste as proposed in Section 3001 provided the above mentioned materials are properly disposed. The materials are in themselves hon-hazardous and the only possible environmental harm would occur in the improper disposal of the materials.

I also wish to bring to your attention the fact that all oil field operations are not the same. In Western Missouri we have been drilling and coring with air and this technique is working well for us. The wells are very shallow--averaging less than

150 feet total depth--and the cost of digging and drilling mud pit and covering the pit back after drilling the hole becomes needlessly expensive when we can drill with air. We ask you to please recognize this fact and not require a permit or any other waste disposal requirement for air drilling operations.

Certainly if after deliberation the EPA finds as I have suggested that oil field drilling mud, produced brine and steam drum blow down is not hazardous when properly disposed, then the oil industry need not concern itself with the most burdensome provisions of permitting with its suggested 300 day waiting period, the $5,000 per well up-front cash bond, the $5 million dollar financial responsibility requirement for 20 years and the costly manifest, record-keeping and reporting system.

If however, the EPA continues to hold against the oil producers it will unquestionably reduce much needed domestic drilling and exploration because it will eliminate small independent oil producers like Carmel who year after year drill most of the land based oil wells in the lower 48 states. The $5,000 per well up front bond seems reasonable relative to the abandonment and plugging cost of "average" oil wells. I am here to point out that there are exceptions to the average. As I stated earlier, our wells in Western Missouri are only 150 feet deep and contract drilling cost is $4 per foot or $600 per well. Each well can be plugged by cementing through one(1) inch from the bottom of the hole to the surface for less than $200. The State of Missouri requires a $1,000 per well bond or a $10,000 blanket bond. Either appear sufficient to plug an abandoned well in Western Missouri. The states do an excellent job of controlling the oil and gas producers in the areas in which we operate.

I have checked with our financial advisors and Carmel has concluded that it would be impossible for us to obtain an open-ended $5 million financial responsibility bond for 20 years duration. We simply do not have the financial resources to obtain such a bond. We are convinced that the states requirement of a perpetual plugging and abandonment bond either on a per well or field basis sufficies.

Carmel feels that the EPA should take into consideration the fact that the oil producing industry has a good record of managing and controlling its waste and that imposing further regualtions on an already over-regulated industry will do nothing to stimulate what most feel is in the national interest--increased domestic oil production.

CHAIRPERSON DARRAH: We will move on to to people who have asked to comment on Section 3002, and my first person will be Mr. Merlin Horn of the Utility Solid Waste Activities Group.

STATEMENT OF MERLIN HORN

MR. HORN: Good morning. My name is Merlin Horn. I am Director of Environmental Affairs for the Wisconsin Power and Light Company. I am appearing today on behalf of the Wisconsin Power and Light Company and, also, the Utilities Solid Waste Activities Group, and the Edison Electric Institute, to comment on some aspects of the regulations proposed to implement Section 3002 of RCRA.

While some of you are familiar with USWAG, that is the Utilities Solid Waste Activities Group, let me briefly describe the group for those of you who are not.

USWAG is an informal consortium of electric utilities and the Edison Electric Institute. Currently, there are some 45 utility members of USWAG. Those companies own and operate a substantial percentage of the electric generation capacity in the United States.

E.E.I., Edison Electric Institute, is the principal national association of invester owned electric light and power companies.

Coal is the principal fuel used for electric generation in the United States today. At Wisconsin Power and Light

it is the major fuel source for the company's base load generation and will continue to be so in the future.

The principal wastes from electric power generation that would be regulated under RCRA are those that result from the use of coal as a fuel to produce electricity. Thus, RCRA and the regulations to be promulgated under it. will have a substantial and direct effect on the operations and economics of the electric utility industry generally, and Wisconsin Power and Light particularly.

We emphatically believe that the great bulk of utility wastes are not hazardous. As the members of the panel are aware, our representative at last week's hearing described why we believe that the methodology proposed under Section 3001, to determine whether wastes are hazardous, is unsound and unreliable.

I will not repeat those points today, but it does seem important to note that if utility wastes are inappropriately labeled as hazardous, approximately 400 coal-fired power plants in this country will be subject to Section 3002 of RCRA and the regulations thereunder.

There are two points we with to emphasize today. First, we believe that the regulation should make clear that all generators of special utility wastes be regulated in accordance with the special rules provided in Section 250.46, rather than under Subpart B.

Second, addressing Subpart B as drafted, we believe the proposed regulations as applied to generators of utility wastes appear to create unnecessary and expensive burdens and to erect barriers against the important objective of promoting resource recovery.

The fundamental concern we have with regard to the applicability of EPA's proposed 3002 regulations, the utility wastes, centers on a relationship between those regulations and the EPA's proposed special waste rules under 3004.

USWAG wholly endorses the agency's intention to place high-volume utility waste in the special waste category pending completion of a separate rule making.

We are somewhat confused, however, by an ambiguity created by Section 250.46. As now drafted, the regulations appear to suggest that only waste generators who also qualify as owners or operators of special waste treatment and storage and disposal facilities will be regulated under the special rules.

If so, generators who do not own or operate T.S.D.F. sites, treatment, storage and disposal facilities, will not be recovered by them.

A further question is raised from the draft regarding whether even owners or operators of T.S.D.F.sites, in the roles as generators, would be subject to the full range of 3002 requirements, even though in their capacities as owners

or operators of T.S.D.F. sites, they would be regulated under the special rules.

We do not believe that such a result is sensible, nor do we believe that it was intended. We thus urge that the language be clarified to provide that all generators of special utility wastes be subject to the same regulatory requirements. That is, those contained in Section 250.46, as owners and operators of T.S.D.F. sites for special waste.

Another way of stating this is that the language, per se, does not afford generators the same exemptions extended to owners and operators of T.S.D.F.s for special waste.

EPA's reasons for proposing a special waste category certainly apply with equal force to special waste generators. I particularly note EPA's acknowledgment in the preamble to the 3004 regulations, "That the potential hazards posed by these special wastes are relatively low."

There is also no indication, insofar as management of utility special wastes is concerned, that the Subpart B procedures are necessary to protect human health and the environment.

Thus, for example, I am not aware of any instances where shipping of unlabeled utility special wastes has posed, or will pose, a risk to human health and environment.

Further, EPA has noted that utility wastes are high volume and may not pose a substantial threat to health or the environment.

This is the basis for placing such wastes in a special handling category for facility operators. These utilities are also closely regulated in many states and the number and locations of the waste disposal facilities are already a part of the public record.

USWAG will file detailed written comments addressing this matter and other aspects of the proposed Subtitle C regulatory scheme. For now, let me direct the remainder of my testimony today to three of our concerns.

One, the inappropriateness, as to utility practices, of the critical on-site/off-site definition contained in the proposed regulations.

Two, the need to revise certain of the proposed DOT packaging requirements as they apply to utility wastes, and, three, the need to revise the regulations so they would not preclude environmentally safe reuses of utility wastes such as fly ash.

Proposed Section 250.20 (c) draws a distinction between generators that send their waste to an off-site facility, on the one hand, and those that send them to on-site facility, on the other.

These distinctions are of considerable practical importance, since so-called off-site handling would be subject to considerably more extensive regulation. In our view, the regulatory distinction between on-site and off-site hand-

ling is impractical for high-volume, low-risk utility waste. This distinction should be based upon the degree of risk imposed by the handling practice, not upon property boundary lines.

EPA's proposed definition, however, focuses only on property boundaries. Thus, on-site is defined as the "Same or geographically contiguous property", or two or more pieces of property, geographically contiguous, separated only by public or private rights of way.

This definition is wholly inappropriate as applied to the electric utility industry. Many utilities dispose of waste in facilities located as many as several miles from the power plant.

If one considers the typical geographical setting of a power plant, this is hardly surprising. For example, many are located on rivers or in heavily industrialized areas, in which demand for land is great.

The effect of this, as well as existing land use restrictions, is to limit the ability of the utilities to site their disposal facilities at the power plant. It is also important to recognize that although these areas may not be directly adjacent to the power plant sites, they generally are dedicated solely to utility use and disposal of the utility wastes.

Fundamentally, we believe EPA should draw regula-

tory distinctions on the basis of risks posed. Indeed, the Agency has already recognized the validity of this approach in the proposed 100 kilogram exemption. That exemption is premised on this type of risk perception analysis.

If the Agency believes itself obligated to retain some on-site/off-site distinction, the term on-site should at least be defined to include handling at reasonably proximate facilities, where the waste transport and disposal practices utilized pose no substantial risk to--no substantial risk of adverse environmental effect.

I would now like to comment briefly upon certain requirements contained in the proposed packaging rules. EPA would require all generators sending hazardous wastes offsite to ship the wastes in accordance with Department of Transportation packaging requirements.

DOT, in a pending rulemaking, has proposed that shipment of RCRA hazardous wastes in open-top vehicles, such as dump trucks, be prohibited. DOT has also requested comments as to whether transport of RCRA hazardous wastes in tarp-covered, open-top vehicles should be allowed.

DOT's proposed prohibition does not appear necessary to protect the environment from dispersion of transported utility special wastes. Many utilities use dump trucks to haul ash and scrubber sludge, particularly when these materials are to be reused as fill material. Ash is wetted

down and due to its chemical properties, forms a crust. Thus, loose ash does not escape. Scrubber sludge is also fixed in a solid state to prevent dispersion in transit.

Clearly, if open hauling is flatly prohibited, overall waste management costs will substantially increase. Reuse of utility special wastes will be especially hampered, because many of these reuses are already economically marginal.

Therefore, we urge that DOT's present packaging requirements be retained.

Finally, I would like to speak for the negative impact of the proposed rules, what they will have on resource recovery and reuse of utility special wastes.

A number of points are beyond dispute. First, a fundamental objective of RCRA is promotion of resource reuse and recovery. Second, most present reuse and recovery practices involving utility wastes, such as use of fly ash as a road base and concrete additive, are economically marginal and could be discontinued if an additional layer of regulatory cost is imposed.

I address this matter in further detail in my written statement and wish only to make one point clear. We ask EPA to reconsider feature of the proposed 3002 rules which would needlessly impede resource recovery.

As proposed, every generator must comply with Subparts B through E if its wastes remain on-site for 90 days or

longer. Utilities, however, must frequently allow material to accumulate for longer than 90 days before sufficient quantities are collected for reuse, either for reasons of economy, weather or availability of transportation.

For instance, the barging season in the upper Mississippi is suspended from November to March. Under EPA's approach, the materials accumulated in that period could fall into the costly maze of the regulations and reuse would be severely restricted.

EPA, thus, should certainly recast this aspect of its rules to allow accumulation of the utility wastes for longer than 90 days without automatically triggering Subtitle C regulation.

In sum, for the reasons expressed above, my company, USWAG and EEI, believe that the regulations proposed to implement Section 3002 would impose needless costs on the utility industry and would eliminate many present and future reuses of utility wastes.

There appear to be less costly and environmentally acceptable alternatives, and we urge EPA to adopt them in its final regulations. Thank you.

CHAIRPERSON DARRAH: Thank you. Are there questions?

MR. TRASK: In your mention of the 90-day rule, do you have an alternative suggestion as to how we could have

some period of accumulation of waste for an economic shipment by the generator and yet still provide for protection against an accumulation of waste that is not going to be handled, merely going to be left there? That's the comment we have heard from most other people and that's the reason it's in there.

MR. HORN: I don't have any specific suggestion, other than the fact that some longer period might be as much arbitrarily selected as, say, a 90-day period. For example, 180 days or 12 months or some period such as this.

MR. TRASK: Would the 180 days be sufficient for the concern you have?

MR. HORN: In the instance of the one example, which I cited, which applies to one of our particular power plants, where we do ship materials by barge, if it were a 120-day period, then we would be able to get through the period of time where navigation by barge on the upper Mississippi is not generally possible.

MR. TRASK: Is barge shipment commonly used in disposing of coal ash? I am not familiar with it.

MR. HORN: I can't really answer for the industry as a whole. For our case, it happens to be a rather unique situation, where we do have a power plant located on the Mississippi River with attendant barge facilities. It's certainly one of the cheapest ways of transporting these

materials which favor the economics of the reuse.

MR. TRASK: I have no further questions. I suspect that Mr. Robert may have had some questions for you on the DOT packaging requirements, but I am not qualified to ask those.

MR. LINDSEY: I will follow up, if I may, on a resource recovery comment you made. That is the 90-day exclusion. I think you mentioned you felt the 90-day limit on storage would be an impediment to resource recovery.

Is that because, in other words, one can store for more than 90 days. It's just that they have to get a permit to do so. You are aware of that, right?

MR. HORN: Yes.

MR. LINDSEY: You feel it's the cost of obtaining the permit that would be the impediment to resource recovery or, rather, is it the fact the material would be called hazardous or what have you?

What is it specifically about the storage, the 90-day part, that causes the impediment as you see it?

MR. HORN: I guess, basically, it's our concern, our fear, that we would be subject to the full implications of the 3000 series regulations.

MR. LINDSEY: I think that may be a misinterpretation, because basically if you do submit the material for resource recovery, even after 90 days, once you have a sale and

material is moved, then it is out of the system. But, if it is stored for more than 90 days, then a permit would be required for the storage operation, which, depending on how it's stored, might not be very difficult to obtain.

One other thing you did mention, I think, right at the outset, you indicated you felt the regulations would have a substantial impact on the electric utilities industry.

When you say a substantial impact, are you referring to the regulations as they are proposed, that is, the special waste provisions, or are you going further than that, and saying that if all the regulations under 3004 were to be imposed that the impact would be substantial? Or, is it both?

MR. HORN: There will be some additional comments rendered by our USWAG organization on those particular questions, but I would suggest at this time that even under the special waste classification, that those sections that do apply, still create an additional economic burden on our operations.

MR. LINDSEY: Do you have any figures on what that might be, say, for a typical power plant?

MR. HORN: No, I don't have any at hand. I think, perhaps, in our written comments that will be submitted prior to March 16th, we may have such numbers available.

MR. LEHMAN: Mr. Horn, you made a point in part of your presentation concerning the distinction between on-site

and off-site facilities and the impact that might have, on your industry. Am I correct in assuming that what you really-- you also said that where you do ship off-site, it's usually only for a few miles due to transportation limitations and it's usually a site they are totally dedicated to for that particular type of waste.

Am I correct in assuming that what you are driving at here is that you feel facilities that are--I mean, the distinction between on-site and off-site should be made on the basis of, not on distance or contiguous property, but on whether or not the site is dedicated solely for the use of a particular waste from a particular source?

MR. HORN: I think certainly that your latter comment is appropriate, that if the site is dedicated solely for that use, it should have some bearing on the overall consideration of risk.

With respect to transportation, certainly distance becomes an important factor,in that within relatively short hauls, trucks turn out to be the most economic means of transporting waste, unless they are so close that, perhaps, pipeline transport could be used.

So, there is certainly a relationship between distance and mode of transport with the degree of risk that might be posed in the transport of "off-site" disposal facility.

MR. LEHMAN: Thank you.

MR. TRASK: One further point I think we ought to clarify. Perhaps if a generator owns his own disposal site in the same state, then really the only difference is that he needs a manifest in order to get there. His reporting requirements are the same as are listed under the special waste sections, reporting and record keeping requirements.

So, the only difference then is the manifest and being subject to the DOT requirements. But even if you go directly across a public highway, you still may besubject to the DOT requirements. That has nothing to do with what we are doing. I just wanted to make that clear to you.

MR. HORN: Yes.

MR. MC LAUGHLIN: I would like to ask a few questions. Previously, we heard from the Springfield utility people that they were already regulated by at least three federal laws on their disposal sites and disposal practices.

Are you, in Wisconsin, similarly regulated and by whom? Do you need a permit?

MR. HORN: Yes, we do. We have been required to have permits under our Department of Natural Resources permitting system for quite some time.

MR. MC LAUGHLIN: Do you do any returning to the mine for disposal?

MR. HORN: No, most of our coal, of course, is shipped in from rather long distances, either from southern

Illinois or from Montana and Wyoming. I'm not familiar with all the cost data associated with freight rates in terms of hauling residual materials such as ash, but it's my understanding it would be quite exhorbitant.

MR. MC LAUGHLIN: Thank you.

CHAIRPERSON DARRAH: Thank you very much.

(The document referred to follows:

HEARING INSERT

Statement of Merlin Horn, Ph.D.
on behalf of
Wisconsin Power & Light Company,
The Utility Solid Waste Activities Group
and
The Edison Electric Institute

Public Hearing on Proposed Regulations to
Implement Section 3002 of the Resource
Conservation and Recovery Act of 1976,
U.S. Environmental Protection Agency

February 15, 1979
St. Louis

My name is Merlin Horn. I am Director of Environmental Affairs for the Wisconsin Power & Light Company.

I am appearing today on behalf of Wisconsin Power & Light, the Utility Solid Waste Activities Group and the Edison Electric Institute to comment on some aspects of the regulations proposed to implement Section 3002 of RCRA. Briefly summarized, I will address two concerns. First, we believe that the regulations should make clear that generators of "special" utility wastes are to be regulated in accordance with the special rules provided in Section 250.46, rather than under proposed Subpart B. Second, addressing Subpart B as drafted, we believe the proposed regulations as applied to generators of utility "wastes" appear to create unnecessary and expensive burdens and to erect barriers against the important objective of promoting resource recovery.

Before expanding on these points, I would like to note that Wisconsin Power & Light provides electric service to

some 281,000 customers in a 35-county area primarily in southern and central Wisconsin. Approximately 75 percent of the company's existing generation now on-line is coal-fired. Our company, along with four other utilities, form the Wisconsin-Upper Michigan Systems (WUMS), serving eastern and southern Wisconsin and a portion of Upper Michigan. Collectively, this group is planning to bring 2260 megawatts of coal-fired generation on-line in the period 1980 through 1985.

While some of you are familiar with USWAG, let me briefly describe the group for those of you who are not. USWAG is an informal consortium of electric utilities and the Edison Electric Institute. Currently, there are some 45 utility members of USWAG. Those companies own and operate a substantial percentage of the electric generation capacity in the United States. EEI is the principal national association of investor-owned electric light and power companies.

As a USWAG representative testified on Section 3001 at the hearing last week in New York, coal is the principal fuel used for electric generation in the United States today. At Wisconsin Power & Light, it is the major fuel source for the company's base load generation and will continue to be so in the future. The principal wastes from electric power generation that would be regulated under RCRA are those that result from the use of coal as a fuel to produce electricity. Thus,

RCRA, and the regulations to be promulgated under it, will have a substantial and direct effect on the operations and economics of the electric utility industry generally, and of Wisconsin Power & Light particularly.

We emphatically believe that the great bulk of utility wastes are not hazardous. As the members of the panel are aware, our representative at last week's hearing described why we believe that the methodology proposed under Section 3001 to determine whether wastes are hazardous is unsound and unreliable, and I will not repeat those points today. But, it does seem important to note that if utility wastes are inappropriately labeled as "hazardous", approximately 400 coal-fired power plants in this country will be subject to Section 3002 of RCRA and the regulations thereunder.

Let me now turn to the fundamental concern we have with regard to the applicability of EPA's proposed 3002 regulations to utility wastes. Specifically, that concern centers on the relationship between those regulations and EPA's proposed "special waste" rules under 3004. USWAG wholly endorses the Agency's intention to place high volume utility wastes in the "special waste" category pending completion of a separate rulemaking.[1/] We are somewhat confused, however, by an ambiguity created by Section 250.46.

1/ See proposed § 250.46-2(a), 43 Fed. Reg. 59015 (Dec. 18, 1978) and preamble thereto, id. at 58991-92.

As now drafted, the regulations appear to suggest that only waste generators who also qualify as owners or operators of special waste treatment, storage, and disposal facilities will be regulated under the separate rules. If so, generators who do not own or operate TSDF sites will not be covered by them. A further question is raised from the draft regarding whether even owners or operators of TSDF sites in their roles as "generators" would be subject to the full panoply of 3002 requirements, even though in their capacities as owners or operators of TSDF sites they would be regulated under the special rules.

We do not believe that such a result is sensible; nor do we believe that it was intended. We thus urge that the language be clarified to provide that all generators of "special" utility wastes[2/] be subject to the same regulatory requirements (i.e., those contained in Section 250.46) as owners and operators of TSDF sites for special wastes.[3/]

EPA's reasons for proposing a special waste category certainly apply with equal force to special waste generators. I particularly note EPA's acknowledgment, in the preamble to the 3004 regulations, "that the potential hazards posed by the

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2/ I.e., hazardous special waste as described in Section 250.46.

3/ This same approach should be taken with regard to transporters of special wastes.

[special waste[s] are relatively low." [4/] There is also no indication, insofar as management of utility special wastes is concerned, that the Subpart B procedures are necessary to protect human health and the environment. Thus, for example, I am not aware of any instances where shipping of unlabeled utility special wastes has posed, or will pose, a risk to human health and the environment.

Further, EPA has noted that utility wastes are high volume and may not pose a substantial threat to health or the environment. This is the basis for placing such wastes in a special handling category for facility operators. These utilities are closely regulated in many states, and the number and locations of the waste disposal facilities are already a part of the public record.

USWAG will file detailed written comments addressing this matter and other aspects of the proposed Subtitle C regulatory scheme. For now, let me direct the remainder of my oral testimony today to three of our concerns:

(1) The inappropriateness, as to utility practices, of the critical "on-site/off-site" definition contained in the proposed regulations;

(2) The need to revise certain of the proposed DOT packaging requirements as they apply to utility wastes; and

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4/ Id. at 58991-92.

(3) The need to revise the regulations so that they would not preclude environmentally safe reuses of utility "wastes," such as fly ash.[5/]

Proposed Section 250.20(c) draws a distinction between generators that send their wastes to an "off-site" facility on the one hand, and those that send them to an "on-site" facility, on the other. These distinctions are of considerable practical importance since so-called "off-site" handling would be subject to considerably more extensive regulation.

In our view, the regulatory distinction between on-site and off-site handling is impractical for high-volume, low-risk utility waste. This distinction should be based upon the degree of risk posed by the handling practice, not upon property boundary lines. EPA's proposed definition, however, focuses only on property boundaries; thus, "on-site" is defined as "the same or geographically contiguous property," or two or more pieces of property, geographically contiguous,

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5/ I would also like to mention in passing the implication contained in the 3002 preamble that a generator may be held liable in an enforcement action for the improper acts of transporters. In our view, it is unfair and inappropriate to impose on generators of large-volume, low-risk utility wastes responsibility for the actions of independent entities over whom they have no control, and EPA should remove any such suggestion from its final rules.

separated only by public or private rights of way.[6/] This definition is wholly inappropriate as applied to the electric utility industry. Many utilities dispose of wastes in facilities located as many as several miles from the power plant. If one considers the typical geographical setting of a power plant, this is hardly surprising. For example, many are located on rivers or in heavily industrialized areas, in which demand for land is great. The effect of this, as well as existing land use restrictions, is to limit the ability of the utilities to site their disposal facilities at the power plant.
(The economics of transporting the huge volumes of ash, sludge and other byproduct materials involved requires, however, that sites be reasonably close to the power plant, usually within a few miles.)

It is also important to recognize that although these areas may not be directly adjacent to power plant sites, they generally are dedicated solely to utility use and disposal of utility wastes.

Fundamentally, we believe EPA should draw regulatory distinctions on the basis of risks posed. Indeed, the Agency has already recognized the validity of this approach in the proposed 100 Kg exemption. That exemption is premised on this type of risk perception analysis.[7/] If the Agency believes

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6/ § 250.21(b)(18).

7/ 3002 Background Documents, BD-8, at pp. 21, 27.

itself obligated to retain some "on-site/off-site" distinction, the term "on-site" should at least be defined to include handling at reasonably proximate facilities, where the waste transport and disposal practices utilized pose no substantial risk of adverse environmental effect.

I would now like to comment briefly upon certain requirements contained in the proposed packaging rules. EPA would require all generators sending hazardous wastes off-site to ship the wastes in accordance with Department of Transportation packaging requirements. DOT, in a pending rulemaking, has proposed that shipment of RCRA hazardous wastes in open-top vehicles such as dump trucks be prohibited. DOT also has requested comments as to whether transport of RCRA hazardous wastes in tarp-covered, open-top vehicles should be allowed.

DOT's proposed prohibition does not appear necessary to protect the environment from dispersion of transported utility special wastes. Moreover, its impact on the electric utility industry would be significant. Many utilities use dump trucks to haul ash and scrubber sludge, particularly when these materials are to be reused as fill material. Ash is wetted down and, due to its chemical properties, forms a crust. Thus, loose ash does not escape. Scrubber sludge is also fixed in a solid state to prevent dispersion in transit.

Clearly, if open hauling is flatly prohibited, overall waste management costs will substantially increase. Reuse

of utility special wastes will be especially hampered, because many of these reuses are already economically marginal.

As I indicated, less costly alternative measures exist to prevent uncontrolled dispersion of utility special wastes when transported. We believe, therefore, that EPA should urge DOT to retain its present packaging requirement: namely "that under conditions normally incident to transportation, there will be no significant release of the hazardous materials to the environment."[8/] USWAG will urge such an approach in its comments to DOT's proposal.

Finally, I would like to speak to the negative impact the proposed generator rules will have on resource recovery and reuse of utility "special wastes".

A number of points are beyond dispute. First, a fundamental objective of RCRA is promotion of resource reuse and recovery. Second, most present reuse and recovery practices involving utility materials -- such as use of fly ash as a road base and concrete additive -- are economically marginal and could be discontinued if an additional layer of regulatory cost is imposed. EPA's background document to the 3002 regulations correctly recognizes that "resource recovery facilties are often marginally profitable, and too stringent permitting, recordkeeping, reporting, manifest,

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8/ 49 C.F.R. 173.24(a)(1).

etc. requirements could put a marginally profitable facility out of business, and would violate Congressional intent to promote resource recovery."[9/]

As I stated, we do not believe large volume utility wastes may properly be classified as hazardous wastes. We also do not believe that Congress intended to regulate under Subtitle C environmentally safe reuses of utility "wastes." Indeed, we note that several Federal agencies, such as the Federal Highway Administration and the U.S. Bureau of Mines, have encouraged a number of important uses of utility "wastes" in construction, and reclamation, and testified to Congress about these uses when RCRA was under consideration.

Nevertheless, EPA's proposed 3002 regulations well as its other proposed rules) indiscriminantly reg reuse and resource recovery, without regard for whethe ula- tion in fact is needed to protect health and the envir ent. Thus, all "hazardous waste" must be transported to a permitted facility, and the generator, transporter, and facility owner/ operator must comply with all of the requirements of Sections 3002, 3003, and 3004. This conceivably could require a construction firm, responding to the Federal Highway Administration's policy of encouraging use of fly ash, to obtain a RCRA permit. Obviously, most reuses cannot continue if this substantial additional layer of cost and administrative burden is imposed.

9/ BD-8, p. 17.

EPA addressed these problems far more rationally in its 3002 background document than in the regulations themselves. There, EPA concluded that the 3002 regulations should encourage resource recovery either by avoiding regulation of wastes sent to resource recovery facilities, or by exempting from most of the Subtitle C regulations resource recovery facilities and generators whose products are reused. Generally speaking, we believe these alternatives fit the spirit of RCRA's resource recovery objectives and urge that EPA reconsider its approach in this area.

We also ask EPA to reconsider a specific feature of the proposed 3002 rules which would needlessly impede resource recovery. As proposed, every generator must comply with Subparts B through E if its wastes remain on-site for 90 days or longer. Utilities, however, must frequently allow materials to accumulate for longer than 90 days before sufficient quantities are collected for reuse, either for reasons of economy, weather or availability of transportation. For instance, the barging season in the upper Mississippi is suspended from November to March. Under EPA's approach, the materials accumulated in that period could fall into the costly maze of the regulations, and reuse would be severely restricted. EPA thus should certainly recast this aspect of its rules to allow accumulation of utility "wastes" for longer than 90 days without automatically triggering Subtitle C regulation.

In sum, for the reasons expressed above, my company, USWAG and EEI believe that the regulations proposed to implement Section 3002 would impose needless costs on the utility industry and would eliminate many present and future reuses of utility "wastes." There appear to be less costly and environmentally acceptable alternatives, and we urge EPA to adopt them in its final regulations.

CHAIRPERSON DARRAH: The next speaker this morning is Mr. Howard Chin, Environmental Control Division, the Attorney General's Office.

(No response.)

CHAIRPERSON DARRAH: Mr. Chin hasn't answered. Is Robert Robinson here from the Missouri Solid Waste Management Program?

MR. ROBINSON: My name is Robert M. Robinson. I am Director of the Solid Waste Management Program for the Missouri Department of Natural Resources.

STATEMENT OF ROBERT M. ROBINSON

MR. ROBINSON: The Department has several comments and will, at a later date, submit more detailed written comments.

Section 250.21-B-4 defines several documents which may be used in lieu of the original manifest. We recommend the EPA require the original manifest be used except where physically impossible, as is in the case of railroads.

We are concerned that allowing the use of other documents will be confusing and impair the effectiveness of the cradle to the grave management system.

Second comment, the exemptions provided for generators producing less than 100 kilograms per month, and for retailers provided in Section 250.29-A, are, in our opinion, too broad.

These regulations do not consider the degree of potential hazard and, apparently, provide an unlimited quantity exemption for retailers.

Under this situation, wholesalers or industry could maintain a retail outlet and let this branch of the company dispose of all of their off-spec product, which might be hazardous.

We recommend that EPA provide both a quantity and quality exemption for small quantities of hazardous wastes. Retailers should only be exempted under the 100 kilogram provision in the regulations. Thank you.

CHAIRPERSON DARRAH: Are there any questions?

MR. TRASK: Mr. Robinson, you mentioned that we should deal with quality as well as quantity of hazardous waste and I believe you mentioned degree of hazard as a dividing line.

Do you have some ideas along that line, what would we use as a basis for determining degree of hazard?

MR. ROBINSON: Certainly, it would only be with the very toxic, very hazardous material, such as dioxin and some of your pesticides and things like that.

It concerns me that we get all this concerned about containers, pesticide containers for instance, and yet--and that's not a good example, I guess, because pesticides, I suppose, are controlled. But we get concerned about some things

like that with a very small amount of hazardous waste and, yet, we may let 100 pounds of very toxic material be disposed of.

So, I think, as I understood it when we started out developing these regulations some time ago, there was going to be, hopefully, a small list of very toxic wastes that would be excluded from that 100 kilogram exemption.

MR. TRASK: I am sure you noted in the preamble that we mentioned we were discussing five other options in this particular area, one of which would look at the degree of hazard.

What we need a great deal of in data to show which wastes should be included in that and the backup material as to why they should be included.

One of the problems that we hear in the industry is that we may be looking not at the long term problems of materials like dioxin, but we may be looking at the short term, the handling problems. We are interested to know where do we draw this line that we deal with in determining whether the wastes should be in the small category or in the larger category.

Because, as I am sure you are aware, the less than 100 kilogram quantity cannot be dumped. It must go to the so-called 4004-type facility. So, it isn't completely out of the RCRA system. It's merely out of the Subtitle C record

system.

MR. ROBINSON: I understand that, yes. But, I would still be concerned about some of those types of wastes and handling problems and exposure then at the landfill.

MR. TRASK: We would like to receive whatever data you have in this area.

MR. LEHMAN: Mr. Robinson, getting back to your point about retailers exemptions, setting aside for the moment your point about the possibility of wholesalers setting up some sham operations to avoid that, do you have any information that would lead you to believe that wastes from retailers present a significant environmental or public health problem?

MR. ROBINSON: I don't have any specific information to that regard, but it concerns me that we've let this great big loophole which can be used.

I agree with the 100 kilogram, by and large, except for the very toxic materials. But, why don't retailers have to also comply with that provision? I am also in favor of exempting the farmers and things like that, but I don't see the retailers who, of course, retail hazardous materials all the time and for some reason they may have broken quantities or contaminated quantities of that, that they can't sell and they are going to have to get rid of.

I think that ought to come under the system, because you have no quantity. They could have 100 tons of it, as I

understand it.

MR. TRASK: Is your concern then with certain kinds of retailers--what we had in mind was retailers such as a hardware store, for example, where it might be very difficult for them to separate a small quantity of hazardous waste.

MR. ROBINSON: I think they would, by and large, fall under kilograms per month, but if they don't, I think they ought to come under the system. I think very few of them would be coming under the system of over 100 kilograms.

But, you leave wide open the opportunity for abuse there.

MS. SCHAFFER: Mr. Robinson, I have a point of clarification. First of all, for the retailer, if they do have more than 100 kilograms of hazardous waste, they still have to comply with the D.O.T. transportation requirements and also take that to a 4004 facility. So, the waste is, again, not outside of a controlled system.

So, there is still a degree of control for it. But, secondly, I think one way to get around your problem of the sham operation for retailers, for a retail facility connected to a wholesaler, is the definition that we provided for a retailer, and I quote, means, "A person engaged solely in the business of selling directly to the consumer."

I think that, at least from an enforcement point of view, I would not consider a person who has a retail opera-

tion connected to a wholesale operation solely in the business of selling directly to the consumer.

MR. ROBINSON: It might cost you $20,000 in investigating of records to determine whether that would be true or not.

The other thing is, you talk about the D.O.T. When you are talking about your short hauls to the Subtitle D site, you might as well forget about trying to impose D.O.T. regulations. There are not enough policemen around to do that.

CHAIRPERSON DARRAH: I understand your concern about retailers, but you don't appear to have the same concern about performance. You don't think this might cause a great resurgence in farming activity?

MR. ROBINSON: I don't think farmers are going to start taking hazardous waste and disposing of it. I think primarily there we are dealing with some few pesticide containers and things like that.

They have the property and usually dispose of it on their own ground very many times. If they think it's bad, they are not going to dispose of it there, they are going to take it somewhere where it can be disposed of properly.

CHAIRPERSON DARRAH: Thank you very much.

Mr. Terry Freeze from Mississippi Chemical Corporation.

MR. FREEZE: I am Terry Freeze from Mississippi Chemical Corporation in Yazoo City, Mississippi.

STATEMENT OF TERRY FREEZE

MR. FREEZE: Mississippi Chemical Corporation is a fertilizer cooperative, composed of more than 25,000 farmer-owners in the southeastern part of the United States.

Mississippi Chemical operates a fertilizer complex at Pascagoula, Mississippi and this facility has a by-product, gypsum, as a result of its phosphoric acid manufacturing plant. We are also currently in the process of developing a phosphate rock mine in central Florida.

At this time we would like to address briefly portions of the proposed Hazardous Waste Guidelines and Regulations.

In the time allocated, we cannot fully address each issue that concerns us. Detailed comments and objections will be submitted for inclusion in the official record after our consultants and researchers have completed an in depth study of all the issues raised, before the March 16th deadline.

Land farming as defined in the proposal would include the use of our by-product, gypsum, as a soil supplement. Gypsum is widely and commonly used as a soil supplement, for instance, in the peanut crop production. It is also used on other crop growing soils which need sulphur and calcium re-

quirements. Gypsum is used on high alkaline soils in some arid climates.

To obtain these elemental supplements through other means would increase the farmers' cost for crop production and would ultimately increase the consumers cost for goods purchased.

This definition is contrary to the spirit of the Resource Conservation and Recovery Act.

Treating agricultural gypsum application as a means of disposal of a hazardous waste, as required by the proposed definition of land farming, would hamper, impair and prohibit the use of gypsum for such soil supplements.

We object to gypsum and phosphate mining tailing, overburdens and slimes being subjected to this proposed hazardous waste regulation. These high-volume, low-hazard wastes should not be regulated in the same manner as highly toxic low-volume hazardous wastes.

The broad, all-inclusive grouping of these two types of waste is not cost effective and is not in keeping with the goals of the Resource Conservation and Recovery Act.

One of these goals is to, "To conserve natural resources directly and through the management, reuse, or recovery of solid wastes." The standards setting forth the radioactive criteria have not been made final. We object to the listing of gypsum and phosphate mining overburden, tail-

ings and slimes as radioactive, hazardous waste in the absence of established criteria. Tailings and clays from the mining operation placed back in mined sites are part of reclamation constituting overburden and should not be regulated under the Resource Conservation and Recovery Act.

The waste management techniques currently in use in the phosphate mining and by-product gypsum disposal are cost effective and are the best management techniques reasonably required. The proposed security requirements are unreasonable and unnecessary.

Daily inspections of all facilities with written records, fencing, guard service, are unneeded, unreasonable and not cost effective. These security requirements listed above are unrelated to the harm that Congress intended to cure.

Site selections and land use are determined through the necessary environmental impact statements required already and the state and local regulations and building codes dictate land use. Land use should strictly be a local concern. Additional Federal regulations in these areas are unneeded, unwarranted, unreasonable and are counter-productive.

The proposed requirement that a new gypsum or phosphate mining overburden, slimes and tailings storage facility be prohibited on a 500-year flood plan is an unreasonable requirement with no well-founded basis and unrelated to the

harm Congress intended to cure. These high-volume, low-hazard processes must be located near the natural resource and/or near water transportation to be cost effective. Good engineering practices for containment and flood security are appropriate requirements for the location of phosphate mining overburdens, tailings and slimes, and gypsum storage piles.

It is more appropriate to require that these facilities be engineered to withstand a 100-year flood. A 100-year flood is subject to definition from actual records.

In the groundwater and leachate monitoring section, the proposal states that monthly analyses be determined to develop background data. We object to the monthly analyses as being burdensome and unnecessary to develop substantial background groundwater data.

The EPA background document concerning special wastes states that quarterly monitoring is sufficient and that more frequent monitoring would not be required. We agree that background groundwater data can be developed based on quarterly monitoring as previously recommended by EPA.

In addition, rather than requiring analyses for minimum and comprehensive analyses, the requirement should include only those analyses for substances which could reasonably be found in the waste and only those which would constitute or help define a hazard.

We feel that the powers assumed by the Regional Ad-

ministrator in this section, to require discontinuation of operation of a facility until the Regional Administrator determines what actions are to be taken, in the event of groundwater contamination or the potential for groundwater contamination, is unwarranted and is not provided for in the Act.

We do not feel it is reasonable to establish regulations for all hazardous wastes in one regulation. The proposed regulations are far too broad in that they try to cover high-volume, low-hazard waste and low-volume, high-hazard waste in one regulation.

Thank you.

CHAIRPERSON DARRAH: Thank you. Would you answer questions?

MR. FREEZE: I would definitely try.

MR. LINDSEY: I think you are aware, your last point was that we are trying to cover both high-volume and low-hazard and low-volume and high-hazard wastes together in one set of regulations.

I guess I should point out the reason why we have the special waste regulation is because of that point. Those special wastes are high-hazard--high-volume and low-hazard, as far as we know. But the main reason they are listed here as special wastes with limited requirements is that we don't really know much about them at this point.

But our intention was to treat them differently and not the same. I think I should point that out.

Secondly, let me ask you a couple of questions, if I might. I think you mentioned, you started out by talking about the use of agricultural gypsum on peanuts and what all.

This agricultural gypsum that's used there, is that a by-product from the phosphate mining operations?

MR. FREEZE: In some respects, yes.

MR. LINDSEY: The same materials, not mined gypsum as a separate entity. O.K., I didn't know that.

I think you indicated also that at least some of the things that are listed in here under 250.463, which is the special waste category, phosphate, rock mining, are not hazardous. That is they are not radioactive. Did I understand that correctly?

MR. FREEZE: No, you don't understand that correctly.

MR. LINDSEY: Then let me ask you this. Did you not make some statement with regard to the fact that certain of these wastes that are listed should not be considered in the same category as other wastes? Maybe I misunderstood the whole thing.

MR. FREEZE: I think the point we are trying to make is possibly some additionaldegrees of hazard. Even though we recognize and appreciate the fact for the existence

of the special waste category.

MR. LINDSEY: But all these things that are listed are radioactive to some extent, right?

MR. FREEZE: Right.

CHAIRPERSON DARRAH: There are no more questions. Thank you.

(The document referred to follows:)

HEARING INSERT

ORAL AND WRITTEN COMMENTS

FOR

PROPOSED RULES 40 CFR 250

HAZARDOUS WASTE GUIDELINES AND REGULATIONS

AS PUBLISHED IN FEDERAL REGISTER

MONDAY, DECEMBER 18, 1978

SUBMITTED AT PUBLIC HEARINGS

ENVIRONMENTAL PROTECTION AGENCY

AT BRECKENRIDGE PAVILION HOTEL

1 BROADWAY

ST. LOUIS, MISSOURI 63102

FEBRUARY 14, 15, 16, 1979

MISSISSIPPI CHEMICAL CORPORATION

P. O. BOX 388

YAZOO CITY, MISSISSIPPI 39194

Mississippi Chemical Corporation is a fertilizer cooperative composed of more than 25,000 farmer/owners in the Southeastern part of the United States.

Mississippi Chemical operates a fertilizer complex located at Pascagoula, Mississippi. This facility has by-product gypsum as a result of its phosphoric acid manufacturing plant. We are currently in the process of developing a phosphate rock mine in central Florida.

At this time we would like to address briefly portions of the proposed Hazardous Waste Guidelines and Regulations, 40 CFR 250, as published in Part IV, Federal Register, December 18, 1978. In the time allocated we cannot fully address each issue that concerns us. Detailed comments and objections will be submitted for inclusion in the official record after our consultants and experts have completed an indepth study of all the issues raised.

EXTENT OF PERMISSIBLE REGULATION UNDER RCRA

The EPA has misinterpreted the RCRA and has gone further than the act intends by including phosphate mining wastes and gypsum as hazardous materials. Their inclusion is unreasonable and unrelated to the harm congress intended to cure. It is not supported by the evidence therefore it is arbitrary.

DEFINITIONS

Land farming as defined in the proposal would include the use of gypsum as a soil supplement. Gypsum is widely and commonly used as a soil supplement for peanut crop production. It is also used on some other crop growing soils which need sulfur and calcium supplements. Gypsum is also widely used on high alkaline soils in arid climates. To obtain these elemental supplements through other means would increase the farmers' cost for crop production and would ultimately increase the consumers' cost for goods purchased. This definition is contrary to the spirit of the RCRA, is unreasonable and has no valid basis. Treating agricultural gypsum application as a means of disposal of a hazardous waste as required by the proposed definition of land farming would hamper, impair, and prohibit the use of gypsum for soil supplements.

IDENTIFICATION AND ~~GOING~~ LISTING OF GYPSUM AND PHOSPHATE MINING SLIMES, OVERBURDEN, TAILINGS

We object to gypsum and phosphate mining tailing, overburden, and slime being subjected to this proposed hazardous waste regulation. These high volume, low hazard wastes should not be regulated in the same manner as highly toxic, low volume hazardous wastes. The broad all inclusive grouping of high volume, low hazard waste and low volume, high hazard waste is unreasonable with no valid basis and is not cost effective and is not in keeping with the goals of the RCRA. One of these goals is to quote, "to conserve natural resources directly and through the management, reuse, or recovery of solid wastes.

The standards setting forth the radioactive criteria have not been made final. We object to the listing of gypsum and phosphate mining overburden, tailings, and slimes as radioactive hazardous wastes in the absence of established criteria. Tailings and clays placed back in mined sites are part of reclamation constituting overburden and cannot be regulated under RCRA. Listing gypsum and phosphate mining overburden, tailings, and slimes as proposed radioactive hazardous wastes is not based on sufficient and reasonable evidence.

WASTE MANAGEMENT

The phosphate mining and by-product gypsum from phosphoric acid production, waste management techniques currently in use are cost effective and are the best techniques reasonably required. The proposed security requirements are unreasonable and unnecessary. Daily inspections of all facilities with written records, fencing, and guard service are unneeded, unreasonable, and not cost effective. These security requirements listed above are unrelated to the harm that congress intended to cure. These requirements are not supported by the evidence and, therefore, are arbitrary.

SITE SELECTION AND LAND USE

Site selections and land use are determined through the necessary environmental impact statements required, and the state and local regulations and building codes dictate land use already. Land use should be strictly a local concern. Additional federal regulations in these areas are unneeded, unwarranted, unreasonable, and are counter productive.

The proposed requirement that a new gypsum or phosphate mining overburden, slimes and tailings storage facility be prohibited on a 500-year flood plan is an unreasonable requirement with no well-founded basis and unrelated to the harm congress intended to cure. These high volume, low hazard processes must be located near the natural resource location and/or near water transportation to be cost effective. Good engineering practices for containment and flood security are appropriate requirements for the location of phosphate mining overburdens, tailings, and slimes, and gypsum storage piles.

It is more appropriate to require that these facilities be engineered to withstand a 100-year flood. A 100-year flood is subject to definition from actual records.

In Section 250.43-8(c) Groundwater and Lechate Monitoring, the proposal states that monthly analyses be determined. We object to the monthly analyses as being burdensome and unnecessary to develop background groundwater data. The EPA background document concerning special wastes states that quarterly monitoring is sufficient and that more frequent monitoring will not be required. We agree that background groundwater data can be developed based on quarterly monitoring as previously recommended by EPA.

In addition, rather than requiring analyses for minimum and comprehensive analyses, the requirement should include only those analyses for substances which could reasonably be found in the waste and only those which would constitute or help define a hazard. We believe that monitoring for groundwater effects of phosphate rock mining overburden, slimes and tailings is impractical and unnecessary. We feel that the powers assumed by the Regional Administrator in this section to require discontinuation of the operation of a facility until the Regional Administrator determines what actions are to be taken in the event of groundwater contamination or the potential for groundwater contamination is unwarranted and is not provided for in the act.

THE ESTABLISHMENT OF CRITERIA

We seriously question the criteria that were selected for listing a waste as hazardous. We do not feel that the criteria is supported by the evidence used for their establishment. We do not feel that it is reasonable to establish regulations for all hazardous wastes in one

regulation. The proposed regulations are far too broad in that they try to cover high volume, low hazard wastes and low volume, high hazard wastes in one regulation.

Respectfully submitted by Terry Freeze, Environmental Consultant, Mississippi Chemical Corporation, Yazoo City, Mississippi.

CHAIRPERSON DARRAH: The next witness this morning is Kenneth Smelcer of the Industrial Association of Quincy.

MR. SMELCER: I am Kenneth Smelcer of the Industrial Association of Quincy, Quincy, Illinois.

STATEMENT OF KENNETH SMELCER

MR. SMELCER: I have just some short comments, fairly non-technical, trying to relate to some of the problems again that we are having with regulations.

To read to you from the statement we gave you yesterday, the Agency requested comments on the requirements for generators of small amounts of hazardous wastes, particularly on whether the 100-kilogram a month exemption should be lower or raised.

We believe this limit depends on many factors not addressed, such as degree of hazardousness of the waste and the capability of the individual landfills to safely handle the proposed waste, which was a point I made yesterday about the landfill.

We believe the supplemental permit system similar to that operated by the state of Illinois could effectively allow disposal of most of the waste that would be classified as hazardous under the proposed guidelines of all operated Subtitle D landfills.

Those companies generating relatively small amounts of hazardous waste should not be burdened with unnecessary

paperwork. The exemption should be raised to about 1,000 kilograms a month or more for the less hazardous waste delivered to accepted Subtitle D landfills, or more for the less hazardous.

Again, this is to try to get away from the small manufacturer, the medium-sized guy, who is going to have considerable problems relating to these regulations.

For example, we have about 50 members and of those 50 members, I think we have four people who, as a part of their job, it is environmental, and this specific thing. The rest of these companies don't have anyone and someone is going to have to try the best they can, in addition to purchasing and you name it, to try to understand these things and go along with them for actually small amounts of waste that are going to be put to the landfill or try to find someplace to take them.

We recognize that you did ask, I guess, for comments on your five lists here. Number three, on the condition exemption of different quantities, depending on the degree of hazard, we think this is addressing the problem.

Number five, lesser administrative requirements and so forth, where you are not requiring the record keeping and so on, with the manifest, that makes sense to us.

Number six, phasing the regulatory coverage of small quantities overtime makes sense to us again, because

one of the things we see as a problem, if we are going to have exactly six months from the time the final regs come out, we are going to have problems in many of our cases trying to make arrangements.

If we are going to have to dispose of these things and we've got borderline cases right now, we don't have the faintest idea. For example, one of the questions somebody asked me, in the state of Illinois there are 30 or 40 landfill sites. How many of those, when we are through, are still going to be able to take the materials we are talking about? As of now we know of only one that's still open in Illinois for hazardous. The others are still there, but I guess they would be the Class C, or the type of landfill we have. Of course, we are not anxious to have other people from Chicago coming down to ours either.

But that is going to be a problem. Where are we going to take this thing? Without our experts, we are going to be bringing up the tail on this thing and trying to live by the regulations.

So, we are saying that if you could consider a time delay on some of this stuff and not making it effective as quickly; time your implementations whenever the regulations come out, that could be helpful to some of the medium and small companies. We just aren't going to be able to gear up in time.

We are going to have a severe impact with some of the things, again talking about the 100 kilogram limits on the medium and small.

For example, even with the things that are not going to fall away, even if you helped us with the reclassification of the exemptions, we are not going to generate enough to have a hauler who is going to be interested at all in hauling this thing to California or wherever. It's going to be a problem.

The last time we had a meeting of our people that would be affected by this, we were coming up with something like 12 or 15 barrels between all of them, that they thought might fall into a hazardous category, outside of the paint sludges, this sort of thing.

That's not a lot and we are going to have difficulty trying to get this thing together, as to where we are going to put this and how we are going to get it there.

So, if these lower limits can be raised somewhat, I think it's going to help a lot of our people. And, as a matter of fact, this is a side aspect, some of these things are scaring our people. We are a municipally owned and operated landfill, so they have the public right there and they are very concerned with some of these.

One of the other things I wanted to mention was that in my understanding from yesterday, if you have a company, if

they exceed the 100 kilograms in all phases, under it, that it could be one kind, five different kinds, but if it all turns out to be 100 kilograms together, we feel that maybe that would be helpful if you did not do it that way.

We are still talking about a small amount for that company to dispose of. We are saying instead of, maybe, making paperwork, the reason for not covering it, maybe economics is the reason for not covering it, it's just not economical to try to handle these small amounts.

Again, I do think we would realize, of course, that when you get into the very toxic types of things, you are going to have to cut that off. But some of the less areas, we are not going to have that problem.

That, I believe, would take care of our comments. We are worried about the economic impact and how we are going to handle some of these things that are going to happen because of regulations, because of where we're at, and the size of our companies. I don't like to see the guys sending it home with a guy in a pickup truck to dump in his gully. I know that's what's happening with some of the small companies all over the country. They are not going to bother with it. They don't want it, they will ignore it and we shouldn't be doing that.

Storage, of course, is going to be a problem, too, if we have complete regulations that are going to be very

tough to meet. On the storage, why, that again is going to be expense. We're worried of the Catch 22's. This is going to cost you $20,000, this one will cost you $30,000 and there is no in between when they don't have either one.

MR. TRASK: As we indicated in the preamble to 3002, we do not have a great deal of data in this area of the so-called small generators.

You indicated you had talked with your generators in your city and had gotten from them some indication of quantities that they generate?

MR. SMELCER: Yes, when we got away from the paint sludge thing that we talked about yesterday, which is a volume problem, then we got into the other things that they are pretty sure fall into that, such as pre-treatment sludge. That's another box we got into. We built the treatment plant. The people built a new plant and they pre-treated their stuff.

Now they've got the sludge to worry about and we are pretty sure this is not going to fall out. These things, these barrels of stuff, they are not a lot, but they are about 12 or 15 a month, between all of them.

MR. TRASK: Is it possible to relate these quantities of waste to the approximate size of the business, in terms of sales or number of employees or something on that order? Would you say the quality of the data you have would be that good?

MR. SMELCER: I would think of the range, because

the one I'm talking about with the--whose real problem is the pre-treatment sludge that's left, nickel and so on, they could dump it down the sewer. They would have to pay for it, but they could dump it down the sewer, which is one of the options we are really going to be left with and we really don't think that's where it should go.

That's a fairly large company and that's really their only problem, this pre-treatment sludge. They really don't even have the painting problem.

But, yet, we've got another small guy, just as an example, who has galvanized chicken feeder type equipment and he isn't generating that much, but I could see some of our companies where they might have some pretty toxic stuff that we wouldn't want in our landfill, to put it bluntly, from the public side.

So, I don't think we could relate it to that very successfully.

MR. TRASK: I think we might want to contact you later and see what sort of data you do have, because we are desperately in need of data which describes this whole area of so-called small generators.

Another indication, you said the small quantities you had would not present any kind of a problem. Do you have any information on what kind of co-disposal ratio, that is the amount of waste, who has this waste, would present a prob-

lem?

MR. SMELCER: No, I don't know what we are talking about in that area. Again, we've been fighting with the state of Illinois to get into the landfill right now with some of our things that have been backlogged, but we had three different methods of handling it, putting it all into one trench, or scattering it.

We finally ended up, they take so many barrels a day and they put one here and they put one there and they are away from each other and they are buried. It's not that amount that they can't successfully just handle it on a daily basis by separating it away.

But the figures you are asking for, no, I really don't. I forget, we did have a comment here on how much solid waste we do have going in and we did have an error. We've got--let's see. I'm looking for my comment here on it, the numbers of how much we generate.

We've got 200,000 gallons per year of industrial sludges. That's wrong. My secretary put the wrong number down. It's closer to 150,000 or 100,000. But the other, 200,000 cubic yards, is from our landfill people.

MR. TRASK: So you have about 150,000 gallons of industrial--

MR. SMELCER: That's our paint sludges, the whole works, anything that's not solid like a rock, I guess you

might say.

MR. LEHMAN: Mr. Smelcer, in your remarks you mentioned that you liked or you suggested Option No. 3, where you would take into account the degree of hazard, in effect, in the exemption. You are saying we should raise the exemption level to 1,000 kilograms or more, to paraphrase your remarks, for less hazardous waste.

Would you care to comment, knowing the kinds of waste that are generated in your Association, as to what types of waste would be less hazardous and which types of waste would be more hazardous? You mentioned there were some you felt might not be appropriate for a municipal landfill.

MR. SMELCER: We were basically talking again of our paint sludges for a lot of our smaller companies and they are stuck with this right now. It's a big problem for us, because, like I say, the backs of every plant are filled with barrels,because they can't get it out.

Aftr a year, it starts to get to be a problem. That is basically what we are talking about. It's some of these things.

We do realize the color has got something to do with it and some people might to have to make some changes if they are going to avoid that problem. I don't know the color differences, but I know some of them cause a lot more problems than others. But, that's basically what we're talking about.

Some of the other wastes are--most of the other wastes we have are not going to be that hazardous and if they are, they will be taken care of.

For example, when we first started our discussions, cutting oils and solvents and so on used in the machine industry, we've got a problem. Well, when we got to talking about it, we don't have a problem. It's just a matter of them wanting to send it down here to St. Louis and getting it recycled or not. We don't think that's an excuse, as long as there is a place to go with it. That's a different story.

We still have some things like, and I don't understand what their problem is, but they claim it's still there, metal shavings and oil type of things. They say they can't separate it out enough that we could get it into the landfill. We've got some problems that way.

We're really after, in our case, our economic hardships are going to come from those marginal areas that you've been hearing about the last two days. There is where the real cost factor is going to come in.

We know because of where we're at, we are going to have trouble with the very hazardous type things that will get generated from some plants, but a lot of these are going to come from labs. It's just not going to be that amount and a lot of these people already have made arrangements or

are sending it away now, because they don't want to put it in our landfill, even if they could. They never did before and they aren't going to now.

But we see a lot of this coming from the various labs, from feed companies and this sort of thing, where we would have some mining or milling operations you might call it, minerals, that sort.

MR. TRASK: You mentioned about phasing of the regulations. I think in the options we listed, we are considering, our thoughts on phasing were that we would start with the largest generators and take those.

I think the example we used was something like 10,000 tons a month that would come into the system first and then over a period of a few years, we would gradually work down to some level if, indeed, that's what we end up with, where everyone would be in after a few years.

I sense, though, that you have a different thought in mind about phasing. I would wonder if you could expand on that a little bit?

MR. SMELCER: I guess just a plain initial kickin. I like what you are saying to a certain extent. Yes, you want to control the bigger ones before you do the smaller ones, but again, with our landfill problem, it doesn't make any difference. The landfill won't take it.

You are affected from January 1 next year, if that's

when it's going to be, or June or whatever. In our case, Illinois has given us permits to January 1 of next year and that's it. We don't know what's going to happen beyond that.

We think it is going to take time to put this in place. It's not going to be something you can just rush out and do. We are going to, obviously, make plans ahead of time, but for example, in trying to talk someone into hauling, most of the haulers that are doing our work right now, we do have some bulk disposal of things that are, again, very marginal.

We understand this guy doesn't know whether he's going to put up with this or not. He may decide he doesn't want that branch of hauling and go out of that business, because of the paperwork and everything involved in it. In fact, we just got our regulations from Illinois and it's about that thick, three inches, in the mail. So, when he sees that, he probably will go out of business.

So, we don't know. We can see some real expensive things here where companies are going to have to make their arrangements themselves for very small amounts, for once very 89 days, making a trip someplace.

Maybe we can do something through the Association or something. That's going to be the only out we can see in these kinds of arrangements. But we're afraid some of these companies are going to have to spend a lot of money in specialized things that have nothing to do with generator product.

As one said when we had this problem with this sewer thing, "We are in the business of making machinery, we are not in the business of setting up our own treatment plant. We can't make any money off of that." It's only when you are producing a product that you can make any money. We are concerned that we get so many of these other side things involved, especially the mediums and the small, there is nothing left.

MR. TRASK: Do you have some specific thoughts on the timing of the phasing? Should we be looking at months, years? Did you have any figures in that area?

MR. SMELCER: No, you understand I am a mouthpiece for our engineers in the companies. No specific time period was mentioned, but this was one of the things that they did talk about.

Frankly, because of these hearings, we are going to go back and write another statement to submit to you, based on what we've heard here and I think probably a lot of people will do that, where we will, maybe, make some suggestions on implementation.

But I think the crash type of, "It's now in effect", number one, hurts and number two, it means you are not going to get compliance, because most people are going to say, "I can"t, so sue me." They are not going to do it.

CHAIRPERSON DARRAH: Thank you, Mr. Smelcer.

We will recess for about 15 minutes and reconvene

about 10:55.

(At this time a short recess was taken.)

CHAIRPERSON DARRAH: On the record.

I've been asked to point out that smoking is over here on your right and the left is a non-smoking section, so if anybody is in the wrong place, you might want to move.

The next person who has asked to speak this morning is Russell Smith from Salsbury Laboratories, Charles City, Iowa.

MR. SMITH: Thank you. My name is Russell Smith and I am representing Salsbury Laboratories of Charles City, Iowa.

STATEMENT OF RUSSELL SMITH

MR. SMITH: Salsbury is a manufacturer of animal health products. The production includes facilities for biologics, pharmaceutics and organic chemical synthesis.

I have a few comments on what might appear as minor areas in the Act, but I think will come out to be problem areas if they are not changed.

Section 3002, 250.20 states that every generator must comply with Subparts D and E of the regulations if the waste remains on site for 90 days or longer.

I object to the 90-day limit. For over one year now, our company has been disposing of all of its industrial solid waste at an off-site hazardous waste disposal facility.

This is being done under contract with the waste acceptance firm. A manifest system is being used and the following steps that we have found to be necessary to carry out before shipment of this waste to the disposal site.

All of our wastes are segregated at the source, so we have many different solid wastes we are now disposing of at off-site facilities. The first step is to sample and characterize each solid wastestream.

This is necessary to provide the proper information to the waste acceptance firm, which has responsibility of proper disposal and, also, to determine the proper D.O.T. shipping classifications.

The second step is then filling out a contact form, supplying all the above information, plus any necessary handling precautions, auxiliary information, to the waste acceptance firm.

The waste acceptance firm then evaluates this request for disposal. This, sometimes, necessitates sending them a sample so they can carry out some of their own testing and analyses to proper evaluate if they can safely dispose of this material.

They then have to advise their capability for safe disposal, including disposal site selection, and contract terms.

We have found this procedure, many times, to take

more than 90 days and this will be especially true if one samples and tries to test his waste to show it is not hazardous.

The point I'm making is not necessarily applied to waste where this is already being done or to repeat waste shipments, but more to the new waste one encounters when he enteres into the system and changes production, et cetera.

One of the reasons I think EPA chose the 90-day limit is to help insure the integrity of the container that the waste is put in, during shipment. I feel that judgment can be left to the generator and I'm sure the generator would use the proper storage techniques and precautions..

I would like to close my comments this morning by recommending that 180 days be considered as the time limit instead of 90. I feel the 90 days will place many generators into the classification of treatment storage and disposal facilities and require them to carry out the burdensome requirements of Subparts D and E.

My next comment relates to Section 3002, 250.29, which pertains to the less than 100 kilo exemption and it also pertains to Section 3004, 250.44, which pertains to the disposal of empty containers which previously contained a hazardous waste.

In the discussion of the exemptions for waste of quantities less than 100 kilos, the regulations point out that,

and this is read primarily from the regulations; "The principal element of this issue is how to balance the need to protect human health and environment from the adverse impact of potential mismanagement of small quantities of hazardous waste with the need to hold down the administrative burden of management of these wastes, under RCRA, within reasonable and practical limits."

It also says although there is wide agreement that the regulatory burdens are appropriate and necessary for the management of large quantities of hazardous waste, there is considerable debate whether they are necessary for the management of small quantities, particular if other means can be used to assure these small quantities are adequately treated,disposed and otherwise handled.

I agree with EPA's concept that small quantities of hazardous waste can be disposed of in sanitary landfills that meet the 4004 requirements and that they will not pose any long term environmental hazards or problems.

However, I feel that this concept should not be impartially applied to just generators of less than 100 kilos a month, but that it should also be applied to generators of larger quantities.

Now, I am not arguing with the 100 kilos versus the 1,000 or whatever it should be. I would like to clarify this point. I am not recommending that generators of greater than

100 kilos be allowed to dispose of 100 kilos per month in any sanitary landfill. In our case, we generate several tons per day. I'm not saying that of that several tons we should save costs by disposing of 100 kilos in a sanitary landfill.

An example I would like to use and this applies particularly to our operation and I'm sure to many others, is that we receive many raw materials in sealed drums, paper bags and fibre drums. These are large fibre drums, 38 to 40 gallon drums.

After we empty these containers, we especially re-use the fibre drums to store, handle and process materials that we are manufacturing.

The waste now, or the proposed waste, the regulations, will require that all of these containers be incinerated or disposed of in a landfill which meeets the requirement 250.45, which is a hazardous landfill.

The approach we are now using for our fibre drums and paper bags is that they are thoroughly emptied and rinsed before disposal in a sanitary landfill. The amount of contaminants left in these fibre drums and paper bags would amount to ounces per day.

In other words, over a month's time, this would be considerably less than the 100 kilo exemption allowed to others.

However, if we have to haul these drums to a hazard-

ous landfill, and at this time that would have to be, perhaps, 700 or 800 miles away, this would mean that on a daily basis we would have to take 30 or 40 large, bulky fibre drums and ship them halfway across the country to hazardous landfills.

We don't feel this is creating any hazardous condition and we feel there is some flexibility for evaluating the disposal of empty containers should be allowed. This certainly could be controlled at the state level on a case by case basis, through an enforceable agreement or contract with the authority having jurisdiction over the sanitary landfill.

So I don't think that concept of a small quantity of hazardous waste not being harmful in a sanitary landfill should only apply to small generators.

The point I demonstrate here, if it was considered, I think it could adequately be determined that what we are doing is not a hazard. But, once the regs are out,we are going to spend, perhaps, $200 a day disposing of these fibre drums at a hazardous landfill.

I don't like the concept of shipping empty containers halfway across the country. It's not energy efficient or necessary.

So, I think--I realize a small limit has to be set and I don't sympathize with EPA in determining whether that is 100 kilos or 1,000. I think it's pointed out by the speakers

that it would be better if it could be evaluated on a case by case basis, but I also understand that's difficult for EPA to carry through on.

But, allow some flexibility, especially on empty containers for all generators.

I don't have a copy or my comments, but I will provide them shortly after the hearing.

CHAIRPERSON DARRAH: Thank you. Would you answer questions from the panel?

MR. SMITH: Yes.

MR. LINDSEY: You objected to the 90-day limit for storage before sending off-site. You suggested you think it should be something like 180 days.

I guess I should point out first that there is no reason why you can't store it for more than 90 days. It's just you would need a permit and apparently it's that, that is your objection, the fact you would need a permit?

MR. SMITH: Right, and I think you alluded earlier that would not be that much of a problem, but as I read all the requirements under Subparts D and E, all the emergency precautions,the dike containment capabilities, I don't think it's just a simple matter of saying, "I'm going to store this material. Give me a permit."

MR. LINDSEY: No, it's not that easy, that's for sure.

MR. SMITH: I think EPA's position has tried to lower the burdensome paperwork, et cetera, and this is just an add to.

MR. LINDSEY: It's partially the paperwork thing. The other reason is because of our belief that the storage of drums and other containers for 90 days, even in an uncontrolled manner, that is without all the RCRA controls and paperwork, does not create a problem.

But beyond that point in time, or some point in time similar to that, it could be arguable what that could be. We get or may get deterioration of drums and so forth if it's not controlled.

I should also point out that the regulation still applies as far as the technical regulations, they still apply even for less than 90 days. Standards must be met in any event. It's just the control factors, the oversight, if you will, by EPA.

Let me follow through with that a little more if I can. You thought this was going to be very stringent, these storage--as I say, we developed them because we felt they were necessary.

Do you disagree or do you feel the storage standards which we have are too stringent? I'm not talking about your operation in general, but for storage of hazardous wastes overall?

MR. SMITH: I question them. I think most manufacturing people have experience with handling hazardous materials or what have you. They store them and contain them in a proper manner.

We receive many different kinds of acids, solvents. We store these things for months adequately. But once it becomes a spent solvent or spent acid, I am required to follow all the RCRA requirements.

I think you've gone a little bit too far there. I realize one should not be able to store the wastes on this property indefinitely, because then you have a waste disposal site.

MR. LINDSEY: That's one problem, yes.

MR. SMITH: But I don't think going from 90 days to 180 is really going to change your control that much. The way you send the sample out to have it tested for whether it's got priority pollutants in it, all testing required, it can take two months to get this information back.

MR. LINDSEY: Another question, you also suggested we incorporate more flexibility for the disposal of hazardous containers which contain--which now become a waste to be disposed of and contained the hazardous material.

I guess--what specifically would you have us do in that area? Would you have us exempt these containers or what?

MR. SMITH: Some way I feel if a container contains

a hazardous liquid that can be simply rinsed out with water, I see no need for this container to be shipped to a hazardous waste disposal site. A fibre drum that may have a little bit of chemical dust, in our case, on it--

MR. LINDSEY: We do have this provision in here that it may be tripled rinsed in accordance with these regulations, it could be disposed of in a Subtitle B facility. That would also apply, I think, to fibre containers.

I don't know, but I think many of the fibre containers are asbestos lined, for example, and could be triple rinsed.

MR. SMITH: I'm concerned, of course, in our case, more with the fibre drums. I know you have that in the regulations for the steel drums.

MR. LINDSEY: Drums, a lot of them are plastic lined and could, presumably, be rinsed out without totally dissolving.

MR. SMITH: That's true. Is that allowable under the regulations?

MR. LINDSEY: Yes, it talks about drums. It does not say whether they are metal, plastic or fibre or what, providing you can triple rinse them without causing them to dissolve away into nothing, you know, a pulp.

MR. TRASK: To continue on with that, there's nothing wrong with rinsing a bag if you can do it.

MR. SMITH: That might be difficult.

MR. TRASK: No, there are some plastic-lined bags that are--

MR. SMITH: Let me ask you about paper bags. We do receive material in 50 and 100-pound paper bags. We shake them out and they contain chemicals, some of them, which could be interpreted as being hazardous. If we dispose of 50 bags a day, there may be a couple of ounces of material in there.

Is it necessary to send this to a hazardous landfill?

MR. TRASK: One of the things we are considering is how to change that definition of triple rinsing, so it would apply to the paper bag. We would be interested in your suggestions as to what methods could be used to be sure they were non-hazardous when the bags, when they were finished?

MR. SMITH: I think to some extent you have to rely on the local authority to have an agreement with the generator whereby he will receive such and such discarded materials, including paper bags or fibre drums and that they shall be rinsed and cleaned out. That's practical and let him have spot checks. He has the authority to enter on a contract like that.

MR. TRASK: You would suggest we use, if the local municipal waste landfill would accept it, then it would not be

hazardous?

MR. SMITH: To some degree, yes.

MR. TRASK: It might put us in a Catch 22 position.

MR. SMITH: Very true, right.

MR. TRASK: One question, following up a little on this co-disposal thing that you mentioned in your statement that you thought it would be alright to use, to put larger quantities than 100 kilos in a municipal waste landfill.

MR. SMITH: I did not say that.

MR. TRASK: Oh, I'm sorry, I misunderstood you. Could you clarify what you meant then by--

MR. SMITH: I think I was pointing out at this time generators that generate less than 100 kilos can dispose of up to that amount in a sanitary landfill and as I think the speaker from Missouri pointed out earlier, some of these can be pretty hazardous materials.

I was asking for some relief to large generators for disposal of paper bags, that type of material, that may contain very small amounts of material and by the time it's mixed with the large bulk of waste in a sanitary landfill, would not pose a hazard.

I think you pointed out that concept in the regulations.

MR. TRASK: Do you have any thoughts under what sort of ratios that we could tolerate in landfills of these--

of what degree of hazard, perhaps, related to the quantity that could go into a municipal waste landfill?

MR. SMITH: I don't. I think you mentioned 40 to 1 in the regulations. I would be happy with that.

MR. TRASK: We are concerned about what the impact of what that ratio would do to a landfill. In other words, it's still going to be a proper containment facility. That's where we are seeking data in that area. So, if you have any, we would be interested in receiving it.

MR. SMITH: I'm sorry, I do not.

MR. TRASK: One further question on containers. You mentioned in your statement that you felt the containers questions could be left up to the generator, the manufacturer, because they had experience in that area.

Do you have some data on how long certain kinds of wastes can be stored in containers without danger of deterioration of the container?

MR. SMITH: We have some from experience.

MR. TRASK: Do you?

MR. SMITH: What I am saying is that we have stored waste in metal drums that have failed. These are not liquid wastes, they are sludges. But this does not create any environmental catastrophe or hazard, which you normally see as a leakage of some sort in the drum. You redrum it in a salvage drum or completely remove it and drum it in a different

one. So, there are times when you are going to get fooled, but these are wastes that have been around six months to a year or so.

I think there are ways for the generator to properly package his materials and, of course, D.O.T. provides some regulations on that.

MR. TRASK: Any of those data you have that you could share with us, we would appreciate it if you would put it in your statement, in your comment later.

MR. SMITH: Fine. It would be very hard to relate it to other people's waste, but I will consider it and see what I can do.

MR. LINDSEY: Mr. Smith, you mentioned that you have done a lot of testing on your wastes and that's interesting. The interesting thing I would like to know is, do you--have you tried using the procedures we recommended in here or that we talk about in here with regard to identifying what is hazardous and so forth?

Have you used those procedures and any comments you might have on that would be useful to us.

MR. SMITH: As you can appreciate, we are probably a little gunshy by now. Therefore, we have not done a lot of testing then to show that a waste is not hazardous. Most of our testing has been done to provide the waste acceptance firm the proper information he needs to properly dispose of

the waste, heavy metal content, ammonia, nitrogen, B.O. D, whatever variables are conditions he might want to look at.

MR. LINDSEY: Do you have any idea what your costs run for testing for that purpose, on a per ton basis or, additionally and the second part, do you expect the testing requirements that are in these set of regulations now would increase that cost?

MR. SMITH: I don't think I can answer that question, because for our situation the testing requirements have not been that large a portion of the cost.

However, I am sure it would be significant if one was to try to determine if his waste was not hazardous. The approach we've used is to play it safe and say it is hazardous and, therefore, it must go to a hazardous landfill.

I'm not saying that now that we have a concrete set of conditions to test by that we will probably go back and evaluate some of the wastes, which I am sure are probably not hazardous.

MR. LINDSEY: I was going to say, the only time in which one would be, would want a test to prove that it's not would be if they were on the list, on the list of wastes.

In the other case, I guess you would have to test it to determine whether it was, also, if you didn't know or didn't have good information.

If you have any thoughts on that before the comment

closes, we received comments in the New York areas that the testing imposed by these regulations is quite high and we are seeking information on that.

If you have any thoughts on that or estimates on that, we would appreciate having them.

MR. SMITH: My concern is not so much, I think, that the first four set of requirements call for that type of testing, but the last two, I am sure will be expensive.

MR. LINDSEY: By the last two, you mean tests that would be required to delist?

MR. SMITH: Right, if you wanted to test whether a waste was toxiogenic or not, I think the costs of that will run you roughly $1,000 per sample. In some cases you may have to sample several times to really prove that waste is not hazardous.

CHAIRPERSON DARRAH: Thank you, Mr. Smith.

The next person listed is Mirko Popovich from the Human Rights Survival group.

MR. POPOVICH: Thank you. I am Mirko Popovich from the nearby Benld, Illinois and participate in the activities of the Human Rights Survival Group.

STATEMENT OF MIRKO POPOVICH

MR. POPOVICH: This is addressed to the Public Participation Officer, WH-562 and concerns proposed hazardous waste regulations, Sections 3001, 3002, 3004 and also 3003.

An Illinois Pollution Control Board release, R76-10, states on Page 13 as follows. Where spills require immediate removal, the U.S. E.P.A. has proposed regulations pursuant to Section 3003 of RCRA that the requirements for generators transportation and disposal, treatment or storage be suspended for more flexible standards which focus particularly on neutralizing and removing the waste generated by the spill with a minimum amount of delay. That is taken from EXH No. 26 and that's the end of the quote.

Waivers, promulgations and reference to some interagency communication is mentioned in the continuing description to add to the generalities, "That will be suspended for more flexible standards."

The D.O.T. and E.P.A. could not resolve the spillage problem in Wilsonville and apparently ambiguity is still in fashion. The language of effective results is not preceded by the specifics with clarity concerning immediate responsibility and capability by those enjoined in the particular operational stage of handling.

A whole array of imponderables mentioned by participants in a Waste Management, U.S.E.P.A. Conference in 1977 in Washington, has not been dispersed.

A perusal of the proposed rules and regulations indicates an intermeshing of old pretenseful procedures previously asserted in many instances, but not followed, as

Wilsonville and area citizens found to their chagrin.

Responsibility for street spillage by waste haulers was indeterminate. It is indeterminate still. The recently proposed rules continue in the previously legalistic folderal manner which permitted the arbitrary dispensation found in bad judgment in Wilsonville's court proceedings.

Persistence in avoiding pertinent stipulations for dealing with particular and immediate problems, together with an avoidance of major critical issues, such as site unsuitability, EPA Waste Management collaboration shown by undue arbitrary permit dispensation, a proliferation of questionable products sustained by pre-emptive marketing techniques, bypass of individual and community sovereignty, and trade secret protection for products discovered in deleterious operations such as Wilsonville dumping, give a clarifying focus to bureaucratic demagoguery.

EPA regulations and procedures indicate an aloofness to constitutional cognizance of individual and community sovereignty.

Responsibility for industrial waste disposal is lifted from the producers, implying an advantageous societal value for their existence over other productive units of society, including taxpaying citizens.

The deaths and health debilitations in the P.A.B. experience are not conciliated by generator's claims to sur-

veillance capability. Priceless human life cannot be equated or balanced with marketplace demagoguery. Advertising has grown on like a cancer.

Rawls, R-a-w-l-s, states, "Each person possesses an inviolability founded on justice that even the welfare of society as a whole cannot override. For this reason, justice denies that the loss of freedom for some is made right by a greater good shared by others. It does not allow that the sacrifices imposed on a few are outweighed by the larger sums of advantages enjoyed by many."

Our corrective efforts are directed to prevention. Thank you.

CHAIRPERSON DARRAH: Thank you. Would you be willing to answer questions from the panel?

MR. POPOVICH: I would try, yes.

CHAIRPERSON DARRAH: Thank you.

MR. LINDSEY: Mr. Popovich, I gather from the initial part of your comments that you are unhappy with some of the spillage requirements.

I would like to point out that the variances which are allowed in the spill requirements are due primarily to a perceived need on our part that with certain circumstances we will have emergency situations and that it may be necessary to dispense with, on a temporary basis anyway,the paperwork requirements in order to allow us to deal with a real or at

least a perceived emergency in the case of a truck spill or it may be emissions that create problems.

That, really, is the thrust of those variances, if you want to call them that. In that regard, if you feel we have gone overboard in that area, do you have any suggestions on how we could handle legitimate emergencies without creating, without having to hold things up for paperwork and so forth and yet--

MR. POPOVICH: I don't feel based on the experiences particularly from our standpoint, which are a little closer and harder felt in the Wilsonville situation, but also from other related incidents, as we come to read about them in the newspaper, that there has been established a real system or way of dealing with a particular problem or problems in the specific stage of handling with the clarification concerning the people's capability who handles it and whose particular responsibility it is in the particular incident.

We have made repeated phone calls to the D.O.T. and I think you are familiar and it's no secret that the D.O.T. and the EPA have not, at least previously up to several months ago, come to an understanding about whose responsibility it is.

Wilsonville was left with the necessity of simply cleaning up the mess that someone else left.

MR. TRASK: In this area of responsibility of

transporters, I think that's what you mentioned earlier, we thought we had covered the bases pretty well there, that the transporter can accept only properly manifested waste that he has a responsibility to deliver all of that waste to the designated, permitted facility.

If he stores that waste somewhere en route, he can do that only at a permitted facility. We don't know what we left out.

I guess if you have some ideas, we might look at them.

MR. POPOVICH: I feel these points you are pointing to are aberrations and in the transport of materials there are occurrences which vary from the ordinary routine, but we found the surveillance that was pretended to by responsible authority simply was not there.

As I indicated, we called various offices, including Washington, I'm sure, and we found a general tendency on their part to feel it wasn't their problem, but there was no indication on their part about whose particular problem it was.

The recent incident here in St. Louis and I don't know whether it was mentioned in previous hearings or meetings, but this person who kicked this drum off the highway, according to the newspaper account, tried eventually to get in touch with some people, including Washington, and they

seemed to slough it off in one manner or another, comments varied. Finally, the only thing he could do was to get in touch with some local area and it might have been other than St. Louis, but in Missouri, concerning civil preparedness.

We find there is such a gap between the language that you sort of play with concerning how to deal with these problems and the--and between actually what has transpired.

This, we feel, encourages us to look in the direction of prevention and this is our role, concerning any activity on the part of public committed officials, to try to rectify this tremendous problem that has been developing.

I think you are aware, even as we are, from people who deal directly with these problems. For instance, gas leakage and so forth, that even with that surveillance, it cannot prevent some very serious happenings.

The problem arises in many instances from the fact they are dealing with material for which they cannot say, "We can adequately provide a comfortable surveillance."

We feel there has to be a re-look, a very serious re-look and a readjustment in our priorities and a general tendency of what you are dealing with here, in detail as you have gone into, as it seems you have, that we feel there are priorities that should be placed on some of the other areas that I mentioned.

CHAIRPERSON DARRAH: I think if I could characterize

your statement, essentially you are saying the regulations might be all right, but the enforcement of the regulations is the big problem from your point of view.

MR. POPOVICH: I think if my statement I tried to point out, hopefully, that a perusal of the proposed rules and regulations indicates an intermeshing of old pretenseful procedures, previously asserted in many instances, but not followed as Wilsonville and area citizens found to their chagrin.

I rather enjoy, and I don't know whether enjoy is a proper word, but I've heard over and over and I'm sure you people have, this problem of defining hazardous. I think that's part of the problem, that you are continually playing with words and of course words are what we have to deal with, but you are continually playing with words that different people have a different attitude toward, a different understanding of and, therefore, we really, through the system and procedure which you have outlined, cannot come through with a proper regulation and proper communication in which everybody understands what everybody else is doing or are supposed to do.

CHAIRPERSON DARRAH: I have one more question. I think I understood you to say that we were, that the responsibility for disposal is being lifted from the producers. I think that was part of your statement.

MR. POPOVICH: Yes, it is.

CHAIRPERSON DARRAH: If it was, would you try to clarify what you meant by that?

MR. POPOVICH: We feel the EPA has, amongst others, has mentioned some guidelines for producers to follow concerning how to minimize the waste problem.

There are, I think you probably know it better than I, alternatives, there are reprocessing. Monsanto should have been burning their P.C.B.s. We feel many of these products have been substituted by pre-empted marking techniques for other ways and means, for products that were probably just as good, except theydidn't have the kind of marketing expertise that some of the conglomerates have been able to put together.

We feel that certainly some focus and a little more than a little bit, should be placed on this area.

CHAIRPERSON DARRAH: Thank you.

(The document referred to follows:)

HEARING INSERT

February 15, 1979

Public Participation Officer WH-562
Office of Solid Waste
U.S.E.P.A.
Washington, D. C. 20460

Concerning Proposed Hazardous
Waste Regulations
Section 3001
Section 3002
Section 3004
Also 3003

An Illinois Pollution Control Board release, R76-10, states on page 13 as follows: where spills require immediate removal, the U.S. E.P.A. has proposed regulations pursuant to Section 3003 of RCRA that the requirements for generators, transportation and disposal, treatment or storage be suspended for more flexible standards which focus particularly on neutralizing and removing the waste generated by the spill with a minimum amount of delay (taken from EXH # 26). (End of Quote) Waivers, promulgations and reference to some interagency communication is mentioned in the continuing description to add to the generalities "that will be suspended for more flexible standards." The DOT and E.P.A. could not resolve the spillage problem in Wilsonville and apparently ambiguity is still in fashion. The language of effective results is not preceded by the specifics with clarity concerning immediate responsibility and capability by those enjoined in the particular operational stage of handling. A whole array of imponderables mentioned by artici ants in a Waste Mgt.-U.S.E.P.a. Conference in 1977 in Washington has not been dispersed.

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critical issues such as site unsuitability, E.P.A.-Waste Management collaboration shown by undue arbitrary permit dispensation, a proliferation of questionable products sustained by pre-emptive marketing techniques, by-pass of individual and community sovereignty, and trade secret protection for products discovered in deleterious operations such as the Wilsonville dumping give a clarifying focus to bureaucratic demagoguery.

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Our corrective efforts are directed to prevention.

Mirko Popovich
Benld, Illinois 62009

Mirko Popovich

CHAIRPERSON DARRAH: I have one more person who has asked to speak this morning. I'll call her and if there is anyone else who wants to speak on Section 3002, if they would get in touch with the registration desk and have their names brought up to me, I will call you later this morning.

The next person is Gwen Mollenar, also from the Human Rights Survival Group.

STATEMENT OF GWEN MOLINAIR

MS. MOLINAIR: My name is Gwen Molinair and I am representing the village of Wilsonville through an organization that was formed which is namely the Human Rights Survival Group and I would like to say first that I don't represent anyone but people and to us people come first. This should be on the top of the list in promulgating rules and regulations for dealing with hazardous waste. What has happened to the environment resulting from chemical waste, whether they were disposed of properly or improperly is unexcusable.

Our experiences over the past two years has opened the eyes of many, opened the doors to many unanswered questions, and separated the smokescreen that has covered the dangers behind chemical waste dumps.

Towns like Wilsonville and Sheffield, Illinois, should not be forced by the Federal and State Environmental Protection Agencies to do the job for which they were intended, to prevent another Love Canal, New York to come into being.

Informational meetings should rank high as the first priority. The siting of waste dumps in a residential area should be restricted, regardless of how small the population. People in a town of seven hundred are just as human as those in a city of seven or seventy thousand.

We suggest that land disposal should be the last recourse in dealing with hazardous waste. It definitely is the cheapest method, and unless forced by strict regulations, this will remain the popular method.

After many incidents of load spillage and leakage onto the streets of Wilsonville, which, incidentally, was from defective drums, and reported to the proper agency, no one ever knew where the responsibility lay. The director of the agency, the Illinois State Environmental Protection Agency, thought it might be the Department of Transportation but wasn't sure.

Is the twenty-year maintaining and monitoring of a closed site enough? What is time? Time to giant corporations is money; time to us is life. No one knows how long hazardous waste placed into the ground will stay immobile. If industries can pass their potential time bombs out to society, and the responsibility stops there, will the technology for disposing of harmful chemicals change?

It is unfair for a small community like Wilsonville to have to absorb the expense of a year and a half lawsuit to bring to the surface the growing concern for the protection of our land, air and water that is being poisoned by the dumping of deadly chemicals.

Thank you.

CHAIRPERSON DARRAH: Thank you. Would you answer

questions if there are any?

MS. MOLINAIR: If I can.

MR. LEHMAN: Ms. Molinair, one of your comments deals with the twenty-year maintenance and monitoring requirement of the current proposed regulations and you are asking, rhetorically, is that long enough? One thing I think, that's not, perhaps, clear enough in those regulations is that if a problem is detected within that twenty-year period by monitoring, well, then, that twenty-year period can certainly be extended so it is not a fixed thing where the monitoring would end at that time.

Nonetheless, that aside, you essentially, I believe, feel that twenty years is not long enough.

MS. MOLINAIR: I certainly don't.

MR. LEHMAN: Do you have a suggestion as to what might be an appropriate time period?

MS. MOLINAIR: I think as long as those chemicals stay in the ground, that is how long the generator should stay responsible. Just because at the end of twenty years there is no problem, twenty years passed in Love Canal, New York, and there was no problem and as long as there are records that say, I am not going to use any name, but any company that disposed of chemical waste in a landfill, that those records are kept just exactly like your birth certificate and mine, that if it takes fifty years and they have to

go back and get them, go get them.

MR. LEHMAN: Well, I think it is fair to state that there were no monitoring requirements placed on Love Canal. Had there been monitoring requirements perhaps we could have picked up that movement before it reached the homes that were affected.

MS. MOLINAIR: I am sure it is a matter of record to know that the monitoring of Wilsonville's site isn't monitoring either and no one knows that or wanted to accept that until after a lengthy trial.

CHAIRPERSON DARRAH: No more questions. Thank you very much.

Is there anyone else who would like to speak this morning on Section 3002 Regulations? Did Mr. Howard Chinn get here from the Illinois Attorney General's office?

(No response.)

CHAIRPERSON DARRAH: We will close the record right now of the public hearing and if we have some cards our staff people will pass out cards. If you do have questions on Section 3002 we will try and answer them.

(See separate transcript for question and answer session.)

SEPARATE TRANSCRIPT FOR QUESTION AND ANSWER SESSION

St. Louis, Missouri

February 15, 1979

MR. TRASK: Most of these seem to apply to the 90-day limit on storage. It says, "Regarding the 90-day cutoff are the requirements for how waste are stored any different before and after the 90-day date expires. After the ninety days expires, if the waste is still there in storage you need a permit." That's the difference. At that time you become subject to all of the 3004 standards for storage site and you need a permit.

You are responsible for the 3004 standard during the 90-day period but you do not require a permit.

Next question, "In setting the 90-day limit on storage by generators, why is not some consideration given to the method of storage, i.e., an OSHA approved metal containers, et cetera?" The 90-day storage can be undertaken by the generator only when he uses either a DOT container or if he goes to a permanent storage tank, then he must meet the storage tank requirements in 250.44. I believe that those do reference those requirements in that section, so, it is covered.

Another one, "Does on-site storage have to be in DOT containers?" Yes. "Please explain what DOT containers includes." It can be either in DOT containers or in permanent storage tanks which meet the requirements of 250.44.

"Please explain what DOT containers includes." In the 49 CFR there is a long list of compounds, each one of

which is related to a particular container specification and that is what we are referencing.

The question goes on, "Does it include, for example, a 55,000 barrel immovable storage tank?" An immovable storage tank would be a permanent storage tank and would be subject to the 250.44 regulations. It says, "A properly lined lagoon." I don't know if the question is is that a DOT container. I don't think a properly lined lagoon would be a DOT container. That really is a facility type question. Maybe you want to deal with that one.

Bulk rail car shipping, "Our plant receives empty rail cars for shipment of our product from one plant, from our plant. Frequently these empty cars contain up to several hundred pounds of previously shipped unknown materials. Since rail cars are frequently in short supply, we must empty the cars or use them with the unknown materials still in them, which is obviously unacceptable. We are, therefore, frequently put in a position of accumulating other companies products for our disposal. Does EPA or DOT have any recommendations on what we can do to resolve this problem? Note, the railroad isn't interested in keeping the material. Significant costs will be involved in determining what this material is in order to adequately comply with regulations for disposal."

This problem has been brought to our attention

and it isn't only railroads. Tank car carriers have the same concern. We have heard that after the tank truck has been emptied that sometimes while the drivers have a cup of coffee, the crew at the plant hooks the hose up to another tank and he ends up with a few hundred gallons of waste. It is not uncommon for him to come back to the truck terminal with something entirely different than what he set out to do.

I would point out to you that under the DOT rules that when a tank truck is carrying a hazardous material, the driver must be with that vehicle at all times. I don't know how that applies to rail cars but under tank truck rules, so I have been told by DOT, the driver is always responsible for being with that vehicle. He may not leave it to have a cup of coffee. So, if that happens it really is due to his fault. If something strange gets put into that tank it is his fault.

However, in a larger sense a transportation company does become a generator in this instance because now they do have ways to get rid of it. As far as having suggestions as to how you prevent it, at the moment, I don't think we do. We are studying in this area regularly and we may have something in the future but at the moment I don't know, if you are dealing with customers how you control what they are going to do when you deliver a tank car of material. That's

a question that Alan Roberts would like to have a shot at.

MR. LINDSEY: In regards to containers, "Would the total weight of a container be used in applying 100 kilogram limitation if the container is considered a hazardous waste?"

Yes, it is the total weight of the waste, not the concentration or the quantity of any one constituent that determines the one hundred kilograms.

"Please elaborate on six-month grace period following promulgation of rules and regulations." Some people might get the impression they do not have any responsibility during this time. Do generators have to file and disposers file for permits?"

What the person is getting to is that by and large, the regulations do not go into effect until six months after promulgation. However, there are some requirements during that period of time for anyone who generates, transports, treats, stores or disposes of hazardous waste within ninety days of the promulgation of regulations under Section 3001, which are now scheduled via court order for December 31. Within ninety days of that point, everyone who generates, treats, stores, disposes or transports a hazardous waste must notify the agency under Section 3010 of the Act.

We have previously proposed regulations for doing-- to the system doing that and those have been issued. They

haven't been promulgated yet. We expect they will be promulgated later in the summer. In any event, what we will be doing, to summarize it a little bit, is to all of those facilities who we think, to all those people, generators, transporters, whoever we think may be generating or handling hazardous waste, we will be sending them forms, relatively simple forms we expect it to be, to facilitate their notification. That does not relieve anyone who does not get this mailing from the requirement to do it because the requirement to notify is statutory and the responsibility lies on the generator, transporter, treater, storer, disposer but we are going to try to assist this operation by letting those that we think may be in this ball game know they have to do it.

In addition to that, most of the regulations become effective 180 days after we promulgate. Also at the 180-day point in time, it is necessary for anyone who treats, stores and disposes but not people who generate or transport, those who treat, store and dispose, however, must submit Part A of the application for a permit and the regulations covering that have not yet been proposed. Those are currently being integrated. They are procedural in nature. They have to do with how to get a permit and all the hearing provisions and so on in getting a permit and those have not been proposed yet. They are currently being integrated with

similar regulations, procedural regulations, under the NPES program and under the underground injections control program and we expect those will be proposed in about four to six weeks.

So, there are two requirements. One is that they notify within ninety days and second that you submit Part A of the application within 180 days.

Harry passed me this second part of this question involving 55,000 barrel removable storage tanks and properly lined lagoons and are they covered by regulations, I guess is the question, if they are on site. The answer is yes, they are subject to the 3004 Standards for containers in storage.

In the case of a spill there are two phases, the emergency phase and the recovery phase. The regulations clarify this issue as to when manifesting is required. Let me see if I can take a crack at that. That is not my area and if I go wrong, Harry, would you jump in?

If my memory serves me correctly, during an emergency phase in which the emergency coordinator is on the scene, that would be either, I suppose, EPA or coordinator or something like that and the availability of paper work that is, the procedures which would require the manifest are not readily there and yet there is need to move the material quickly because it poses some imminent hazard, for

example, that during that emergency that perceived a real or declared emergency that the paper work requirements can be waived. Do you want to add something to that or is that about right?

CHAIRPERSON DARRAH: Let me just make a comment.

Again, this brings up the issue we ran into yesterday. If, in reading the regulations, even if you think you have--let's call it a minor comment like this, please write it down, sign it and submit it for the record. You can just say, "I don't believe that these requirements are specific enough in differentiating between emergency response and recovery for a spill", and we certainly would be happy to consider that. If it is a question, fine, ask a question but if it is definitely a comment, please go ahead either now or before March 16th to submit it to us for the record.

MR. LEHMAN: I have some questions here. "The reporting requirements of Section 250.23 provides for annual and quarterly reporting to the Regional Administrator. When a state is operating a hazardous waste program approved under Section 3006 of the Act, will reports still be required to be sent to the Administrator? If no, can the regulations be written to reflect this?"

The point here is that what you see before you in the Federal Register and what we are discussing here are the

regulations for the federal program wherever that program is implemented in a state which for one reason or another does not have authorized hazardous waste programs. The requirements for state programs are spelled out in Section 3006 Regulations or, as I mentioned this morning, these particular regulations are being incorporated into combined with NPES underground injection control under Section 40 CFR 122, 123 and 124.

So, the basic answer to the question, though, is that where a state is running an approved program, these annual and quarterly reports would go to the state, not to the EPA and the reason that we don't spell that out in our regulations is that these regulations apply only in the case where the federal program is operating in that state.

Question: "Did EPA intend to apply the special waste rules now contained in Section 250.46 to generators and transporters of special wastes?" If the answer is no, please explain EPA's reasons for not doing so."

I believe we have stated in our preambles and so on, our assumptions or rationale, one of the rationales for setting up the special waste categories in the first place was that these are very high volume wastes and our assumption was that these wastes, being of high volume, would be managed on the site of generation, namely, they would be of such high volume it would be impractical or uneconomical to ship them

offsite, therefore, frankly, we just didn't consider it a possibility that these high volume wastes would be shipped somewhere else. That's why it is not covered there.

Now, I believe it was Mr. Horn of the Utility Solid Waste Activities group this morning that brought up this point, that this is not always the case, that some of these high volume wastes are, in fact, transported to an offsite facility and, in effect, made that comment that we should reconsider whether or not we apply these regulations to generators and transporters of these special wastes, so, we will take that under advisement.

Couple of waste oil related questions. For those of you who were here yesterday, you can appreciate the few chuckles here in the audience because we spent a lot of time on this yesterday but, nonetheless, the question: "Please explain the contractual agreement for generators of waste, oil and transfer of liability."

The basic requirements for this contractual agreement are covered in Section 250.28 and, basically, it says on Page 58979, as to the contractual agreement itself, it says, "Each generator entering into such a contract must keep a signed copy of it as a permanent record during the time the contract is in effect and for a period of one year following elimination." Then the provision goes on to say, "The assumption of duties contract must state in writing that in exchange

for valuable consideration, the transporter or treater or storer or disposer group, may also enter into these contracts, will perform all or part of the duties contained in the subpart. If less than all of the duties are assumed the contract must specify which duties are not assumed and lastly, the contract must be signed by authorized representatives of the parties.

So, these are the explicit requirements for this contractual agreement. I might also point out that this whole issue is discussed in the preamble on Page 58974 to some more depth and anyone who wishes to pursue that could read about it in the preamble.

Next question: "Please define waste oil."

Now, waste oil, as we point out in Section 3001 Regulations, was singled out for some special treatment under our regulations. It gets tied into the definition of other discarded material which is found in Section 250.10 on Page 58954 of the proposed regulations and in particular, for the purposes of defining other discarded material, we state that used lubricating hydraulic transformer, transmission or cutting oil, which is incinerated or burned as a fuel, is a discarded material and, therefore, they waste oil.

This is also followed up with a specific listing under Section 250.14-A in which waste lubricating oil, waste hydraulic oil or waste cutting oil are specifically listed

as hazardous waste. This gets to another question.

"What problems have resulted from indiscriminate disposal of waste oil? Why is waste oil not placed on the 3001 list if it is truly hazardous or is the EPA just trying to indirectly force recycling?"

Well, as you just saw, part of that is incorrect, part of the statement is incorrect because waste lube oil, waste hydraulic oil and waste cutting oil are placed on the 3001 list as I just noted.

As to what problems resulted from indiscriminate disposal of waste oil, we have a number of cases concerning that. Probably the one that is closest to home here occurred in Verona, Missouri, where there was indiscriminate disposal of waste oil which was mixed with other chemical wastes and sprayed on a horse arena for dust suppression purposes and also along roads in the area, which resulted in very severe health problems and a number of individuals became quite ill. A number of animals were killed and it was a very distinctive case.

There are a number of other problems like that that we have. I won't go into all in depth but it is questions like that that leave us with the impression that waste oil disposal must be controlled.

As to the last part on this, "Is EPA just trying to indirectly force recyling?" I guess we have to plead guilt

to that. Yes, we are, quite frankly, not only trying to eliminate the public health and environmental problems in indiscriminate waste disposal but we are indeed trying to foster the recyling of oil because we have a number of studies which show that the highest use of waste oil is re-refined back into lube oil. If this oil is merely burned for its fuel value, that is not the highest use of that waste oil and there are substantial savings in energy usage and also reductions in overall pollution loading by using re-refining for waste oil.

So, while we are not demanding that waste oil be recycled, we are certainly anxious to foster that practice.

MS. SCHAFFER: I have a number of questions that are enforcement related. The first one says: "According to Part 250.20C, any person who generates waste must evaluate that waste to determine if it meets the hazardous waste criteria. Please state what mechanism would be used to require this evaluation. Note, I am referring only to nonlisted waste."

As Fred said before, the notification requirement of Section 3010 requires that anyone who handles hazardous waste be generator, transporter or owner/operator or sewage treatment or disposal facility, must notify EPA within ninety days after promulgation of the Section 3001 Regulations, which spell out the criteria for hazardous wastes.

Kind of as a background, I think states and EPA have somewhat of a handle on who is involved in the hazardous waste system and who isn't and we have a contractor put together a list of possible players in the game, as I like to call it, and as Fred said also before, we are going to be sending out notification forms to people who are on that list so we kind of have an idea who will be in it. The mechanism for insuring that people do the evaluations is the idea that you will be violating the Act and the regulations they are under and can have enforcement action brought against you if you don't evaluate and properly notify according to 3010.

Two other points, one is that EPA is probably going to do--the regions are planning on doing some kind of a quality assurance program, testing some of the generators whether they have notified or not just to make sure that their tests have gone along with their results, that our results and their results are the same.

Secondly, I think it's EPA's goal, at least for the first couple of years on the implementation of the Act, to get as many people who should be in the system into the system. So, a significant amount of compliance monitoring will go to generators to make sure that they have included their waste in the system.

The second question is; "Under the proposed regulations, if a permanent disposal facility has its permit re- -

voked, what will be the mechanism to notify his customers so other disposal means can be exercised? If by federal announcement, what will be the expected time lapse from permanent revocation to public announcement?"

This is something that really has not been addressed in the Regulations. However, it seems reasonable that we could require an enclosure activity as part of the order for closure, that they notify all the customers who have been sending waste to the facility. Timewise I really can't answer because we have not, as I said, really addressed it but I think it could be a possibility.

Next question: "When a vessel that carries chemicals as cargo has its tank cleaned by a tank cleaning facility, who is the hazardous waste generator, the vessel owner or the cleaning facility?"

The cleaning facility is the generator.

Next question: "Under the cradle-to-grave concept, if the generator of hazardous waste properly reports and gives its waste to a properly permanent transporter using proper manifest procedures, does the generator cease to be liable for those wastes?"

One correction, and that is that under the federal system transporters are not permanent. They have requested an gotten an identification number from Federal EPA but are not permanent per se. However, on the Agency right now, it

believes that the generator never completely loses liability for the waste that he produces. He is responsible for making sure that his wastes that he has sent off site gets to that facility and he retains that liability until the waste is properly disposed of. However, if it is not the generator who violates the Act by doing something improper with the manifest or improperly disposing of it, the enforcement action won't come against the generator, it will go against the transporter or the disposal facility that has handled the waste. So, it is kind of a yes and no question.

MR. LEHMAN: I just want to amplify on the question that Ms. Schaffer answered just a minute ago because-- it concerned the cleaning facility for a vessel, because this question came up at an earlier meeting we had, a similar question and I want to make a distinction here.

The answer that Amy Schaffer gave was correct in that particular case. Let me read it again: "When a vessel that carries or carried chemicals as cargo has the tank cleaned by a tank cleaning facility, who is the hazardous waste generator, the vessel owner or the cleaning facility?"

The answer in that case is the cleaning facility as Amy said. In this case, basically, you are taking the vessel to the cleaning facility. However, the normal case is where you have storage tanks on a generating or manufacturing facility and in many cases, a service type of industry

is called in to clean those tanks. Now, in that case, it is the manufacturing facility who is the generator and not the contractor who is being brought in to clean the tank. I just wanted to make that distinction.

MR. MC LAUGHLIN: I have a couple of questions here dealing with containers and some others: "If a state does not have an approved state plan under Subtitle D, will all hazardous waste from retailers and those who generate less than a hundred kilograms per month have to be disposed of at an approved EPA Subtitle C site within the state or be transferred to another state's landfill where this state has an approved plan?"

As the guidelines for the development and implementation of state solid waste management plans are currently structured, the answer to that would be yes. However, in those cases where states do not opt to participate in the Subtitle D program, I can't really answer where that case will go.

A second part of this question is; "At what point does a state plan under Subtitle D become approved and how long does this approval process take?"

The schedule calls for the state plan guidelines to be promulgated approximately in July. The states, then, have eighteen months to develop and approve their state plans. They have been working on it since RCRA was passed, so,

this is a liveable schedule. I would estimate that it would take them approximately six months to get through the approval procedures which include both their administrative, state administrative procedures act requirements and EPA's public participation requirements. So, if the state plan guidelines are promulgated as scheduled in July, a state probably could not have an approved state plan before January and some states may take until January of the following year to complete their plan and get it approved.

MR. TRASK: A question on containers: "How is a storage tank which has frequent or continuous input and withdrawal but which is never empty considered in relation to the 90-day storage?"

If the withdrawal equals the input, I think it would be considered to be within a 90-day privy, if you will. In other words, it would not be subject to the permit requirements because it is continuously being changed. In other words, it is not being used as a permanent storage facility. It is being used as a cummulative facility.

"I am not familiar with DOT regulations pertaining to containers for hazardous materials."

If you are in the hazardous waste business I suggest you start reading because you are going to be needing it.

The question is: "Would steel barrels or drums be required for containerizing hazardous waste? Could 'good con-

dition' containers be acceptable?"

The DOT container regulations contained in 49 CFR Part 173 are very voluminous and much more than we would be able to go into here today. The specific part on reuse of containers, however, is spelled out in the DOT proposal to amend regulations in Part 173.28, and there it says that in some cases, "Certain containers which would not otherwise be reusable can be reused for single trip for disposal of hazardous waste." In other words, a single trip container or nonreusable container could be filled with hazardous waste and taken to a disposal site for that one trip that would be permissible.

It would have to pass a so-called 24-hour test, that is, twenty-four hours after the material has been put in the drum, it would have to be inspected for leakage and it could not be transported if it leaked because of the interlocking set of regulations we have now between EPA and DOT. All of this is put together so that a leaking drum with waste would be illegal to be transported.

I would suggest, though, whoever sent this question in to look at Subpart 173 because that's where it is at.

The other questions here deal with transportation.. Do we want to take those now or later? I'm sorry. One of them deals with manifest. Perhaps we better discuss that.

"Will the EPA propose manifest be the only format

for the manifest document that will be permitted or will flexibility for the use of a readable computer format be allowed?" And then a statement, I guess, "I would hope a document with only equivalent information would be required."

We are not allowed the luxury of doing that. DOT rules require that a format be used. In other words, it sets up the kind of information and the order in which that information must be supplied. So, if we are to combine our manifest with the DOT shipping paper format, then we are locked into a format and we have elected to do that. I don't see that that is going to be any big burden. What it really says is here is the information you need. You are going to have to do it for DOT anyhow. You do just these extra things for the manifest for EPA.

MR. LEHMAN: Question: "Under the proposed regs, a generator may declare his waste to be hazardous without testing. What is the effect, if any, of Company A declaring their waste hazardous while Company B declares the same waste nonhazardous? What if Companies A and B were not separate companies but different operating divisions of the same company?"

Well, I think the general answer to that is somebody is going to get a phone call from EPA. In other words, we would follow up on anything like that. This is similar, I might add, to the experience that I am aware of in Cali-

fornia which has been operating a hazardous waste program and manifest program for several years and their experience was that they didn't have this happen. In other words, they knew there were ten petroleum refining operations in the state and nine of them were reporting in accordance with the manifest and the other one wasn't. They would use management by exception type of basis and pay a call on the tenth one and want to discuss why the waste, why they didn't have hazardous waste when everyone else did.

Back to waste oil again: "What about oil cans generated at a service station? Will the cans require manifesting?"

No, not really. What we are really concerned about here, I think, it should be clear after this discussion, our waste oils that are contaminated in some way with, in the case of crankcase oils contaminated with lead, cutting oils and hydraulic oils that are somehow contaminated and not automotive oils that are delivered in cans.

Another one: "Will waste oils which proceed to a rerefiner require a manifest?"

The answer there is no. Here again, the point being if you thread your way through the definitions of other discarded materials you will see that waste oil which is destined for a rerefiner is basically considered not to be a discarded material, therefore, not a solid waste, there-

fore, not a hazardous waste, therefore, no manifest required.

It goes on to say, "My concern is that the price for waste oil may be higher if delivered to a road oiler than that received from a rerefiner. This could be an enforcement loophole."

Well, a couple of comments here. First of all, under our proposed regulations, road oiling would be reuse which constitutes disposal, land disposal of waste oil. Therefore, it would come under our definition of discarded material assuming that this waste oil is a hazardous waste, road oiling of that waste requires disposal, consequently, we would expect that the economics of that situation would change as a result of that and, therefore, what is true today may not be the case in the future, with respect to relative prices available for the various uses.

Now, here again, this last statement is,in effect, a comment on the regulations, the proposed regulations. I would again, as Chairperson Darrah indicated, ask you if you have this type of direct comment on the regulations, concerns about regulations, please write it down and submit it for the record.

MR. LINDSEY: "The state has been granted interim or final authority to run the program in their state. A generator or disposer is governed by the state rules and regulations. What is the generator's or disposer's responsibility

with regard to RCRA?"

This is true what the person says. Once a state has been authorized under the authority of RCRA to run its own program, then generators, treaters and so on in that state are subject to the state program. I would point out, however, that the authorization procedures for authorizing a state program under Section 3006 of the Act we must conclude that the stat's program is equivalent to the federal program, that is their rules and regulations and degree of control, degree of protection of public health in the environment is equivalent to the federal program.

There are also certain requirements within all of that including manifest system which must be adopted. I would recommend that those people who are interested in state program authorization pay special attention to the regulations which will be reproposed on that section in several weeks. I remember I indicated earlier Section 3005 and 3006 regulations will be proposed in concert with similar regulations under ingrade regulations under NPS program and underground injection control program.

"Was any consideration given to municipalities in other not-for-profit institutions to be given a special exemption or allowance above the one hundred kilograms per month? For example, city owned garage and painting crews may normally generate only fifty to hundred pounds a month

but on a special occasion, one month per year perhaps, go over the hundred kilogram limit."

First question first, did we give any special consideration and the answer to that is no. Large quantities of hazardous waste can cause problems if improperly managed, irregardless of who it is that generates them and so there is no special deal for municipalities or others like that. As far as this particular example goes you have a situation here, for example, which is really borderline and I believe that in a case like that you go over a little over one hundred kilogram limit once per month. I don't like to tell people how to get around regulations but maybe you dispose of one hundred each month and get below that one hundred kilogram limit that way.

"Since empty containers of hazardous materials represent very small quantities of hazardous waste, why is more control than just going to the nearest approved sanitary landfill justified?"

I think we talked about earlier if the material--if the containers are triple rinsed, they can go to a sanitary landfill but the problem is this, they tend to be transported and disposed in large lots and they are frequently not empty as you and I would term empty. Frequently, they contain an inch to three inches of material in the bottom, some of which would be highly toxic and highly hazardous. So,

when you collectively get large quantities of these drums shipped on flatbeds, the controls are needed to, for one thing, assure it gets from A to B and is not dumped in a ditch or a farmer's back forty some place or in the woods. Secondly, if disposed of in quantities each drum contains two or three inches of material in the bottom, you can have a concentration of materials in the sanitary landfill which could present a very real hazard.

This is a two-part question. I can only answer one part of it and I will pass it down the row. I don't know if they are going to answer the rest of it now or maybe think about it. The part I can answer, "Why does EPA feel there is a need to notify a foreign country of a hazardous waste shipment? Isn't EPA's job to protect the US environment?"

Well, that's true. Our job is to protect the US environment. We, however, feel it is good international relations to at least have the foreign government know what it is that we know that is coming from here to there. We also have been asked, that's another reason.

The second question, and I will read it off and if somebody on my right can think of the answer, will either handle it now or maybe later: "Why does the statement, 'To the best of my knowledge' be excluded from the certification statements?"

Does anybody know that?

MS. SHAFFER: I am pretty sure that the reason that statement, the wording was put in there, is that it is approved wording by the Department of Justice and the office of water enforcement, which is a separate office from what I am in, and because we are combining a lot of the activities that go along in NPEDS activities and RCRA, that we were going to use the same kind of information--I mean the certification, hence, we use the wording from the NPEDS certification.

CHAIRPERSON DARRAH: We will break for lunch now. If there is time after this 3003 hearing this afternoon, and perhaps questions on that section, we will answer any other questions on 3002. We will reconvene the hearing on 3003 at 2 p.m.

(Whereupon a recess was taken until 2:00 o'clock p.m.)

AFTERNOON SESSION 2:00 p.m.

CHAIRPERSON DARRAH: On the record.

The subject this afternoon is Section 3003 Regulations proposed under Resource Conservation Recovery Act.

The first speaker is Father Casimir Gierut.

STATEMENT OF FATHER CASIMIR GIERUT

FATHER GIERUT: My name is Father Casimir F. Gierut, pastor of Holy Cross Church, Wilsonville, Illinois. My mailing address is always Bunker Hill but for those who pay my salary it is Wilsonville. I am one of the members of the Survival Group of Wilsonville which is composed of citizens seeking to protect the health of the people and seeking to protect the safety and clean air environment in the community of Wilsonville.

I would like to call your attention as members of the Federal Environmental Protection Agency that transporters of hazardous and toxic waste are polluting the environment and are endangering the health and safety of the people.

The following three examples clearly indicate that the Environmental Protection Agency does not have control over those who are in the business of transporting hazardous wastes:

First example. A transporter of hazardous wastes dumped Polychlorinated Biphenyls into an open ditch in Dittmer, Missouri. Later it was found that the adjoining creek

was contaminated and livestock were affected with PCB. The source of contamination was traced to the open ditch saturated with PCB. While the original PCB was contained in 100 drums, the removal of the ground saturated with PCB filled over 5,000 drums of steel, 55 gallons each capacity which was transferred to the landfill in Wilsonville, Illinois. This removal was at a cost to the taxpayers of over $500,000. The taxpayers had to pay for the mistake because the EPA could neither trace the transporter of the waste nor could the EPA identify the originator on the PCB waste who had hired the transporter to move it to a certain safe place for treatment or burial.

Second example. A transporter had illegally dumped PCB into the sewer in Louisville, Kentucky. The PCB dumping had hightened the danger to the health of the people to the already contaminated sewage sludge. The entire sewage sludge with PCB was being transported from Louisville, Kentucky, to the landfill in Wilsonville, Illinois. Upon its arrival in Wilsonville, the citizens had notifed the Illinois EPA that on the streets of Wilsonville was leakage from that cargo. That means the leakage was continuous from the moment the cargo left Louisville, Kentucky, to its arrival in Wilsonville, Illinois. Imagine the number of automobile drivers who were following that cargo not aware that the leakage was flying through the air and possibly making its way into the

automobile. This fact that the EPA could not trace the transportation company responsible for dumping the PCB into the sewerage, cost the taxpayers thousands of dollars.

The third example is Ottawa, Illinois. The landfill was closed, for only a week. The owner was on vacation and the transporter decided to get rid of the hazardous waste by dumping the waste into the nearby Fox River. The Illinois EPA had no knowledge of who the transporter was, nor was it possible to trace the originator of that hazardous waste.

The transportation of hazardous waste involves the following areas of responsibility, (1) the originator of the hazardous waste, (2) the transportation company, (3) a responsible driver hired by the transporter, (4) the destination of the waste, (5) billing receipts and bookkeeping of the originator, transporter and the recipient at the point of destination in cooperation with the EPA record of information.

The responsibility of the originator of the hazardous waste does not terminate with the fact that the waste has been removed from the originator's place of business. Nor does the responsibility terminate with the fact that the originator of the waste has evidence of payment to the transporter for the removal of the wastes to be transported to a certain destination.

The originator is responsible to see to it that the

contract with the transporter is fulfilled in reaching the point of destination. If the waste has not been delivered to the point of destination the EPA should be informed. The EPA will now have sufficient information to check on the transporter. If there is any evidence of illegal dumping, the transporter should be made financially responsible to correct the situation and the transporter's license could be revoked by the EPA.

The transporter hauling hazardous waste cannot use that truck to haul anything else other than hazardous waste. It is unthinkable for a transporter to use the same truck to haul hazardous waste to go to the freight warehouse and transport canned goods from Libby's or Campbell food products.

The vehicle should have a large sign painted with the words, "Hazardous Wastes" on it so that it is visible to everyone. In case of an accident, that sign would be a warning to all concerned, especially, those who normally come to help in the situation, namely, the State Police, the two-truck, ambulance, doctor and the clean-up crew.

The driver should have complete knowledge of what his cargo contains as in the case of hazardous waste. He should be well instructed as to who to notify in case of an accident, and above all, to have the telephone number handy to immediately notify the EPA to prevent contamination of the environment or to prevent the endangering of health and

safety of the people in the community.

For example, in St. Louis, about three weeks ago, on the most busiest highway and at a time with the greatest amount of traffic, because people were on the way home from work, a truck loaded with radioactive material was in trouble. The bottom of the truck fell apart. Drums containing the radioactive rolled onto the highway. A man driving a taxicab decided to stop and help. He pushed the drums off the highway. Another person stopped his car and also helped push a couple of drums off the highway. When the EPA was informed of the situation, instruments were brought to the scene to find out if there were any contamination of the environment. The EPA also made effort to immediately contact the taxi driver. He was located and an analysis was made to insure any type of contamination. An all-out alert was announced on television and radio seeking the other person who helped remove the drums. His whereabouts are still unknown. But if the driverswere fully instructed as to what to do in case of an accident, he would, in this case, alert the taxicab driver and others not to touch the drums for fear of contamination and endangerment to their health, as well as their safety.

As for landfills, God gave us the good earth to produce food. Here in Southern Illinois farmers last year produced 45 million bushels of corn, 35 million bushels of

wheat, 10 million bushels of soybeans, not only for our country but for the needy throughout the whole word. For Earthline, with the approval of the EPA, to contaminate this good earth is a serious crime against nature and a social injustice to the hundreds of farmers whose livelihood is agriculture.

In view of the fact that there are many tons of hazardous, toxic waste produced each year, we will soon run out of landfills. Therefore, the responsibility rests with the EPA to notify, for example, Monsanto and Dow Chemical Companies and all other chemical industries that their Chemists are fully responsible to find a way to neutralize and to detoxify the harmful wastes from their products produced, otherwise, the government will prohibit the company to manufacture such harmful chemicl compounds. To neutralize and to detoxify these substances is the only answer to end the threat of hazardous waste buried as a detriment to society's and world future health and well-being.

For example, the chemists of Monsanto Company were aware that it is common knowledge among chemists, that Polychlorinated Biphenls (PCB) can be destroyed within two seconds, that's shorter than I can say the word "Amen", by burning the waste in an incinerator at 2000 degrees Fahrenheit. If the chemists know this, then why do they allow the carcinogens to be buried in landfills.

The failure of the chemical industries to destroy what is detrimental to the health and well-being of society is irresponsibility in the highest degree, an injustice to society and above all, an immoral act. Immorality is not limited to illicit sex, X-rated movies or pornographic magazines but also extends to illicit activities in business transactions which prove to be detrimental to the health of people.

To bury hazardous waste in landfills is not the solution. They will not decompose and disappear in the ground. On the contrary, they will react as was shown and experienced in the recent incident in Love, New York, where homes, schools, were built on this landfill. The seepage from the landfill caused children to be born with defects, there was much sickness, nausea and finally, the families of the entire community of Love, New York, were ordered by the government to abandon their homes. The vacant homes, now a ghost town, are the result of a landfill of only twenty years ago where hazardous waste was buried.

Now, the best part of all, it is good to know that after saying what I did say, no collection has been taken up.

CHAIRPERSON DARRAH: Would you answer questions for us?

FATHER GIERUT: Yes.

MR. LINDSEY: I think your comments and your exam-

ples were right to the point. I just might say I think that many of your thoughts seem to parallel those of Congress and when they passed this Act and I think those of our own as we developed these regulations.

Let me get to some specifics, on your comments relative to transportation control or lack thereof. In the Act and then in our regulations there is a provision for the manifest control systems we set up. In your opinion, will that go far enough toward the control of the transportation or is something more needed there?

FATHER GIERUT: No. I will tell you, you can put all the regulations you want on the books but from our experience, it doesn't work. The citizens of Wilsonville had called time in and time over to the Illinois EPA saying that another truck came into Wilsonville and we have more spillage. Another truck came in where the cover of the steel drum was missing, in one truck there were three covers missing. Now, you can imagine as it is on the highway the wind is blowing the material out and never has the EPA made pressure on Earthline to say, "Now, look, these people are trying to protect the environment." The complaint is for the good of the community and to a certain extent, it is good in regard to the transporters of the cargo because it is a valid complaint.

Now, the newspaper, the Alton Telegraph, had, on several occasions, stated that the Illinois EPA has notified

Earthline on a number of minor violations and major violations and it made no difference because Earthline would always, in a beautiful way, say, "Well, we are going to correct this and we are going to do something" and nothing happens. They never make the corrections. Now, when the fifth and sixth and seventh and tenth time the citizens of Wilsonville call upon the EPA and again say, "Look, there is another infraction in regard to transportation." I think that the EPA should either be serious in its business or get out. If you have the regulations and you don't follow it, then there is no use spending all the taxpayers money printing that paper.

The regulations are printed to defend you in regard to your business and, therefore, the Illinois EPA, after they have given three successive warnings to Earthline, I think the fourth one they should have said, "Now, either you get serious or we are not going to give any more permits to bring any more material to your landfill."

MR. LINDSEY: Your problem is with the enforcement as opposed to the regulations that are in affect?

FAUTHER GIERUT: Right.

MR. LEHMAN: Father, some of your comments seem to touch on some areas where I don't believe the regulations, as currently imposed, cover and if I might get you to comment on this point we might be able to translate these into some suggestions. You say in one part of your statement that if there

is any evidence of illegal dumping the transporter will be made financially responsible to correct the situation and the transporter's license could be revoked by the EPA.

Now, in the federal EPA proposal, there is no requirement for the transporter to have a license. Certain states may require licenses but federal proposals does not. Am I to assume from your comment that you believe that the federal proposal should include a requirement that transporters have liability?

FATHER GIERUT: Yes, there should be a separate license in that regard.

MR. LEHMAN: You also point out that in your view it is unthinkable for a transporter to use the same truck to haul hazardous waste and at the same time haul consumer goods and, again, that is an area which we have not covered in our regulations and I assume you would say that is a recommendation that it should cover?

FATHER GIERUT: Yes, because no matter if they made an attempt to clean the truck, there is always some type of contamination and, then, say you put cases of canned goods or cases of lettuce, why, you know it may go into the cardboard and then deliver that to the grocery man, the grocery man picks it up and you are transporting a lot of disease unnecessarily.

MR. LEHMAN: Right, so, it's fair to say that you would recommend that this be added to our regulations?

Father Gierut: Right. I would say that certain trucks should be used only for hazardous material. It cannot be used for any other purpose.

MR. LEHMAN: Then, your last point along these same lines, you indicated an incident in St. Louis where radioactive waste was dropping out of the bottom of the truck and the point you were making, I believe, was that the driver of the truck lacked adequate training and here again, this is an area, correct me if I am wrong, I believe that we do not require training for transporters under these proposed regulations. Could I then construe this to mean you are recommending a training program be implemented?

FATHER GIERUT: Really, it should be a simple training program. For example, in case of an accident, please tell people not to move any of the articles around the trailer, no matter if it blocks the highway because this is contaminated stuff.

Secondly, he should have the telephone number immediately of the EPA because we had drivers of trucks that came to Wilsonville and all he knew was, I am only a truck driver. I don't know what is on there and I don't care and that's about the extent of it and that's not the point. The point is, when an accident does happen, like it happened in St. Louis hardly three weeks ago, an appeal has been made over television, "Will the man who helped move the drums kindly

report to the EPA to check you out." That might be a man from Indiana that would never hear that, so, it is a serious business and in case of accident, this is what the average truck driver should know what to do.

MR. LEHMAN: That's a good point. One other one along this line is that you recommend that vehicles transporting hazardous waste should have the words "hazardous waste" on the truck so that it is visible to everyone. Therefore, in case of an accident, the sign would be warning to all concerned. Our regulations on transportation are being very carefully coordinated with the existing regulations by the Department of Transportation. DOT already requires placarding of certain types of trucks like "flammable" "corrosive", things of that type.

In other words, those particular words have a particular meaning in the trucking industry. The proposed regulations under RCRA, basically, use the DOT placarding system and does not have the additional requirement that the words "hazardous waste" be on there. In other words, the fact that it is flammable or corrosive would be there but not hazardous waste.

Are you basically recommending that in addition to the DOT placard you would have hazardous waste?

FATHER FIERUT: Right. The word hazardous waste should not be put on the door with all the other tonnage and

weight and all that because that is distracting. It should be on the real big part of the van. Any man with common sense will stop right there, "I'm not going to help because there is something bad about that carriage."

MR. LEHMAN: Well, I guess the point of my question, do you feel it necessary to have that additional placarding in addition to the existing DOT placard which already gives some degree of warning.

FATHER GIERUT: I think it should be separate. Normally, on the trucks that have flammable material it has written, "Please do not stop" or "This truck stops at every crossing. Flammable material", and you, as a driver following, know you better stay away.

In regard to hazardous material, it should be somewhere very visible but I think the average person would not help out. Hazardous material, that is enough for me. I can't help you.

MR. TRASK: Father, you indicated that some instructions for the driver of the truck out to be carried with the truck. We have made a provision that on the manifest some instructions as to what immediate action should be taken would be put on the manifest for the specific waste that is being hauled and also that the number of the Coast Guard National Response Center which is really under a number in Washington, would also be put on there where further information could be

obtained. Do you think that is enough or should we be doing something more than that?

FATHER GIERUT: I think the closest one is really the state EPA wherever a person is. If this is a truck within the state, all he needs is one telephone number, say, the Illinois EPA office but if it is a truck that is interstate commerce, well, then, he should have the telephone numbers to the EPA because I think EPA is more important in case of hazard than the National Guard. The National Guard is something to come out and clean up the place but the EPA will come with instruments to find out whether there has been contamination. In Arizona the EPA had ordered almost a block and a half of the highway to be torn because contamination had gone into the cement itself. So, I think the EPA should be the No. 1 over the Coast Guard.

MR. TRASK: If I might follow up on this question of license as well for transportation for transporters. You have some ideas on what should be licensed? Are you talking about the condition of the vehicle or are you talking about driver training? What should we be doing?

FATHER GIERUT: No. I suppose that anyone that the company hires already knows everything about regulations of driving and knows how to drive but we are talking about this driver be instructed and be licensed, so to speak, to drive this particular truck because you have some truck dri-

vers who are only anxious to deliver the cargo of the destination because they make their dollar for it. Whereas a licensed driver is not concerned how many hours he puts in. His salary is guaranteed. He needs to only get to the destination, so, it is not beating the speed limit or causing any type of hazard. We are talking about a licensed driver so in the driver's mind is, "I don't have to break the speed limit to make a dollar. I am guaranteed it."

Secondly, he is well informed, the very fact that he is responsible for the cargo, he is going to take exceptional time. Now, let me give you one example. A man drives a truck, a fair-sized truck, and the man from Pathaldo took over just temporarily because the regular driver was ill and this is what you call those really long trucks. Now, when he came to Wilsonville, where there are just narrow streets, he didn't know how to handle that big van and he knocked a couple of things down and there was almost a question where the entire cargo of hazardous material would spill out in Wilsonville.

The policeman gave him a ticket for destroying the culvert and not knowing how to operate the vehicle correctly and this is a question of operating a vehicle correctly. So, I say again, the idea of a license in regard to a driver working with hazardous material, in his mind is, "I don't have to work fast. I don't have to beat the limit. I don't have to

worry how long it is going to take me to get around that curb. I am going to be paid." You have greater security in the delivery of that hazardous material. What I am saying, is to avoid catastrophe.

Now, we had a catastrophe in Bedford Park just a few days ago where the entire town, my sister lives in Bedford Park, the entire town of about 450 had to leave because of a minor accident and yet it contained hazardous material and the police called everyone to leave their home immediately. So, it is a question of the driver. I am putting emphasis on licensing the driver because they have to come to know that their bread and butter is to deliver the hazardous material safely, not get there so he can come back and pick up another load. That's what is on my mind.

MR. TRASK: My staff just handed me a note that when DOT picks up hazardous waste as a hazardous material, then, hazardous waste will be subject to all of the existing regulations regarding hazardous materials. One of those is for driver training, a certain amount of driver training must be given, otherwise the transporter has violated not only the EPA law because we are picking up the DOT regulations, but also DOT laws because they are picking up our regulations. So, it could be a different ball game in the future when these regulations go into effect.

MR. LINDSEY: One more point, relative to your com-

ment on land disposal. I think your suggestion was that we cause a phase out on land filling or land disposal over some period of time. This leads to a dilemma, I think. As a policy matter and a goal that makes a lot of sense, obviously if the waste is destroyed in some fashion, detoxified, then it is not around to worry about but the dilemma we have is we have heard from a number of other speakers that even these regulations which do put, we think, rather substantial controls on disposal, that they will, in fact, reduce the availability of capacity and raise the cost to such an extent that what we will end up doing in fact may be counterproductive in the sense that it may act as an incentive because of the costs and much, much greater difficulty, may act as incentive for certain people to disregard the regulations and simply to illicitly destroy the material in ditches along the road and in the woods.

FATHER GIERUT: I wouldn't agree with that incentive because we are coming to an age that we have to know that we have to put a price on the product to see to it that there is safety involved and we have to pay for that additional guarantee. If you go on the other scale of not spending the money, then you are putting emphasis more on money than on the health of the people and the environment. So, if it costs more money and this is what one of the, I believe, chemists of Monsanto brought to me when we had a discussion, he said,

"Father, it's a question in regard to the incincerator." I said, "If you want to buy PCB which Monsanto is responsible mostly for originating, why don't you build an incinerator at Wilsonville to destroy PCB when you know about it." You know what his answer was, "Father, it costs money." So, Monsanto who makes billions of dollars in profit is more interested in how much profit the stockholders get than the safety of the people when you know that an incinerator does the truck.

Like I say, two seconds time, PCB can be destroyed. The second part about the Polychlorinated Biphenyls is when you destroy the cancer causing factor, you have a by-product which can be again sold and what remains is a safe product you can put right next to your vegetable garden and the chemists know it at Monsanto and they agreed with me on that point.

MR. LINDSEY: I think maybe our concern would be, I think it was Mr. Smeltzer this morning, made the comment that if it gets too difficult, there may not be enough policeman. I think he is talking policeman in generics to keep tabs on everybody. At least it is a concern that we have.

FATHER GIERUT: The police situation in my paper, what I am trying to bring out is this, Monsanto Company cannot have only responsibility to call, say, Corodura Company, "You pick up the PCB and that's it. I will pay you." Monsanto

should wait. He should not pay the Cordura Company until after they have reached the destination. In my simple way, if I order a television set from Sears, Roebuck and Sears, Roebuck pays Cordura Company to deliver the TV to me, if the destination does not come to me I am going to seek another TV. I don't pay for the price of the TV. In the meantime, Sears, Roebuck is not going to pay the transporter. You have not delivered the TV. Where is that TV set and this is where the EPA comes in. Say, we have proof Monsanto gave you the material and it is supposed to go to Sheffield, Illinois. It hasn't reached Sheffield. Or let's say, four hundred drums are on that van and only two hundred and eighty are delivered. EPA wants to know what happened to the one hundred and twenty.

So, it is protecting, really, Monsanto and it is also saying that the EPA now means business, we have regulations and we want it to be followed by everyone and you will just have to put it down. As I say again, if the EPA will not follow its own regulations,,forget it. Why don't you just drop the business and be done with it. Either you are serious in your business or you are not and the average business man has this point. In Illinois EPA and Earthline, they know the Illinois EPA was never too serious because week after week we called,another truck came with spillage. What about it? You mean to tell me that EPA could not say, "Look,

Earthline, we are going to give you one more chance and when we hear that the citizens of Wilsonville complain that another truck has come with leakage or spillage, it will be the end of all permits. You are out of business." You will find out how fast that will work. "If you don't put the brakes on you are out of business."

MR. LEHMAN: Father, I would just like to comment. I think the general thrust of your last series of remarks about responsibility of the generator in assuring that the material actually gets to its destination and so on, is, in fact, incorporated in our proposed regulations and when these regulations, assuming they are promulgated as proposed, and go into effect, then, in fact, you will have this track of--

FATHER GIERUT (interrupting): Does the billing have,in my estimation, the billing should have four sheets, one by Monsanto Company, the second billing to the transporter, third to the recipient, the landfill and fourth, to EPA. Now, the reason I put EPA is because EPA automatically knows who is the originator of the waste and who is the transporter, so, when you have somebody in Louisville, Kentucky, dumping PCB in the sewerage and getting a way with it, you and the EPA will pick it up and say, "We know from our four-fold billing that Monsanto of St. Louis was the center of the PCB and the transporter, by example, is Cordura." But if you don't have that fourth sheet that goes to you, the name of

the originator, Monsanto, the transporter and the place of destination and your fourth copy, then you are just not operating correctly. It is a question of efficiency and the only way to have efficiency when you have it all now right here, not guesswork and calling Monsanto, "Who was the transporter?" You have got it. You wouldn't even have to call Monsanto. You call the trucker, "Did you deliver this? Why was it not delivered in Sheffield, Illinois, only ended up in the sewerage?"

MR. LEHMAN: Of your four-part example there, the current regulations do require the first three and in the fourth case, instead of sending the fourth copy directly to EPA, we have required instead that a summary of all of the manifests be sent in its place. Now, in your opinion, is that adequate?

FATHER GIERUT: I think it is because it is not actual paper work when you write out the card. I goes to three duplicates anyway. Without you having the knowledge of who sent the material, where it was sent and by whom, then you are doing what the Illinois EPA has done for the people here in Denver, Missouri.

MR. LEHMAN: The point I was trying to drive at, Father, was that we get that information but only according to our proposed regulations, we get that information but we get it in a summary fashion. In other words, we don't get

each individual piece of paper. We get a combination of all of them at periodic intervals.

Now, in your opinion, is that adequate?

FATHER GIERUT: Absolutely not because all we need is one example, one particular load. This gentleman decided, like this man, the driver who took the hazardous waste to Ottawa, Illinois, and dumping, the ground was frozen for a week or so. He took it upon himself to get rid of it by dumping it in the Fox River. Now, that is maybe once out of forty trips but you and the EPA have no record of who sent that or who the trucker was. All we know now is the Illinois EPA men said, "Well, it was a small delivery, about forty drums, therefore, let's call it meaningless as far as effect is concerned on the Fox River." My point is, the EPA and you don't know who put that there.

You are talking only of a general summary which means nothing. We are talking about the fourth one here and now. Every delivery you know where it is at. When you get a summary, that's only statistics, it means nothing. I would like to see, because it costs nothing more and there is no extra work in office work, when Monsanto makes out its report, Corodura Company is going to transport it to Sheffield and you immediately receive the EPA summary. I am recommending that strongly, otherwise, we are going to come back. You see, you don't care. When this happened, only one truck dri-

ver dumped the PCB in Dittmer, Missouri, it costs us taxpayers $500,000 because you failed to know who dumped it in Dittmer, Missouri. Do you see the point?

MR. MC LAUGHLIN: Father, I have some good news. We not only know who dumped it in Dittmer, they have been sent a bill for the entire cost of the bill about two weeks ago.

FATHER GIERUT: That's the way it should be. As long as the taxpayers don't pay for it, I am happy about it.

MR. LEHMAN: Father, I also would like to point out one aspect of our tracking system that we have been discussing here and that is the generator, or in the case you have been using as an example, would be the Monsanto Corporation, must inform EPA if they do not get a confirmation of delivery within thirty days. In other words, there is a feedback system built into this so that it is not only EPA that is keeping track of what is being sent but the originating company is also responsible for keeping track.

FATHER GIERUT: The responsibility is fulfilled by all persons, Monsanto, the transporter, the place that received it and the EPA, all are in good shape now.

CHAIRPERSON DARRAH: Thank you very much.

The next speaker this afternoon is Don Norton from Congressman Findley's office.

STATEMENT OF CONGRESSMAN FINDLEY

AS GIVEN BY MR. DON NORTON

MR. NORTON: My name is Don Norton. I am administra-

tive assistant to U. S. Representative Paul Findley of the 20th Congressional District of Illinois, which encompasses the area from Alton to Springfield to Quincy and down the Mississippi River and includes the community of Wilsonville, Illinois.

I am speaking on behalf of the Congressman today because he is in session in Washington and I noticed, to my chagrin, after I got here, after you had noticed also the nature of our remarks, they really pertain to Section 3004, which is tomorrow on your agenda. If you will indulge my presence today, I will go ahead and read the statement and also, I apologize for the designation of Mr. Chairman on that. I am afraid one of our staffers got carried away perhaps with the ritual of capital health.

Before I get into this, we were delighted to learn of the revelation two weeks ago the offending party had been located as to the Dittmer dump, so to speak, and I hope that the collection efforts will be pressed vigorously on that.

MR. MC LAUGHLIN: The U. S. Coast Guard actually paid for clean up and they are the ones responsible for attempting to collect the money to pay the U. S. Government. They have assured us they will keep us informed as to their progress.

MR. NORTON: Congressman Findley asked for this time today so he could indicate in the strongest possible way

his great distress over the direction or lack of direction in the way the Environmental Protection Agency has implemented certain sections of the Research Conservation and Recovery Act of 1976.

He recognizes that few will argue with the need for action. The Love Canal in New York, the Valley of the Drums outside Louisville, the PCB episode in Michigan and countless other cases, all provide grim testimony to the potential for disaster. That is why we are here today. These tragedies show up in the most explicit way, the immense economic and physical hardship imposed on victims of hazardous waste pollution.

In our particular case, you need not go as far as New York or Michigan to see the potential or new environmental disaster in human suffering being stored in the ground. Just across the river in Macoupin County, Illinois, less than an hour's drive from here, lies the community of Wilsonville served by Father Gierut. And located within the city limits, believe it or not, is the hazardous waste dump operated by a corporation which euphemistically calls itself Earthline. A quiet rural community, Wilsonville has every desire to stay off the front page of the New York Times. The people do not want to end up in a story about the grizzly consequences of finding a hazardous waste treatment facility within the community. But in recent months, words like

"leachate," "activated sludge," and "PCB's", terms, which until recently, mean little to the average American, raise the spectre of debilitating disease, economic disaster, and an uncertain future for those who live in Wilsonville.

This afternoon I would like to direct my remarks to those areas of the proposed regulations which need drastic attention if we are to avoid the creation of a series of Wilsonvilles across the country. To begin with, the proposed regulations do not begin to deal adequately with the problem of site selection for hazardous waste dumps. To be sure, no city, no township, no individual wants to be on the receiving end for hazardous wastes. Yet, EPA's approach has been to ignore the most basic and perhaps the single most important problem in the regulation of hazardous waste.

In fact, it is the very absence of tough regulations on site selection that caused the problem in Wilsonville. Back in 1976, when construction permits were granted to Earthline, no mention was made as to what the operator of the facility planned to treat and buy there. It was only after the dump began filling up that residents learned of the dangerous chemicals being buried within their community. Immediately, they filed suit in court to close down the site. The Illinois Attorney General joined them in their suit, but ironically, the Environmental Protection Agency took the side of Earthline Corporation.

In August of 1978, Judge John Russell ordered the site closed and the dismantling of the facility. But whether and when that may occur is very speculative. A higher court could overturn Judge Russell's decision on appeal and the town of Wilsonville could still have a hazardous waste dump within the city limits. My reason for reviewing this very personal and local experience is to show you how difficult it is to remove a hazardous waste dump once it has actually begun operation. We suggest that what this means is that the first thing you should concentrate upon is the criteria to be used to determine where these hazardous waste dumps should be located. Once they have been established in a heavily populated area, even your strictest regulations governing their operation are likely to be inadequate. The mere existence of a hazardous waste dump in a population center should never be permitted. I urge you to change your regulations, Congressman Findley urges, to eliminate once and for all the possibility of this occurring again.

The approach of EPA's proposed regulations to this problem is simply to create a buffer zone of some 200 feet between the active portion of the facility and its property boundary to reduce the risk to public and environmental health. This two hundred foot requirement is wholly inadequate. Chemical landfills never lie dormant. When water penetrates buried wastes, it removes soluble components, pro-

ducing a grossly polluted liquid leachate that travels away from the dump. EPA recognizes that the technology of leachate monitoring is still being refined, and there is no reason to believe the leachate will not travel a two hundred foot distance, especially when the surrounding soil is porous. EPA's own Office of Solid Waste has guessed that the average landfill site, about 17 acres in size, produces 4.6 million gallons of leachate a year if there are 10 inches of rain. It is unrealistic to think that all 4.6 million gallons remain within the hazardous dump.

Compounding this, there is always the problem of ground water contamination when leaching occurs. More than 100 million Americans depend upon ground water as their source of nature's most vital fluid. In Wilsonville, for example, if the ground water becomes so contaminated as to be unfit to drink, the town would be without a major source of water.

The two hundred foot requirement is also inadequate when you consider the potential for explosions or contamination of the atmosphere which could expose hundreds if not thousands of people to the deadly contents of such substances as cyanides, sulfides and dioxin.

We repeat, it is absolutely vital for EPA to write regulations which will make it impossible to construct a hazardous waste dump in or near a population center. In the last

session of Congress, Congressman Findley introduced a bill that would have solved this problem by requiring that public lands be used for the location of hazardous waste facilities. Due to the sluggishness of EPA in formulating an agency opinion, hearings were not held on that bill.

Another area of the proposed regulations which we feel is inadequate is EPA's proposal that persons who produce and dispose of 100 kilograms (about 220 pounds) of hazardous waste in any one month be exmpted from EPA's regulations. Although we can sympathize with your desire not to regulate "the little guy", we still find this requirement extremely troublesome. All hazardous wastes have different levels of toxicity. The residue C-56, created through the manufacturing of the pesticide Kepone and Mirex, has a relatively low level of toxicity even in sizeable amounts. At the other end of the spectrum, however, chemists point out that as little as three ounces of dioxin are enough to kill more than a million people. Clearly, EPA should devise a system which takes into consideration the relative toxicity levels of various hazardous wastes instead of issuing a blanket exemption.

Finally, we believe EPA has made a major mistake by focusing all of its attention on the treatment and burial of waste only at locations away from where they are generated. The General Accounting Office estimates that in 1976, only

17 per cent of the approximately 46 million tons of potentially hazardous waste produced would be buried off-site. The remaining 83 per cent are buried by the company which produces them on the site where they are produced. These hazardous wastes which are buried on the site they are produced, are just as dangerous as those which are carried to another site for burial. In one sense, they may be even more dangerous because little is known about them. It is our understanding that the Environmental Protection Agency does not currently have an accurate record of where all hazardous wastes are buried in this country. It is reasonable to assume that the most difficult sites to identify will be those that are located right where the hazardous chemicals were produced. Until these sites are identified and licensed, it will not be possible to have any real concept of the extent of the danger to our society from the hazardous waste dumps peppered across the nation.

When RCRA was passed by the Congress in 1976, it was never intended that EPA would only attack part of the problem. It would be our hope that the promulgation of these regulations would apply to the extent possible, equally not only to off-site facilities such as the one at Wilsonville, but also to all on-site dumps.

To EPA's credit, the Agency has tackled an enormous job with tremendous vigor and thought in trying to implement

RCRA. But the need for action is clear. EPA has already missed its deadline set by Congress by some ten months in issuing regulations. We cannot afford to wait much longer. The situation is critical. If EPA fails to respond soon or in a way not compatible with the concerns of the public, it may be left up to Congress to make those hard decisions to insure the health of the public and the environment.

In closing, we would like to leave you with one last thought. Less than 7 per cent of the 92 billion pounds of chemical waste generated each year receives proper disposal. If we are to prevent future disasters from occurring such as the one at Love Canal, the Valley of the Drums or Wilsonville, we need to act now.

Thank you.

CHAIRPERSON DARRAH: Thank you, Mr. Norton. Would you answer any questions we may have?

MR. NORTON: I will try.

MR. LINDSEY: I think there has been a misinterpretation somewhere, maybe because we didn't write these things as clearly as we thought we had but I would just like to point out that on-site disposal facilities are regulated, essentially, to the same extent as off-site. How the misinterpretation could have been made I don't know but the intent of the regulations as far as we are concerned in writing, that is the case. So, I think that will alleviate some of your

problems, hopefully.

MR. NORTON: I thought that might come up. On Page 58947 of the proposed rules, 58947, middle column towards the bottom, "The Agency has developed implementation plans which would give first priority for permitting to off-site disposal facilities and new facilities". It is from that, plus other comments we have obtained that led us to that conclusion.

MR. LINDSEY: Let me address that just a minute, if I could. What you are looking at there is a strategy, essentially, we are implementing. Given we have limited resources and the states will assume responsibility for this where we don't, we will also have some limited resources but it is going to take us some time to get around to permitting all the facilities.

It's our conclusion, at least thus far, that by and large, a disportionate amount of the damages have occurred from what we will call fly-by-night on-site operations and our intent there is to try and get to those first. That doesn't mean to say we are going to ignore everybody else but by and large, we are going to try and implement in those areas first. There is also some other implementation scheduling arrangements which we are considering and that is we are going to attempt to release or relieve the burden somewhat by trying to implement on-site permits at the same

time that NPDS permits are reissued so we can do them together, things like that, but that doesn't mean to say where we know or expect to be a problem, have reason to believe from a third party operation that we won't proceed to act on those permits immediately and the regulations themselves apply in either case.

What you saw there is a policy of implementing them and when we will get to whom first and that sort of thing.

MR. NORTON: It's a matter of concern, obviously, and I will convey this position back to the Congressman because that will relate to further steps that we will be taking.

MR. LEHMAN: Mr. Norton, to follow up on that a little bit, I should also point out, I think, that even setting aside the priority for permitting, there is still a requirement in the regulations as proposed that all generators and all people who operate treatment storages or disposal facilities on site as well as off-site, must notify EPA within ninety days after these regulations are promulgated and furthermore, within 180 days they must apply for a permit. I think this will go a long way to answering your concern about, first of all that we are somehow treating differently on-site than off-site. In fact, we are really not, but also that we will have a much better idea, as you point out, as to where all of these treatment, storage, disposal locations are once this notification process takes force but at the moment, I

must admit that your Congressman is correct. We do not have as much information along those lines as we would like to have.

MR. NORTON: We were worried about the emphasis here. I read the regulations. We have that knowledge concerning the proposed timetable for getting in touch with and licensing the on-site generators. We just wanted to make sure that that is a equal matter of priority where it is pursued with vigor.

MR. LEHMAN: As far as the notification goes and as far as the current application goes, there is equal priority for on-site, off-site there. Another point I would like to clarify, it's part of your statement getting back to the situation of the Earthline facility in Wilsonville. You make the statement that when construction permits were granted to Earthline no mention was made as to what the operator, facility [illegible] treat and bury there. Here, again, we recognize the need for public access to information concerning hazardous waste facilities, not in these proposed regulations but in the permitting regulations which naturally say what has to be part of the permanent applicant and administrative rules of practice as to how those permit applications are handled.

There is, of course, a much greater degree of information that is required to be submitted in the permit application. There is an opportunity for public hearing concerning

the permit before it is issued and so on. I think when these regulations do become finalized that these types of problems that you have pointed out will no longer be a problem.

MR. TRASK: Mr. Norton, as you know from reading our Preamble 3002, we are wrestling with this 100 kilogram issue and that is a suggestion and there were five others mentioned in the Preamble, one of which dealt with the degree of hazard which you suggested we ought to look at.

We do solicit the input into this. If you have some thoughts on where we would begin, what would be the dividing line and as to what would be in, what would be out, bearing in mind that a material that would not be subject to all administrative requirements, still would be subject to 4004 type facility requirements.

In other words, it would not be let lose in the atmosphere, per se. If you have some thoughts on that we would like to have them.

MR. NORTON: We do and we will be communicating those in writing.

MR. LEHMAN: Mr. Norton, I have another question I would like to pursue with you, one of the remarks you were making concerning the setback requirement with respect to location site selection, indicating that we are aware of the fact the Congressman did introduce a bill concerning the use of a public land for location of hazardous waste facilities

and I am wondering, first of all, I guess the question is, is that still in the Congressman's plan? Are you intending to have a civil bill introduced in this Congress?

MR. NORTON: Yes.

MR. LEHMAN: So, it is still the Congressman's opinion that that is the appropriate policy for location of hazardous waste facilities?

MR. NORTON: It is.

MR. LEHMAN: Given the fact that some federal land are located in somewhat heavily populated areas, you are really talking about a distinction here of a certain type of federal land?

MR. NORTON: We would distinguish land as to their proximity to population centers, of course, not just being public land automatically qualifies, for a site.

MR. LEHMAN: Do you have some feeling or would you like to comment on just what is an appropriate setback distance than we are talking about here?

MR. NORTON: I personally speaking, from my own knowledge and conversations that our office has had with your Agency, I think that that would be subject to quite a few variables in nature, the ground itself and location in relation to water supplies and so forth. I am not prepared to state any magical distance at this time, 500 feet or a thousand feet or what have you. I do know that the existing

or the proposed setback requirement, you apply it in very graphic cases, the Village of Wilsonville where the Earthline facility is right across the street from the last house and the facility at the end of Main Street, that that demonstrates it must certainly be farther than 200 feet and actually, the active part of that site is probably more than 200 feet away from the last house along that street.

I will be happy to take this subject up with the Congressman and ask him, perhaps, to elaborate on that.

MR. LEHMAN: Another follow-up question along those lines, your statement indicated that the location of all hazardous waste facilities should be on federal land. Do you feel that there is a distinction that should be made here between different types of hazardous waste facilities, like incinerators, treatment facilities, et cetera, versus landfills? In other words, do you think the same type of isolation is required for all types of facilities or just for certain types like a landfill.

MR. NORTON: At this time we are not making any distinction. I might elaborate on that. Siting is a most difficult problem. You folks are having to contend with it and you have for several years and to look at the examples of Wilsonville, which is closest to our heart because it is in our district, perhaps with the Minnesota demonstration Grant situation or the Oregon problem orwhat have you, referring to

the GAO report of late December or early January, this is an awfully tough nut to crack and the Agency has opted for and RCRA is based upon the regulatory approach as contrasted to an earlier emphasis about ten years ago.

I think it is our feeling that we don't want to be prophets of doom here but we think we will find there will be little practical solution in the existing approach and we are going to have to go to the public land approach to get the sites situated and operated.

MR. LINDSEY: If we go to public land approach when we would go as far as to say the old national disposal sites concept that somebody asked a question about the other day. In other words, would we set up a system where Uncle Sam would be running the facility or would we simply allow and assist the siting of facilities where maybe we would own the land, the federal government would own the land and private contractors would build facilities? You haven't thought that through?

MR. NORTON: There would be several possibilities under the general umbrella, that could be set up, I think, in our estimation. The worst case situation perhaps might be with the federal government providing a site. I believe from information that I have that the Oregon approach was to assist a private operator with proviso that the land become public property when the site was closed. That's another pur-

pose. All of these could be rolled in. They deviate, in our minds, drastically from the existing rules. We think it is going to have to go in that direction.

CHAIRPERSON DARRAH: Thank you very much.

We will take a five-minute break.

(A short recess was taken.)

CHAIRPERSON DARRAH: The next speaker this afternoon will be Mildred Hendricks from Gillespie.

MS. HENDRICKS: Is someone calling me?

CHAIRPERSON DARRAH: Yes, are you Mildred Hendricks?

MS. HENDRICKS: I most certainly am.

CHAIRPERSON DARRAH: You had indicated you wanted to speak this afternoon?

MS. HENDRICKS: Well, I'll tell you what I did. I was getting ready to go home and I had handed in my testimony to these people here. So it will be in the testimony.

CHAIRPERSON DARRAH: O.K. We have a written statement for the record rather than oral testimony.

(Whereupon statement above referred to was made part of the official record.)

HEARING INSERT

My name is Mrs Frederick Hendricks, am a member of Legislative Research Association Committee To Restore the Constitution and Citizens for Justice in Taxation.

Following are excerpts from testimony by Mrs Frederick Hendricks, Gillespie, Illinois, (LRA member) before the Ill legislators

We, the citizens of our Sovereign State of Illinois, have great hope that you will enforce your oath of office and stop the destruction of that balance of power that once existed between the Sovereign States and their Agent, the Federal Government

The State Constitution states, "The public policy of the state and the *duty of each person* is to provide and maintain a healthful environment for the benefit of this and future generations The General Assembly shall provide by law for implementation and enforcement of this Public Policy" In my humble opinion, the Environmental Protection Agency is not doing this and is breaking the law due to it being unconstitutional

I do not recall our elected representatives in Washington giving this power to these unelected bureaucrats of ~~OSHA, EPA and others~~. However, I have hopes that our Congressmen in Washington will be successful ~~with H. R. 1347 repeal of OSHA~~ and get back this power which rightfully belongs to our elected legislators

Illinois is a Sovereign State today and must remain one tomorrow and not become a Branch Office of a Regional Bureaucracy for Federal Dictatorship that might attempt to rule over all of us from Wash D C

We the citizens of the Sovereign State of Illinois created the Federal Government granting very specific and limited powers, and the Regional Planners admit they have no Constitutional authority for their regulatory agencies I sincerely hope that the concept of "HUMAN RIGHTS" will not replace our U S Constitutional "BILL OF RIGHTS" Then almost anything can be called 'CONSTITUTIONAL" including Regional Governance

In my opinion the present silliness of the EPA and some other U S agencies is due in major part to a violation of some of the basic concepts of our U.S Constitution particularly Art I, II, and III, which define the separation of Legislative, Executive and Judicial functions Although sanctioned to some degree by law, these Regulatory Agencies have more and more assumed all three they set up regulations, enforce them and judge their validity Such a concentration of power is certainly contrary to our American tradition and is at odds with the Constitution of the U S

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CHAIRPERSON DARRAH: Is there anyone who would like to speak on Section 3003 Regulations?

(No response.)

CHAIRPERSON DARRAH: All right, we will close the record of the hearing on Section 3003.

(See separate transcript for question and answer session.)

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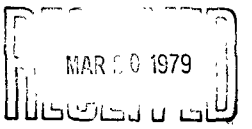
PAUL FINDLEY
20TH DISTRICT, ILLINOIS

COMMITTEES:
INTERNATIONAL RELATIONS
AGRICULTURE

Congress of the United States

House of Representatives

Washington, D. C.



Please include this statement in the official record along with the statement presented by my Springfield administrative assistant at the St. Louis hearings February 15, 1979.

Thanks very much

Paul Findley
Representative in Congress

I am pleased to submit for the record these additional substantive comments concerning the final promulgation of rules for section 3001, 3002 and 3004 of the 1976 Resource Conservation and Recovery Act. These regulations were to be promulgated, as directed by law, no later than April of 1978. Unfortunately U.S. EPA's lack of diligence in formulating and adopting rules has now delayed by one year establishment of an active, effective and comprehensive regulatory program. Yet, in proposing these rules EPA signals its first real attempt to deal with the problem of hazardous waste management.

Although a step forward, these regulations do not, even in the smallest way, tackle the problem of where to locate hazardous waste facilities. The Love Canal in New York, the Valley of the Drums in Kentucky, the PCB episode in Michigan and countless other cases provide grim testimony to the potential for disaster. For example, within the Congressional district I represent lies the small, quiet community of Wilsonville, Illinois. Yet Wilsonville has been in the national news recently. Located in Wilsonville, a hazardous waste dump which euphemistically calls itself Earthline has created a public outcry of unequalled proportions. Filing suit, the citizens of Wilsonville, joined by the Illinois Attorney General, have sought injunctive relief against further dumping and operation of the Earthline site. Ironically, the Environmental Protection Agency took the side of Earthline. Squaring off against each other, the residents won a victory in August of 1978 when Judge John Russell ordered the site closed and the dismantling of the facility because of the danger the site posed to the town. Yet Judge Russell's order may never be implemented if his decision is overturned and the town could still have an active hazardous waste dump within the city limits.

STATEMENT OF

CONGRESSMAN PAUL FINDLEY

before the

U.S. ENVIRONMENTAL PROTECTION AGENCY'S HEARINGS

ON RCRA

FEBRUARY 15, 1979

I strongly urge EPA to do two things: First, EPA should withdraw its opposition to Judge Russell's order and accept the court's verdict closing the Earthline hazardous waste disposal site in the town of Wilsonville. EPA should recognize that the people living within a community have a right not to have a hazardous waste treatment plant placed within the borders of their town. Second, EPA should formulate national regulations prohibiting the establishment of any hazardous waste treatment plant within a community or other population center. The lesson of Wilsonville is that such hazardous waste disposal sites are unnecessary, unwanted, undesirable, and unhealthy. EPA can and should make them unlawful. Site location is the crux of the hazardous waste issue. With these comments as a preface let me discuss briefly section 3001, identification and listing of hazardous wastes, and point to some of the strengths and weaknesses I see in these proposed rules.

First, under the scope of the definition of hazardous waste in paragraph 250.10(d) certain materials are excluded from the definition because they are not regarded as discarded materials. In my judgment the definition should not turn on this indistinct definition. For example, some operators claiming to be solvent reclaimers have in fact been hazardous waste disposal operations. Usually such an operation solicits waste materials containing potentially recoverable solvents in the hope that significant revenue can be obtained by recovering the materials. However when it is discovered that solvents cannot be economically recovered, the operator may be left with a large inventory of waste materials for which he has insufficient funds for disposal.

It is my judgment that EPA has erred in choosing not to prepare

regulations recognizing the degree of hazard. A single hazard classification system for all hazardous wastes, as EPA has proposed, will require all hazardous wastes to be handled in the same manner and to be treated at facilities conforming to the regulations stated in section 3004.

Wastes are usually disposed of in either the acidic environment of an open dump containing decaying organic matter or managed in the hazardous waste system prescribed in sections 3002, 3003 and 3004. These two disposal methods represent extremes in cost and complexity. Many wastes can be disposed of in facilities far less costly than those conforming with the section 3004 regulations provided they are kept from an acidic environment.

A waste classfication system such as those in effect in Illinois, California and Texas, could be designed recognizing the degree of hazard. Utilizing this kind of system would enable more reasonable, defensible and less inflationary regulations to be devised. Classification would also, I believe, make public acceptance of hazardous waste sites more likely if people knew what kinds of wastes were to be handled at the facility. For example, fly ash is considered hazardous but has a low level of toxicity. Given a low toxic rating, people would be more willing to have fly ash stored near them than say a waste, such as dioxin, having a much higher toxic rating.

Additionally, I disagree with EPA's proposal for a blanket exclusion from the hazardous waste regulatory program for generators of less than 100 kilograms per month. While such an exclusion might be justified for some small waste generators, substances such as dioxin or hexachlorocyclopentadience are lethal in quantities of much less than 100 kilograms.

I would suggest that a new hazard classification system which takes into account volume and toxicity be used to determine the need for taking part in the regulatory program.

I also found in the preamble of the regulatory proposals a statement that greatly distresses me. On page 58947 of the Federal Register, the preamble said in part, "The agency has developed implementation plans which would give first priority for permitting off-site disposal facilities and new facilities,. . . ." The General Accounting Office has estimated that of the 46 million tons of potentially hazardous waste produced in 1976, 83 percent was buried by the company which produced the wastes on the site where it was produced. Yet these on-site wastes are just as dangerous as those which are carried to another site for burial. When RCRA was enacted into law in 1976, Congress never thought that EPA would direct its efforts primarily to the problem of off-site disposal. It is my hope that EPA will seek to balance its future efforts between on and off-site disposal of hazardous waste.

Section 3002 of RCRA sets forth the requirements governing the generator's manifest, reporting and recordkeeping system. If one reads the proposed rules carefully concerning this system an obvious defect appears: A generator who sends his wastes to an off-site, in-state, captive facility is exempt from all reporting requirements. Operators of captive waste management facilities should, at a minimum, file the same reports as on-site disposers.

Turning to section 3004, I would disagree with the specific requirements concerning the 200 foot buffer zone to be placed between the active portions of the facility and the property line. I believe

that the danger of explosion or contamination may in certain cases be so great that a 200 foot buffer zone would be inadequate if the facility is located in a populated area.

I would also object to EPA's requirement that a facility not be located in a 500 year floodplain. This is a rather stiff requirement that I consider unnecessary. I would suggest that a 100 year floodplain or even the greatest flood of record, whichever is greater, be used to determine the propriety of locating a facility on a floodplain.

Finally, I want to express my concern over EPA's proposed standards governing special wastes. The thrust of the Resource Conservation and Recovery Act is to encourage the recycling of wastes when possible. My fear, however, is that certain combustion by-products such as fly ash, bottom ash, slag, and sulfur will not be recycled to the degree possible due to the hazardous waste classfication given these by-products under section 3001.

For example, the special waste classification proposed by EPA classifies fly ash as hazardous. Yet the level of toxicity for fly ash is so low that it is silly to classify the ash with such toxic wastes as dioxin.

I know for a fact that certain townships within my district have been blessed with have quantities of fly ash available to use with slag and sulfur to build the sub-surface for roads.

Fly ash also has other uses. It can be used in making cement and concrete blocks and fertilizer. If fly ash is classified as a hazardous waste, however, few farmers may want to apply to EPA for a permit to use this by-product.

I would urge EPA to reconsider its strategy for special wastes. Recycling should be encouraged, not stymied. The hazardous waste labeling given these by-products may preclude their use, their recycling and their contribution in reducing the amount of accumulated waste.

EPA has tackled an enormously important job. Love Canal, the Valley of the Drums in Kentucky, Wilsonville, Illinois, demonstrate the need for action. EPA should complete its regulatory program as mandated under the Resource Conservation and Recovery Act of 1976 as soon as possible and not let another year slip by during which the seeds of other tragedies may be planted.

SEPARATE TRANSCRIPT FOR QUESTION AND ANSWER SESSION

St. Louis, Missouri

February 15, 1979

CHAIRPERSON DARRAH: We will go ahead and answer questions that we had left from this morning on 3002 and we'll also be handing out more cards if you have anymore written questions on Section 3003.

MR. LEHMAN: This relates back to the answer to a previous question this morning. The question: "Are you saying that using hazardous waste oil for purposes of dust suppression can be a permanent disposal method?"

The answer is yes, according to our regulations, it's not banned outright. What we are saying rather is that it must be controlled. Namely, it needs to be, if it is permitted, it has to be done with a permit so the answer to the question is yes, it is possible that dust suppression using waste oil can so be done but it would require permit.

Another question: "If a state does not have an approved Subtitle D program,"'-- this is for nonhazardous waste under RCRA. "If a state does not have an approved nonhazardous Subtitle D program, where will the disposal of nonhazardous waste be allowed within that state?"

Well, the answer is that under Subtitle D, the Federal Government really has no direct authority. The landfilling of nonhazardous waste or disposal of is subject to state control. The fact, however, that a state does not have an approved Subtitle D program then you have to

read the 4000 series of RCRA to understand their interrelationships there between EPA as a criteria for land disposal and the approval of state nonhazardous waste program.

If a state does not have an approved Subtitle D program, this opens up the direct possibility of foreclosure of certain landfill sites. In other words, it is only if a state has an approved Subtitle D program that they can put certain landfills that are classified as open dumps in accordance with the Federal criteria on some sort of a compliance schedule. Otherwise such facility would be subject to direct citizen suits for immediate closure.

Also, I might point out as we've discussed earlier today, in the 100 kilogram per month proposal of conditional exemption of 100 kilograms per month under Section 3002 for hazardous waste, it is conditional in the sense that you are out of the regulatory system provided that you take the less than 100 kilograms to a landfill which is -- see if I can get -- I'm going to have to look at the regulations for the exact wording but to paraphrase, the Subtitle D landfill would have to be approved pursuant to an approved Subtitle D program.

In other words, if you have -- if you happen to live in a state which does not have an approved Subtitle D program, then the state permits for those nonhazardous waste facilities do not satisfy the requirements of these

conditional exemptions and therefore the 100 kilogram exemption would not apply either.

So there are a number of ramifications associated with a state that does not have an approved Subtitle D program.

Question: "Spent solvent going to a solvent reclaimant, does the generator of the spent solvent need to fill out a manifest?"

Well, the answer is no under our proposed regulations. However, I think I should point out that previous commentors, both here yesterday and in New York last week, have questioned this practice or this situation as a possible loophole and consequently the Agency will reexamine that. But as of December 18 when we proposed our regulations, the answer to that question would be no.

MR. LINDSEY: A couple of questions about the siting, really. They are rather broad.

"Have you given any consideration as to how or where a landfill would be located? Is Federally-owned land a consideration?"

There is nothing in our regulations that preclude the use of Federally-owned lands but Federally-owned lands are not under EPA jurisdiction. They are largely under a variety of other Federal agencies, including the Forest Service and Bureau of Land Management and military and so

forth. There was -- I should point it out if it might be of interest, a relatively recent action in which the state of Washington obtained a piece of Federal land in the middle of a reservation which is Atomic Energy plant for industrial waste disposal site and that is being developed at the present time. And there was quite a bit of public interest in that at the time. As a matter of fact they have relocated several times in response to that public interest.

O.K., it says, "This might be a more appropriate 3004 question but what effects on the site selection process for hazardous waste disposal sites does the EPA foresee resulting from the soon-to-be-finalized public participation regulations? Several comments over the past few days reflect a general public emotionalism attached to the issue of siting facilities and I'd like your opinion about site availability and so forth."

Well, the first question is what about the effects of the public participation regulations. Those are being incorporated more specifically in regulations under our Section 3005 regulations which are being integrated. They are procedual in nature. They have due process requirements which includes hearings and so forth and which correspond to the requirements of the public participation. And those will be proposed in an integrated fashion with similar

regulations under NPDS and UIC in a control program in about four to six weeks.

But there will be an opportunity for public input in several phases, including a hearing, with regard to that.

Now the problem which the person here addresses is the fact that the public, by and large, is not interested in having these facilities being located near them. We've heard a number of comments to that effect in these hearings and it's been a known problem for awhile that this is a difficult problem. And that's understandable, given the love canals and other problems which have come down the pike.

The question is what is all this going to mean and the bottom line, with regard to siting facilities? Well, it's certainly going to make siting facilities more difficult. Hopefully the regulatory program which we have here will be perceived by the public as providing control and if we implement it correctly and enforce it correctly, hopefully the public will gain some faith in our ability, collective ability of the disposal industry, plus as regulators of that industry, to protect their health and best interests.

You heard Mr. Norton's comments just recently on his concerns in this area, his and Congressman Findley's

and he mentioned the potential for some Federal intervention, perhaps, in the siting situation, perhaps use of Federal lands or perceive them even going so far as setting up Federal disposal facilities, perhaps.

So all these options are in the wings. As to where this will all come out, I'm really not sure. We certainly hope that private enterprise, with the regulations which we're putting together, will be successful in convincing the public that this thing can be done right and, in fact, must be done right, if we're to avoid more dangerous problems of having these materials simply dumped in pits and alongside the roads and woods and people's backyards because there isn't any alternative.

In fact that's about all we can say about it for the moment.

MR. TRASK: A couple of questions that were turned in this morning. They seemed to fit more properly under 3003 so we held them for this session.

The first one is, "How will the transportation of hazardous materials by barge be handled?"

I don't know if we're in a semantics problem here, or not, but I suspect we may be. But for the record, we are not dealing with hazardous materials in these regulations. We are dealing with hazardous waste because hazardous waste is a DOT term.

But let's assume the person meant a waste. There is no special requirement for barges. They are treated the same as any other vehicle. It's important to note here that the Coast Guard has informed us recently that they are considering proposing some amendments to 46CFR, which would pick up the hazardous waste regulations and incorporate them into their regulations dealing with hazardous materials.

In other words, they would do much the same as the DOT's Office of Hazardous Materials regulations that -- so all regulations dealing with barges would be in one place, the same as regulations dealing with railroads and highways are in one place.

The other question says, "In the event of a spill, who is the generator? Is it the spiller or the cleanup contractor?"

Legally, as I understand it, the generator would be the spiller and not the cleanup contractor because the definition says that it's the person whose act or process produced the waste. And if hazardous material is spilled and that part which was not recovered as product then would become hazardous waste and therefore the person whose act or process caused that to happen.

The question goes on, "In the case of the notification, will all persons who could have a hazardous material spill be required to notify it?"

The answer is no, they are not required to notify it unless they are in the business of handling hazardous waste in one form or another.

The notification in this particular instance, I believe, is going to be satisfied by the requirement that a copy of the EPA -- EPA will receive a copy of the spill report which is sent into the EPA. And that would suffice as a notification.

Question dealing with containers says, "Does triple rinse apply to best side containers only or to any container previously containing hazardous waste? For example, empty paint cans? If not to paint cans, how are paint cans and other such containers disposed of?"

In the 3001 Standards in 250.14A on Page 58958 that deals with -- what it says specifically is that containers are a hazardous waste unless they are triple rinsed. In other words, any triple rinse container would be a non-hazardous waste and therefore a candidate for disposal under 4004-type facility.

I have some more if you want them.

MR. LINDSEY: According to 250.20C, "Any person who generates a waste must be determined pursuant to Subpart A if the waste is hazardous."

"You had stated earlier that you did not know who is generating hazardous waste and they will be notified.

Are those not notified by you in violation of the regulations if they do not evaluate their waste? Also how can we find out who it is that will be notified?"

I think maybe I ought to address this whole notification business a little bit and hopefully clear it up.

The notification provision is in there, in the Act by Congress, in order for EPA to be told by those who have the wate whether or not they have hazardous waste. In other words, the onus, if you will, is on the generator, treater, disposer, and transporter to tell EPA so that EPA knows who the regulated community is. That's the reason for that.

On the other hand, there are some provisions in there, for example, in order to have interim status if you are a treater, storer or disposer, in order to have interim status for an ongoing facility during a period when EPA is reviewing permit applications, which might take some time, one must have notified EPA. And what we're trying to do here is to say, "O.K., this is a requirement. Everyone must notify us." And by and large, we don't really have to do anything except sit back and receive these things.

But we said, "That doesn't make sense because a lot of people may not realize what their requirements are under this Act. So what we'll try to do is anticipate who

may be involved and let them know what their requirements are." So we've planned to send a mailing. And what we did, frankly, was sit down and go through SIC codes and try to pick out of those SIC codes, in these three sections and subsegments and subsegments, which may or may not have hazardous waste. So we're trying to be overly inclusive here and we're going to generate a mailing which will come out to those people whom we feel may be in this system and say, "Look, here's the requirements. If you are, in fact, in this system, you must let us know. That is require-- ments of the Law."

Therefore, since we have tried to be overly inclusive, I expect that many of the people who receive the mailing will, in fact, not be handling hazardous wastes. And if they are not, then they have no requirements.

On the other hand, there may be some people we miss, that we didn't know or didn't think had hazardous waste, or what-have-you. In those cases, those people still have requirement under the Act as still to notify EPA.

The final part of this says, "Are those not notified by you in violation of the regulations if they do not evaluate their waste?"

They are in violation of the regulations if they handle hazardous waste and don't notify us. They are not

in violation of the regulations. They are in violation of the Act. And the question, of course, goes a little bit further than that. I think that it said suppose we didn't know and legitimately didn't know and we didn't notify them, what happens when we get caught. I guess that's going down on this particular question.

Well, they are in violation and there are in the Act the provisions here for enforcement actions to be brought. And there's a lot of discretion on the part of the Agency with regard to what we would do with enforcement actions and I can't prejudge those. But people would be in violation and they would be subject, at least, to some sort of enforcement action.

Amy, do you want to say anything more about that?

MS. SCHAFFER: I think that kind of the philosophy of my office, the Agency, is that we're more interested in getting people into the system than bringing enforcement action. And if you honest-to-goodness really didn't know that you were supposed to be in the system and you find out a year later, we're not going to slap you with a $25,000 fine. However, it is still up to the discretion of the Agency and it's going to have to be a case-by-case basis.

But as Fred said, I want to reiterate that we have some idea who is going to be involved in the system but we don't know everybody. And the burden of reporting is

on the public. That is the industry who uses the hazardous waste community. And it's not our responsibility to tell you if you have to notify. It's your responsibility to tell us if you have hazardous waste.

I have a question here concerning the transporter reg. In 250.35, there is a requirement that the transporter must obtain certification on the manifester, deliver the document by the authorized agent to the permitted facility. The question is, "What is the transporter to do if he cannot acquire certification of manifester after five days?"

This is another instance where we really haven't sat down and said, "We know exactly what is going to happen."

If I were the transporter, I would immediately notify the generator that, to protect myself as a transporter, I would also notify EPA and/or the state involved, the state agency involved, to tell them that I could not get the certification and I had delivered it and I have my portion of the manifest assigned. And then the state or EPA will take appropriate action.

The second part of this question is, "Where and when does the delivery document enter the tracking system?"

I think the delivery document is a piece of paper that is used in transportation and it has the same information on the manifest but it is carried by the trans-

porter while the waste is in transportation. It is a current practice of the transporters to use the delivery document. Hence, and it is some generators like to keep the original manifest at the site of generation and use the delivery document while the waste is in transit.

The reason why we have included delivery document is because of the current practice. The tracking document would be delivery document but the actual piece of paper that is needed to be kept as reference and used as the reporting information is the manifest.

So basically the delivery document coming into the tracking system as soon as the waste leaves the place of generation.

MR. LEHMAN: A question: "If diesel fuel oil that has a flash point of 125 degrees Fahrenheit or above and has been recovered from oil/water separators and locomotive fueling stations"-- I'm sorry. "Is diesel fuel oil that has a flash point of 125 degrees or above and has been recovered from oil/water separators and locomotive fueling stations, is that considered a hazardous waste? It is collected and used as steam generator fuel."

Well, here is another case. I assume that this is basically collecting what is noncontaminated virgin diesel oil off of oil/water separator at a fueling station and reusing it as basically noncontaminated virgin oil.

Therefore I don't believe in this case it would be considered a hazardous waste.

"Who will set the standards for the quality of oil for road oil and quality of oil for incineration? If this has been determined, what are the applicable standards?"

Well, for example, it has been determined and the standards are the applicable parts of Section 3004. Namely, if you're going to incinerate oil in an incinerator, it's got to meet the incinerator's standards. And if you're going to road oil, it's got to meet the applicable part of the land disposal regulation in 3004.

Also, I might point out, that where there is some doubt, the Human Health and Environmental Standards override all of the other standards.

Special waste, Section 3004, "How were the specific wastes listed in the special waste section designated for this category?" And, "Were the large quantities of slag by the steel industry considered for this special for this special waste designation?"

O.K., when I answered the first one, I think I also basically answered the second one. And I call your attention to the preamble of Section 3004 on Page 58991 where the whole special waste standard was discussed.

Let me just paraphrase what it says in the preamble which is the answer to this question. And that is that the

Agency realized that there were some portions of certain very large volume wastes that probably will be hazardous under Subpart A or 3001 standards. And thus will come with the purview of the hazardous regulatory scheme. Also that for some of these very large volume wastes there was -- there did not seem to be a very direct corollary between the regulatory program structure that was set up there in our proposed regulation towards those special wastes.

As I mentioned earlier, the assumption was that these were in such high volumes that they would be handled primarily, at least, on site.

So these were some of the reasons why some of these wastes were designated for special treatment under Section 3004. I think we've gone into the distinction early on about whether, on other words, not all of these wastes are necessarily hazardous unless they are listed in Section 3001 or meet some of the criteria in 3001 for hazardous wastes.

As to whether or not the slag for the steel industry was considered for this designation, the answer there is that the information we have from our studies of the iron and steel industry indicates that most steel slag is nonhazardous. Therefore we did not see the need for any special waste category for the steel slag. And this is similar to a question that was asked, I believe, yesterday

or perhaps it was New York, I'm getting fuzzy about some of these things, concerning foundry sand. The same basic question was asked. Like why was foundry sand considered to be a special waste category. And the answer is the same there. Our information has it that most, if not all, foundry sand is probably nonhazardous and therefore we didn't see any need to set a special waste category for that.

MR. TRASK: I have a few questions here dealing with triple rinsing. Let me take them together because the answer is the same, I think.

It says, "Triple rinsing is not comprehensive enough. For example, if you triple rinse an oil drum or an oil paint drum with water fulfills the letter of your reg, but will do little to remove the hazardous waste." I guess it's a question, "Should you say triple rinse with a solution which will remove the hazardous substance?"

And the second one is, "Triple rinse paint cans with water or thinner?"

The definition of triple rinse as stated in Section 3001 says, "It shall be rinsed with a volume of diluent." The intent here is that diluent means the normal diluent for that material. If it's an oil base paint then it would be a thinner. If it's water base paint, it would

be water. In other words, whatever the normal diluting material is is the material that should be used for triple rinsing that drum.

I think the bottom line of all that is is that a triple-rinsed drum which still has a residue in it could be said to be not triple rinsed. Our experience with triple rinsing and now we're getting into the area of pesticide drums, but we found that it was feasible easily to get at least 90 per cent removal of the residue in the drum by triple rinsing. In fact, in some cases, triple rinsing when it was carried out to the full extent was the drum was thoroughly turned over and over, we could get about 96 to 97 removal. And this was some of the work done by the Air Force with some of their pesticide containers.

In everyday practice, even using water in those emulsifiable concentrates of pesticides where water is the normal diluent, we found it common to get in the area of 88 to 93-94 per cent removal of residuals.

So triple rinsing does work and we do have some basis to compare the efficiency of removal. So I think it would be wrong to assume that the way the regulation is written it would mean water. I think that there could be some bad fallout from all that.

The question here, and I really think it's a comment, not a question but let me read that. "In connection

with an NRC phone call" -- I assume that means the National Response Center of the U. S. Coast Guard, it says, "why couldn't this be consolidated into an existing call, for example CHEMTRAK, so that an officer on the scene of an incident doesn't spend all of his time on the telephone?" This seems to indicate that this person has had a hard time getting through to the National Response Center of the U. S. Coast Guard.

We have been informed within the last two weeks that the Coast Guard is doubling the size of the staff at the National Response Center so that much better service will be available from them. I don't know what it was like before. We're assured that now it will be adequate.

A question on the manifest says, "In addition to the manifest requirements is it possible to identify each drum with a unique number that would precisely identify the material within, i.e. a serial number on something or a can? The reason for the additional information would be immediate idea of contents in times of emergency."

I point out that the regulation in 250.26B through reference requires that the name and common code of the waste be in the marking on the container. And also that the words "Controlled Waste. Federal Law Prohibits Improper Disposal" followed by the generator's ID code and the -- the other part of that escapes me for the moment but

anyhow there is a marking there by which you can precisely identify what is in that container both in terms of the name of the waste and the common code number which is a CAS number. Also the hazard involved because the label -- there must be a label on the container which indicates the DOT hazard that we're dealing with here.

Question about transporter, "If a transporter has a spill of hazardous materials and thereby becomes a hazardous waste generator, then will the transporter need to notify and apply for an ID code as a generator?"

I think we spoke to that before, that when this happens DOT requires that a report be sent to it. DOT is going to send out a copy of that report to us. We can then use that as a notification and, in turn, send an ID code to that person. So that he has properly notified us.

This is, however, an implementation question and that's our first approach to this. But experience may dictate we want to do something else. But for the moment, that's what we intend.

Alan Roberts, where are you? Anyway, I'll try this one. It says, "Do the DOT regulations apply to a transporter if he is hauling a hazardous waste that is not a hazardous material under DOT and he does not cross a state line and he is a private carrier, that is not for hire? If the answer is no, what EPA is required to comply with?"

The answer is yes so the second part doesn't mean anything. I call your attention here to the proposals from DOT, in Part 171.3, where 171.3A says, "No person may offer for transport or transport in interstate or intrastate commerce any quantity of a hazardous waste except in accordance with the requirements of this subchapter."

What that means is that hazardous waste becomes a full-fledged hazardous material. It also asserts DOT's intention to regulate intrastate as well as interstate transportation of hazardous materials. So whether it crosses the state line, it doesn't matter. And whether or not it's a private carrier doesn't matter. The fact is that hazardous waste now becomes a hazardous material and these regulations apply to everyone.

MR. LINDSEY: Would an on-site facility, a dump or incinerator on-site, that was permitted be required to manifest every batch or shipment?"

The answer is no, there's no required manifesting on site. The manifestment is a mechanism to insure that waste gets from wherever they are generated to wherever they are disposed. But if all that's done on-site, then there is no manifest involved.

"Are all regulations for on-site facilities equal to off-site facilities?"

Yeah, there's no -- there's nothing different about

-- in other words, there's no break given to on-site facilities or off-site facilities. They are treated the same.

"What about bonding for on-site facilities?" And, "For public sector generators and operators such as the state university?"

O.K., that's really several parts. There's no real difference in the financial responsibility regulations, financial regulations, with regard to on-site or off-site facilities. There just isn't a difference there.

The question then goes on to talk about public sector generators and operators. There is no financial responsibility requirements for generators at all. That's for treatment, storage and disposal facilities which have a permit. That's where the financial responsibility regulations occur.

To take it one step further and see if I can explain some of this. The financial responsibility regulations are under 250.43-9, and there are really three parts to those. One is the closure bond, if you will, which is an upfront deposit. It's a trust fund is basically what it is. And that's required for everyone. That doesn't matter whether they are a state university or a city or what it is. We find that city and public institutions are not always in any better shape to pay for problems and closeout than private institutions in a lot of cases. And thus no distinc-

tion has been made for public facilities with regard to insuring that the money is going to be there to properly close the facility when it's done.

The second part of that has to do -- the second part of these requirements, financial requirements, has to do with the building of the fund for post-closure monitoring, maintenance which is built up over the length of the site and that is also incumbent on the public sector facilities as well as those in the private sector. That fund would have to be built up and trust fund mechanism to be sure that money is there to pay the post-closure monitoring and maintenance at a later time.

The third area has to do with the site-life liability requirements. That is what most people talk of as the insurance requirement. Now in that there is a little bit of a variation that can be allowed in that there is three ways in which one can establish that financial responsibility. One is evidence of liability insurance. Another is self-insurance, which is pegged to 10 per cent of equity. And the third is evidence, other evidence, of financial responsibility. The ability, in this particular area, the ability or jurisdiction to tax, for example, to discharge this responsibility in the case, in the event that it's sued. It probably would be something that we would look upon as acceptable.

Now the Regional Administrator is the one who will make those decisions as to what other evidence is allowable. But I would think that would be something which a public sector facility would be able to use.

"Is it intended to dispose of hazardous wastes according to their chemical nature --" reactivity and so forth, "or all in one trench?"

I would refer the question to 250.45-2-B-4. That's on Page 59009 and it says, "Waste containerized or noncontainerized that is incompatible," and there's a list in an appendix, "shall be disposed of in separate landfill cell." And so the answer is that it's not allowed to dispose of materials together that interreact.

I should also point out that No. 3 right above that requires that permanent record be kept of what is placed where within the facility so that if the need is ever there to go back and retrieve any of this material because of problems or because maybe we want to obtain it for resource purposes at a later time, then that record will be there.

And, "If solid waste going to a recycling company is not regulated, why would this be considered a loophole when the recycling company is regulated as a generator of the waste?"

If somebody thinks we said that was a loophole

then I think they are misinterpreting us. It's our thinking that solvents and other things that are going to recycle its products has a value and they are not likely -- not as likely to get lost in the transporting phase as are other things. It's been said to us by several people -- I don't think today but at other times, that without a manifest, unless these wastes are manifested, they sure will be lost, be going to the recycler. And all I can say to that is, you know, that if people want to violate the Law in dumping that waste on the way to the recycler is violating the Law, then there's nothing to prevent them from violating the Law even with a nonrecycle waste simply by not starting a manifest and hauling it down the road and dumping it. And if we catch them, then there will be an enforcement suit and so forth. And as a matter of fact, that might even qualify, depending on intent, that might even qualify for criminal sanction under this particular Act.

"Will states have the option of requiring a stricter manifest system than that proposed in the regulations? In other words, requiring a manifest for hazardous wastes whether it is recycled or disposed of on land or incinerated. If so, how will this impact interstate transportation of hazardous wastes?"

That's a very good question. By and large -- well,

the manifest format which we are requiring here will be incumbent on everyone in the country. States will have the option to add to that manifest, ask different questions, perhaps, and that sort of thing. However, the format which is in our regulations which is not only questions that will be asked but the form, the place on the form where they ask is nationally mandate. So they must use -- everyone must use our format. They can add to it. They can also, presumably, as far as we're concerned anyway, they can make this manifest incumbent on other wastes as far as we're concerned. Things that are not covered under the Federal system. For example, recycled materials which is a person's question, whether or not we're going to require a manifest. If states want to do that, presumably they could. The problem would be they won't be able to enforce it outside their jurisdiction.

Outside of their jurisdiction they would have no way of enforcing the disposer in another state, for example, to send them a copy, perhaps.

There is something else here and maybe, Harry, you want to listen to this. Since we're -- just to make sure I'm not making a mistake. Since we're integrating our manifest system with the DOT shipping papers, I would think in such a case there might be a chance that the Department of Transportation might preempt such a more in-

clusive manifest system, particularly if it involves or impedes in some fashion the movement of waste or messes around with their forms.

Question, Harry, let me just reiterate it because I'm not sure you were listening. In other words, could a state cause -- could a state, lot of difficulty here. "Could a state require manifest on additional wastes?" In other words, take a manifest system and acquire for additional waste or for additional facilities and things like that. Would that not -- I think my point is I think it might run afowl of the DOT shipping requirements.

MR. TRASK: You mean for more than just hazardous wastes?

MR. LINDSEY: Well, what we would consider hazardous wastes. Would states have the option of requiring stricter manifest system -- in other words, requiring a manifest for hazardous wastes whether it is recycled or disposed of on land, incinerated or what-have-you? In other words, extending its use of the manifest system beyond what we would do?

MR. TRASK: O.K., we have tried to work out very carefully with DOT what leeway we have here, where we can go and where we can't go in this area of the manifest versus the shipping papers. And I think we have come to the joint conclusion that as long as the requirements are not incon-

sistent with what DOT is doing. In other words, does not interfere with transportation, per se. Then DOT is not likely to preempt that particular program or that element of the program. In general, a state apparently does have the authority to require separate manifest form.

Note that neither EPA nor DOT requires a specific form. In both cases we're dealing with format. So if the state comes up with a form and if the information on that form is essentially the same as what EPA and DOT require, at least if the minimum information is on that form and in essentially the same order, DOT has indicated that they are not likely to preempt that sort of a situation.

The situation seems more likely that they would preempt, and here you almost get into prejudging as to what they would do and what they wouldn't. I don't think they have preempted anything yet. But that would be a case where a state erected some barrier to transportation within the state from outside of the state. That might be a proper subject for their preemption.

This is discussed some in the DOT proposal and whoever has raised this question might want to study that to some extent. I'm sorry that Alan Roberts is not here to discuss this at greater length because he has some very definite ideas on it. But I'm essentially paraphrasing things that he has said at other meetings and hearings.

I have a couple of questions here. I might as well carry on.

It says, "Will all aerosol cans of insecticides have to be collected and disposed of as a hazardous waste because they cannot be triple rinsed?"

Most aerosol cans of insecticides are designed for household use and household wastes are of course excluded. That was a very clear intent of Congress that household waste not be included in hazardous waste and we have said -- the Agency has said elsewhere in 40CFR, Part 165, that pesticide products and their containers that are intended for domestic use will not be included as a special waste but instead should be wrapped in paper and put in with the regular municipal waste stream.

The second part of this says, "Also, will all small paint cans that are not triple rinsed have to be disposed of as hazardous waste?"

I think the same situation applies. What we do have, however, is some local municipal waste authorities prohibiting the pickup of hazardous wastes. And some of these do extend to paint cans. I think one of the local jurisdictions in the Washington, D.C. area, Montgomery County, Maryland, for example, does prohibit the pickup of any of the hazardous materials and they are particularly after flammables and some paints are flammables, as you probably

know.

A question on the 100 kilos item, "Can a generator produce two or more entirely separate, not combined, hazardous waste materials and be allowed to dispose of them in Subtitle D landfills without being included in the Subtitle C system because each separate waste is less than 100 kilograms per month? Or is the hazardous waste total from one manufacturing location, the waste which qualifies for Subtitle C reporting permitting system?"

Two things here: the total of the waste stream is what counts in this particular instance, whether it's two or three or a dozen waste streams. If the total comes to more than 100 kilograms a month, then that generator is in the system and needs to report.

The last part of this question talks about permits. There are no permits for generators. I want to make that perfectly clear. Congress clearly said that we should not interfere with the productive process in making these regulations. And therefore we do not, cannot require any permits for generators.

MR. LEHMAN: Question: "How will future use of closed hazardous waste landfill areas return to the public for use be controlled to preclude disruption of the cells?"

Well, first of all, it's not clear that closed hazardous waste landfill areas would be returned to the

public for use. It might be returned for private use as well. All that aside, either way the answer to the question is that under 250.43-7 of the Section 3004 regulations, these regulations stipulate or require a stipulation in the deed of property that future use shall not violate the integrity of the cover of the landfill, its liners or the monitoring systems. That's written right into the property deed.

Section 3004 question: "Could you address the topic of existing pits, ponds and lagoons relative to Section 3004 regulations and the requirement directed at these for leach aid detection systems? And secondly, how will this affect pits ponds and lagoons associated with NPDS activities, for example, holding and treatment ponds or ponds containing contaminated water or waste treatment or discharge?"

O.K., I'll answer the second question first. The issue here is that NPDS activities are regulated to the extent that the Clean Water Act deals with discharge in navigable waters. It does not address, NPDS permits, do not address air emissions or ground water emissions, at least ground water emissions that do not impact surface water.

Consequently the Agency has determined that RCRA does apply to these types of pits,ponds and lagoons

to the extent that NPDS does not, namely with respect to air emissions and ground water leaching or leaching into ground water.

Now what we're driving at here and which has, I think, been misinterpreted by some is that for existing pits, ponds and lagoons, we want to be satisfied that they meet the basic intent of the Section 3004 regulations. Now that means that they have an equivalent degree of containment.

Now as to what the standards are, for example, let's take a hypothetical case. Say, our regulations require, say, five feet of clay as a liner and an existing pit, pond or lagoon only has one foot. Does that mean you've got to dig up your old either pit, pond or lagoon and replace the one foot of clay with five feet of clay?

The answer is no, not necessarily. What we're saying is that if you can show that the one foot of clay for that particular lagoon doesn't leach. In other words, it doesn't, in fact, contain the waste so that you don't have leaching into ground water, that's O.K. You can keep your one foot of clay. That's an equivalent degree of containment for that particular system.

As to leach aid detection systems, one of the posers that has been brought up in these discussions is what if you have a 500-acre lagoon? How are you going to

get the leach aid detection system underneath a 500-acre lagoon?'

First of all, I think that's possible to do in an engineering sense but nonetheless there are notes associated with these leach aid detection requirements which do allow alternatives for leach aid detection systems other than one which is specified in the regulations. Here again this would be a question of interpretation of the regulations at the terminating stage. That's the whole purpose of these notes is to deal with the whole question of flexibility of the regulations to address the site specific and waste specific situations. And we've elected to do that by the note process, by the permit writing process rather than in the reg writing process.

I hope that addresses that whole area. I might point out, though, that this whole area has been subject to a lot of interpretation. Some people have assumed that they are going to have to replace all their old pits, ponds and lagoons and that's not necessarily so.

Question: "Under the criteria you use to classify slag and foundry sand as basically nonhazardous, why didn't fly ash fall under the same classification rather than as a special waste?"

Well, the answer to that is while we were drafting these regulations, early data indicated that a substan-

tial percentage of fly ash was going to be a hazardous waste and therefore we included it in our special waste. We did not list it as a hazardous waste, as I pointed out before, but we did provide for the fact that it is hazardous and falls in the special waste category.

And I think I said yesterday more recent data indicates a lower percentage of fly ash, probably less than 10 per cent or, perhaps, less than that may be found to be hazardous in accordance with our characteristics. Consequently, in this particular case, its a question of our data base at the time the regulations were drafted.

As the waste oil expert, you have addressed the use of the waste oil as a dust suppressant on roads as acceptable if done as a permitted land farming operation. Isn't there a requirement in the proposed reg that such oil must be refined?

Well, first of all, the answer to the basic question is no, there is no such requirement that waste oil must be refined. But I'd also like to comment on the way this question is worded. We do not say that the land farming regulations are the applicable regulation for dust suppression on roads. I believe we will use the landfill regulations as applicable, interpreting those landfill regulations that do apply and if parts of those regulations do not apply, as I indicated earlier, we would go back

to the Human Health and Environmental Standards when issuing permits in that area.

Now this is a question but it's really a comment on our regulations. And here, again, I would hope that people who are writing questions like this, I say it once again, the purpose of this whole business is to get comments on the regulations on the record. And whoever wrote this question, I would urge them to write it down as a comment and give it to our court reporter as a comment on the regulations.

But anyway, here goes: "Why regulate waste crude oil, et cetera, and not waste solvents when both may contain toxic metals and both may be blended into a low grade fuel indiscriminantly?"

Now Fred Lindsey addressed that a little big in the sense of saying, I believe, that waste solvents generally have a high value and generally are recycled rather than burned as a fuel, although we realize that some may be burned as a fuel.

Also I go back to a previous remark that some previous commentors haven't questioned this basic approach about having spent solvents outside of our regulatory process and that we are, in fact, probably going to reexamine that whole situation in light of these comments.

The other side of this, I think it's fair to

point out is that the purpose of hearings of this nature is to hear comments about what people like as well as what they don't like and if somebody likes the idea of having spent solvents outside the system, they should say that for the record as well as for people who don't like it and are suggesting that we make changes to the regulations.

That's all I have.

MR. TRASK: I have a couple more here. One is a clarification, apparently, to my previous answer on household waste was not sufficient. It says, "Small paint cans and aerosol insecticide cans from an industry who is registered as a generator, those that are heavily used in industry, do they have to be disposed of as hazardous waste?"

In this instance the answer to the question would be yes if, in fact, they are hazardous waste. I would point out that not all insecticides are hazardous waste, particularly many of those that are used in aerosol cans. Many of them are not listed in the hazardous waste lists or are in the drinking water standards, which forms the basis for toxic waste.

So it may well be that most of these that are used in industry in aerosol cans are not, in fact, hazardous. Paint cans, I don't know. I suspect that some of them may

not be hazardous but by and large they would be. What industry has small paint cans, I don't know, either. But they may have.

I have here what is really a comment and not a question. And if whoever turned this in and would reclaim it and use it as a basis for a comment, the commentary is open until the 16th of March and this really should come in as a comment. It would become part of the official record. As it is now, it's merely a question and is not part of the official record.

MR. LINDSEY: Let's get back to my previous question which had to do with the question of mixing incompatible waste and says, "As alkaline and acid hazardous waste can't be mixed, per Appendix 1, is not the Agency outlawing any valid treatment method? In other words, neutralization of hazardous wastes?"

And answer to that is no, the requirements for not mixing have to do with landfilling, O.K., of incompatible wastes, not of treating process as disposal.

The second part of that is that maybe the questioner is planning to codispose in the ground alkaline and acid waste. And there is a note associated with all this which is under 250.45C, which is referenced back there to 250.45C. I don't know what it says, I can't find it offhand. Basically which says that you can demonstrate that

codisposal of incompatible waste is a satisfactory operation or maybe even beneficial operation as could be the case in a situation like this. And then all you have to demonstrate that to the satisfaction of the permit officer and that note, then, would allow, in essence, a variation from this particular standard. So that could be permitted. Even codisposal could be permitted.

So normally neutralization is carried out in treatment process and not underground.

"Would not hazardous waste exempted, such as solvent for recovery, have to be manifested under the hazardous materials category?"

No, the mani-- Our manifest would not be required, however, DOT shipping papers might be required under the hazardous materials transportation.

And this person writes on both sides. "*Is* the value of waste a consideration for determining if that given waste is in the system?" And the answer is no, not directly. And we have been relating to the fact that recycled wastes normally have a value, that was a consideration in our allowing recycled waste out of the manifesting system because of our thinking that they are less likely to get lost because of the value. But it's not that a value, any given value, of it is not associated with that point.

That's it.

CHAIRPERSON DARRAH: O.K., we will end this afternoon session. We will reconvene for the hearing tonight on Sections 3001, 2, 3 and 4.

That session is designed primarily for people who haven't been able to come to the daytime sessions.

I thank everyone who has offered comments and I commend you all on your endurance.

(Whereupon, at 4:45 o'clock p.m., the hearing was recessed, to reconvene at 7 o'clock p.m. the same day.)

EVENING SESSION 7:00 p.m.

MR. LEHMAN: Good evening.

My name is John Lehman. I'm Director of the Hazardous Waste Management Division, EPA's Office of Solid Waste in Washington.

On behalf of EPA, I'd like to welcome you to the public hearing which is being held to discuss the proposed regulations for the management of hazardous waste.

We appreciate your taking the time to participate in the development of these regulations which are being issued under the authority of the Resource Conservation and Recovery Act.

The EPA on December 18, 1978, issued proposed rules under Sections 3001, 3002 and 3004 of the Solid Waste Disposal Act as substantially amended by the Resource Conservation and Recovery Act of 1976, Public Law 94-580.

These proposals respectively cover, first, the criteria for identifying and listing hazardous waste, identification of it and a hazardous waste list.

Second, the standards applicable to generating such waste for record keeping labeling, using proper containers and using a transport manifest.

And, third, performance, design and operating standards for hazardous waste management facilities.

The proposals, together with those already published pursuant to Section 3003 on April 28, 1978, Section 3006 on February 1, 1978, Section 3008 on August 4, 1978, and Section 3010 on July 11, 1978, and that of the Department of Transportation pursuant to the Hazardous Materials Transportation Act of May 25, 1978, along with 3005 regulations yet to be promulgated -- or yet to be proposed, excuse me, constitute the hazardous waste regulatory program under Subtitle C of the Act.

This hearing is being held as part of our public participation process in the development of this regulatory program.

The panel members who share the roster with me are Tim Fields, Program Manager in the assessment and technology branch of the Hazardous Waste Management Division in Washington. And Tim is primarily responsible for Section 3004 regulations.

Amy Schaffer of the Office of Enforcement, headquarters in Washington, EPA; Dorothy Darrah from our General Counsel's office, headquarters EPA in Washington; Fred Lindsey, Chief of the Implementation Branch of the Hazardous Waste Management Division, EPA, Washington; Harry Trask, Program Manager in our Guidelines Branch of Hazardous Waste Management Division in Washington, EPA; and Alan Roberts who is -- I'm.not sure of your exact title,

Alan, you keep changing it. Anyway, Alan is responsible for the administration of the Hazardous Materials Transportation Act, among other things, in the Department of Transportation, DOT in Washington, D.C. And just joining the panel is Alan Corson, Chief of our Guidelines Branch, Hazardous Waste Management Division, EPA, Washington.

With that brief introduction let me turn over the hearing to our chairman, Dorothy Darrah.

CHAIRPERSON DARRAH: Thank you.

We have five people who have signed up to give us comments. If there are any other people who want to comment can either come forward at the end of the other testimony or you can check our registration desk and they will bring up your name to me and I will call you in order.

I'm not going to limit comments or questions unless they tend to get very lengthy or repetitious because we don't have too many people. So I don't think that should be a problem.

I'm not sure all these people are here but I will call them. I'm not sure, is Mr. Jessee from Monsanto here?

STATEMENT OF GENE L. JESSEE

MR. JESSEE: My name is Gene Jessee. I'm Director, Environmental Processes, Monsanto Company.

I'm pleased to appear here today on behalf of Monsanto Company to comment on proposed RCRA Section 3001 and 3004 regulations, which appeared in the December 18, 1978 Federal Register, beginning on Page 58946.

Monsanto is a broad-based chemical manufacturing company with manufacturing plants located in 28 states and will be significantly impacted by these regulations.

In accordance with the procedure contained in the Federal Register, we will submit the detailed written comments on the proposed regulations prior to March 16.

Today I would like to focus upon certain aspects of the proposed regulations which are of particular concern to Monsanto.

First, I would like to bring to your attention a problem which is pervasive throughout the proposed regulations. This concerns the failure to treat waste differently based upon the type of hazard and the level of the particular hazard.

For example, consider a highly toxic waste material like cyanide waste and, on the other hand, an industrial flammable material like methanol. Cyanide waste presents a constant hazard to health and to the environment in and of itself.

It does therefore clearly require special care, storage, handling and disposal.

Methanol, on the other hand, presents a hazard to health and the environment only when exposed to an ignition source in an uncontrollable manner. It can be disposed of quite easily and safely in a normal utility boiler.

Yet both the highly toxic cyanide waste and the flammable methanol waste are designated as hazardous under the proposed regulations requiring special generator, transporter and disposer care.

This blanket treatment of waste will significantly increase the quantity of hazardous waste and, we believe, create a severe shortage in sites for disposal of very hazardous wastes.

It is recommended that wastes be grouped in a manner which recognizes differences, nature and severity of the hazard a waste presents and the persistence of the waste.

The proposed exemption of 100 kilograms per month should be increased for less hazardous waste. This would allow a tight control on very hazardous wastes which present a constant hazard in and of themselves and, at the same time, reduce the number of insignificant generators by raising the exclusion quantity for less hazardous wastes which may pose a substantial hazard only when improperly treated, stored or disposed.

This will help minimize the quantity of hazardous waste and avoid a future shortage of sites for disposal of very hazardous waste.

Another concern with the proposed regulations is Section 250.10B, which requires verification that material is burned primarily for heat recovery are not considered other discarded material.

Regulating these valuable commercial materials would impose the stringent incinerator standards proposed in Section 250.41 on the boiler which utilizes them.

There are numerous situations when residues from a process are burned in heat recovery facilities to supply energy needs of a process or other parts of the plant.

The incinerator standards, as presently worded, will reduce the use of such materials and deprive the plant of a valuable energy source.

Along the same lines, we recommend that proposed Section 250.10 (b) 2 (ii), which improperly includes specified oils which are burned as fuel be deleted from the definition of "other discarded material". This inclusion seems without statutory basis and is contrary to the plain meaning of the term "discarded".

The proposed hazardous waste characteristics set forth in Section 250.13 are defined too broadly and should be restricted to only those definitions accepted by the

scientific community which are based upon or substantiated by standard testing protocols which are validated by voluntary consensus standard setting groups, exclusive of EPA.

If the proposed characteristics are retained, many common materials will be classified as hazardous. For example, some carbonated beverages such as colas, which have pH's between 2 and 3, would be considered corrosive and thus hazardous.

The characteristics of hazardous wastes should be revised to include only waste which is significantly more hazardous than municipal refuse.

Proposed Section 250.14 is a helpful approach in listing hazardous wastes to the extent it lists truly hazardous wastes and waste-producing processes. However, waste should be included in or deleted from the list set forth in this section exclusively on the basis of validated characteristics set forth in Section 250.13.

At the outset of the preamble to the proposed Section 3004 regulations, EPA states its intent to promulgate such performance standards for owners and operators of hazardous waste treatment, storage and disposal facilities as may be necessary to protect human health and the environment. Nevertheless the proposed regulations rely on design and operating standards which provide little flexibility for innovative or equivalent designs.

This is critically important to existing facilities attempting to meet interim status requirements. Several of the interim status requirements include notes providing alternative relief from a standard. As practical relief the notes fall short since they are supplied in limited number of sections.

As a consequence, the inflexible use of specification standards will cause many existing well-designed and environmentally sound facilities to be not in compliance. The regulations should allow for greater flexibility by providing that a facility will not be required to meet the design and operating standards if it can show either (a) that it meets the health and environmental standards in Proposed Section 250.42, or (b) that it will achieve performance substantially equivalent to that achieved by prescribed design and operating standards.

To achieve this end it is recommended that proposed Section 250.40 (d) 2 (ii) (A) be deleted.

Thank you for the opportunity of allowing me to make these comments.

CHAIRPERSON DARRAH: Thank you.

Will you be willing to answer questions from the panel?

MR. JESSEE: I'll certainly try.

CHAIRPERSON DARRAH: Thank you.

MR. ROBERTS: I just have one very brief question or comment about your testimony on carbonated beverages and under 49CFR 173.307, carbonated beverages are not subject to regulations of the Hazardous Materials Transportation Act.

MR. JESSEE: Thank you.

MR. LEHMAN: Also I'd join in there and say that carbonated beverages are a commodity and not a waste and therefore not subject to control under Subtitle C of RCRA but that may be not what your point was.

If I may ask you a question, Mr. Jessee, to elaborate on your comment regarding the exemption level of 100 kilograms per month. You said, first of all, that the degree of hazard should be addressed in that area.

MR. JESSEE: Yes, sir.

MR. LEHMAN: And then secondly, that the level should be increased for less hazardous waste.

MR. JESSEE: Yes.

MR. LEHMAN: Could you comment on those two aspects a little more? In other words, on what basis would the degree of hazard be made and what level should the level be increased to for the less hazardous wastes?

MR. JESSEE: Over the last couple of days I know this has come up several times and I know that the Agency is wrestling with this and all I could say at this point is

we are, too, and if we come up with something prior to March 16 that makes sense and we think you would be wanting to see, we will certainly submit it.

MR. FIELDS: Couple questions.

You mentioned that the design and operating standards provide little flexibility for alternative standards. One of the problems you had was with incineration.

Can you specifically indicate which standards specifically you're having problems in that area? Could you be more specific? You made a statement "alternatives don't provide enough flexibility". Do you have any specific standards in mind?

MR. JESSEE: I can cite maybe a couple of examples and, then, one general comment along that line.

The subject of flexibility or inflexibility comes up in that -- if you would look at financial requirements, the regulations presume there's only one way to handle it. If you will look at certain portions of the one dealing with incinerators, the efficiency or the burn-efficiency in it, the decomposition levels required in the incinerators are pretty well fixed and we are wrestling with the practical availability of something that will perform that well, dealing with certain materials that we would want to incinerate.

As to the burn-efficiency, as to the total decomposition achieved and as a general comment, the section

that deals with the fact that only in the place where there is a note can the administrator deal with anything else will lead to what I think we all experience in regulations, that there's something that you haven't thought about, we haven't thought about, the permit writer hasn't thought about, and the plant or the industry or the facility that's being considered is going to discover it, that in the absence of a note, it's cast in stone. And that's our -- would be a general overall concern.

MR. FIELDS: Are you saying that the combustion efficiency and construction efficiency numbers, you should be specifying those or you don't agree with the numbers?

MR. JESSEE: We have a concern that, as a practical matter, the large scale industrial equipment may not exist, might not exist today in combination with some scrubbing requirement that would accomplish that.

MR. FIELDS: So your question is to practicality?

MR. JESSEE: Yes, sir.

MR. FIELDS: We'd like to have any data you can send us in that area with your written comments. We would appreciate it regarding what you think realistic numbers should be.

I didn't get the last one you said. Would you repeat that?

MR. JESSEE: The coverall, as I see it, under

the note system is -- I relate it to Section 250.40 (d) 2 (ii) (A), and it says that if there's no note, it's inflexible. We're concerned overall, again, that there's something that you haven't thought of, we haven't thought of, the permit writer hasn't thought of and when it comes down to the wire, we'll discover some things that there should be some -- just room to move, if you will, and that Section 250.40 (d) 2 (ii) (A) doesn't give any. There's no note, then it's cast in stone. And that effects financial handling, that effects certain things I mentioned about the incinerator, and I'm sure we're going to discover something out there that in your wisdom you haven't been able to think of that's going to be an exception that there's no way to handle it.

MR. CORSON: Just following up, Mr. Jessee, with the question Mr. Lehman asked earlier and, again, it's the same question we've been asking all the time when people have suggested as you have, some thought to the concept of degree of hazard and so on. I'd appreciate if you could, with your written testimony, submit what you could. We're also concerned with any thoughts with the degree of hazard. Also should we work to include something like that in 3001 and would have to be then carried forward in a specific fashion in 3004. Because 3004, even as you have noted, with its note approach, does allow for

some flexibility, as it appeared to me that we might end up in a different kind of a problem than if we make the concession at 3001, we might have to remove some flexibility at 3004.

MR. JESSEE: I can only comment in this manner, that consistency is the thing you desire and the thing that those of us who are regulated desire. We begin to get into an area of the fact that a number of these things are site-specific. And we have to believe that someplace in our relationships that has to be resolved. I don't know how to do it.

MR. FIELDS: O.K.

MR. LINDSEY: In your response to Mr. Fields' question earlier on, you mentioned that you had some problems with the financial requirements. Could you elaborate a little more on, you know, what your problems are there?

MR. JESSEE: Oh, just the fact that as presently stated, the regulations say "that's the only way". I would think there might be other ways that would be perfectly acceptable to all parties concerned.

MR. LINDSEY: O.K., I guess our intention here, our concern here, is that we provide sufficient funds or to assure that sufficient funds are available for closure and for post-closure monitoring and maintenance. There are a number of different ways that are allowed for the -

site-life liability requirements but for closure and post-closure monitoring and maintenance, I guess we were unable to come up with alternatives that we thought would be sufficient or would do the job for us. I think if there were some that we thought would be equivalent or provide an equivalent degree of protection or assurance, we would be willing to consider those. So if you can think of any, let us know.

MR. JESSEE: All right.

MR. CORSON: Just one more question.

CHAIRPERSON DARRAH: Yes.

MR. CORSON: Just one more question, Mr. Jessee, or one more comment, perhaps, with regard to something you had said and I don't recall the exact words but it had to do with your reference to our use of standards by voluntary consensus groups, if I recall the words, and I guess we have -- I personally have a couple of small problems.

One is that we -- it's very difficult for us to get a voluntary consensus group to respond in the time and the fashion that we must with regards to the charge we get from Congress in regard to the regulations.

MR. JESSEE: I appreciate that.

MR. CORSON: Plus the fact that only we were charged with producing regulations, not a consensus group. So that we have a particular premise -- while that may not

set the purposes for the group, we just can't provide that direction. I'm wondering what you think we should do if there are no such standards, whether your preference is we would postpone regulations until such things are developed and how we would then meet. Our time requirements would be certainly beyond our control.

MR. JESSEE: The only thing I could offer, Mr. Corson, is the -- something along what might be the possibility of some corroborative round-robin-type tests. And whether that's feasible at this date under the pressures I understand and we appreciate you're under, I don't know whether that's possible or not.

MR. LEHMAN: Mr. Jessee, I'm trying to paraphrase what one of your remarks was and I hope I paraphrase it correctly. I don't know, but this leads to a question, if I understood your remarks, you were saying basically that the design and operating standard approach was too restrictive and inflexible and that you suggested that the Agency go to a performance standard-type of approach for regulations under the facility standards. And so I would ask you what explicitly did you have in mind in terms of performance standards? I mean we talked for awhile here just now about destruction efficiencies with respect to incinerators and in a way that is a performance statute.

MR. JESSEE: You misunderstood what I said.

MR. LEHMAN: Oh, O.K.

MR. JESSEE: I didn't say what you interpreted I said.

MR. LEHMAN: Well, O.K. We'll let it drop then.

CHAIRPERSON DARRAH: Thank you, Mr. Jessee.

By the way, would you give a copy of your statement to the court reporter?

MR. JESSEE: Yes.

CHAIRPERSON DARRAH: O.K., thank you.

Let me just make that an insert, which I don't think I mentioned. If you do have an extra copy, if you could give a copy to the court reporter before you speak, it would help us. If you have any extra copies for the panel, that would also be great.

(Whereupon, the aforementioned statement was made part of the official record.)

HEARING INSERT

STATEMENT OF GENE L. JESSEE,
DIRECTOR, ENVIRONMENTAL PROCESSES,
ON BEHALF OF MONSANTO COMPANY REGARDING
THE PROPOSED EPA HAZARDOUS WASTE REGULATIONS
UNDER SECTIONS 3001 AND 3004 OF THE
RESOURCE CONSERVATION AND RECOVERY ACT OF 1976.

St. Louis, Missouri
February 15, 1979

I AM PLEASED TO APPEAR HERE TODAY ON BEHALF OF MONSANTO COMPANY TO COMMENT ON THE PROPOSED RCRA, SECTION 3001 AND 3004 REGULATIONS WHICH APPEARED IN THE DECEMBER 18, 1978 FEDERAL REGISTER BEGINNING ON PAGE 58946.

MONSANTO IS A BROAD BASED CHEMICAL MANUFACTURING COMPANY WITH MANUFACTURING PLANTS LOCATED IN 28 STATES AND WILL BE SIGNIFICANTLY IMPACTED BY THESE REGULATIONS.

IN ACCORDANCE WITH THE PROCEDURE CONTAINED IN THE FEDERAL REGISTER, WE WILL SUBMIT DETAILED WRITTEN COMMENTS ON THE PROPOSED REGULATIONS. TODAY, I WOULD LIKE TO FOCUS UPON CERTAIN ASPECTS OF THE PROPOSED REGULATIONS WHICH ARE OF PARTICULAR CONCERN TO MONSANTO.

FIRST, I WOULD LIKE TO BRING TO YOUR ATTENTION A PROBLEM WHICH IS PERVASIVE THROUGHOUT THE PROPOSED REGULATIONS. THIS CONCERNS THE FAILURE TO TREAT WASTE DIFFERENTLY BASED UPON THE TYPE OF HAZARD AND THE LEVEL OF THE PARTICULAR HAZARD. FOR EXAMPLE, CONSIDER A HIGHLY TOXIC WASTE MATERIAL LIKE CYANIDE WASTE AND, ON THE OTHER HAND, AN INDUSTRIAL FLAMMABLE WASTE MATERIAL LIKE METHANOL. CYANIDE WASTE PRESENTS A CONSTANT HAZARD TO HEALTH AND TO THE ENVIRONMENT IN AND OF ITSELF. IT DOES, THEREFORE, CLEARLY REQUIRE SPECIAL CARE, STORAGE, HANDLING AND DISPOSAL. METHANOL, ON THE OTHER HAND, PRESENTS A HAZARD TO HEALTH OR THE ENVIRONMENT ONLY WHEN EXPOSED TO AN IGNITION SOURCE IN AN UNCONTROLLABLE MANNER. IT CAN BE DISPOSED OF QUITE SAFELY IN NORMAL UTILITY BOILERS. YET, BOTH THE HIGHLY TOXIC CYANIDE WASTE AND THE FLAMMABLE METHANOL WASTE ARE DESIGNATED AS "HAZARDOUS" UNDER

THE PROPOSED REGULATIONS REQUIRING SPECIAL GENERATOR, TRANSPORTER AND DISPOSER CARE.

THIS BLANKET TREATMENT OF WASTE WILL SIGNIFICANTLY INCREASE THE QUANTITY OF HAZARDOUS WASTE AND, WE BELIEVE, CREATE A SEVERE SHORTAGE IN SITES FOR DISPOSAL OF VERY HAZARDOUS WASTE.

IT IS RECOMMENDED THAT WASTE BE GROUPED IN A MANNER WHICH RECOGNIZES DIFFERENCES IN THE NATURE AND SEVERITY OF THE HAZARD A WASTE PRESENTS, AND THE PERSISTENCE OF THE WASTE. THE PROPOSED EXEMPTION OF 100 KILOGRAMS PER MONTH SHOULD BE INCREASED FOR LESS HAZARDOUS WASTE. THIS WOULD ALLOW A TIGHT CONTROL ON VERY HAZARDOUS WASTE WHICH PRESENT A CONSTANT HAZARD IN AND OF THEMSELVES AND AT THE SAME TIME,

REDUCE THE NUMBER OF INSIGNIFICANT GENERATORS BY RAISING THE EXCLUSION QUANTITY FOR LESS HAZARDOUS WASTE WHICH MAY POSE A SUBSTANTIAL HAZARD ONLY WHEN IMPROPERLY TREATED, STORED, OR DISPOSED. THIS WILL HELP MINIMIZE THE QUANTITY OF HAZARDOUS WASTE AND AVOID A FUTURE SHORTAGE OF SITES FOR DISPOSAL OF VERY HAZARDOUS WASTE.

ANOTHER CONCERN WITH THE PROPOSED REGULATIONS IS SECTION 250.10(b) WHICH REQUIRES CLARIFICATION THAT MATERIALS BURNED PRIMARILY FOR HEAT RECOVERY ARE NOT CONSIDERED "OTHER DISCARDED MATERIAL." REGULATING THESE VALUABLE COMMERCIAL MATERIALS WOULD IMPOSE THE STRINGENT INCINERATOR STANDARD (PROPOSED SECTION 250.41) ON THE BOILER WHICH UTILIZES THEM. THERE ARE NUMEROUS SITUATIONS WHEN RESIDUES FROM A PROCESS ARE BURNED IN HEAT RECOVERY FACILITIES TO SUPPLY ENERGY NEEDS OF A PROCESS OR

OTHER PARTS OF THE PLANT. THE INCINERATOR STANDARDS, AS PRESENTLY WORDED, WILL REDUCE THE USE OF SUCH MATERIALS AND DEPRIVE THE PLANT OF A VALUABLE ENERGY SOURCE.

ALONG THE SAME LINES, WE RECOMMEND THAT PROPOSED SECTION 250.10(b)(2)(ii), WHICH IMPROPERLY INCLUDES SPECIFIED OILS WHICH ARE "BURNED AS A FUEL," BE DELETED FROM THE DEFINITION OF "OTHER DISCARDED MATERIAL." THIS INCLUSION SEEMS WITHOUT STATUTORY BASIS AND IS CONTRARY TO THE PLAIN MEANING OF THE TERM "DISCARDED."

THE PROPOSED HAZARDOUS WASTE CHARACTERISTICS SET FORTH IN SECTION 250.13 ARE DEFINED TOO BROADLY AND SHOULD BE

RESTRICTED TO ONLY THOSE DEFINITIONS ACCEPTED BY THE SCIENTIFIC COMMUNITY WHICH ARE BASED UPON, OR SUBSTANTIATED BY, STANDARD TESTING PROTOCOLS WHICH ARE VALIDATED BY VOLUNTARY CONSENSUS STANDARD SETTING GROUPS EXCLUSIVE OF EPA. IF THE PROPOSED CHARACTERISTICS ARE RETAINED, MANY COMMON MATERIALS WILL BE CLASSIFIED AS HAZARDOUS. FOR EXAMPLE, SOME CARBONATED BEVERAGES, SUCH AS COLAS, WHICH HAVE PHS BETWEEN 2 AND 3 WOULD BE CONSIDERED CORROSIVE AND THUS "HAZARDOUS." THE CHARACTERISTICS OF HAZARDOUS WASTE SHOULD BE REVISED TO INCLUDE ONLY WASTE WHICH IS SIGNIFICANTLY MORE HAZARDOUS THAN MUNICIPAL REFUSE.

PROPOSED SECTION 250.14 IS A HELPFUL APPROACH IN LISTING HAZARDOUS WASTE TO THE EXTENT IT LISTS TRULY HAZARDOUS WASTE AND WASTE PRODUCING PROCESSES. HOWEVER, WASTE SHOULD BE

INCLUDED IN OR DELETED FROM THE LIST SET FORTH IN THIS SECTION EXCLUSIVELY ON THE BASIS OF VALIDATED CHARACTERISTICS SET FORTH IN SECTION 250.13.

AT THE OUTSET OF THE PREAMBLE TO THE PROPOSED SECTION 3004 REGULATIONS, EPA STATES ITS INTENT "TO PROMULGATE SUCH PERFORMANCE STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES.... AS MAY BE NECESSARY TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT." NEVERTHELESS, THE PROPOSED REGULATIONS RELY HEAVILY ON DESIGN AND OPERATING STANDARDS WHICH PROVIDE LITTLE FLEXIBILITY FOR INNOVATIVE OR EQUIVALENT DESIGNS. THIS IS CRITICALLY IMPORTANT TO EXISTING FACILITIES ATTEMPTING TO MEET INTERIM STATUS REQUIREMENTS. SEVERAL OF THE INTERIM STATUS REQUIREMENTS INCLUDE "NOTES" PROVIDING ALTERNATIVE RELIEF FROM A

STANDARD. AS PRACTICAL RELIEF THE "NOTES" FALL SHORT SINCE THEY ARE SUPPLIED IN A LIMITED NUMBER OF SECTIONS. AS A CONSEQUENCE, THE INFLEXIBLE USE OF SPECIFICATION STANDARDS WILL CAUSE MANY EXISTING, WELL DESIGNED AND ENVIRONMENTALLY SOUND FACILITIES TO BE NOT IN COMPLIANCE. THE REGULATIONS SHOULD ALLOW FOR GREATER FLEXIBILITY BY PROVIDING THAT A FACILITY WILL NOT BE REQUIRED TO MEET THE DESIGN AND OPERATING STANDARDS IF IT CAN SHOW EITHER (A) THAT IT MEETS THE HEALTH AND ENVIRONMENTAL STANDARDS IN PROPOSED SECTION 250.42, OR (B) THAT IT WILL ACHIEVE PERFORMANCE SUBSTANTIALLY EQUIVALENT TO THAT ACHIEVED BY PRESCRIBED DESIGN AND OPERATING STANDARDS.

TO ACHIEVE THIS END, IT IS RECOMMENDED PROPOSED SECTION 250.40(d)(2)(ii)(A) BE DELETED.

CHAIRPERSON DARRAH: The next speaker will be Gilbert W. Fuller, The Empire District Electric Company.

STATEMENT OF GILBERT W. FULLER

MR. FULLER: Madam Chairperson, the Hearing Committee, my name is Gilbert W. Fuller. I'm appearing here in behalf of The Empire District Electric Company, Joplin, Missouri, with the responsibility of Superintendent of Environmental Engineering and Liaison for the company.

The Empire District Electric Company is an investor-owned electric utility company with corporate headquarters in Joplin, Missouri.

The company service area is approximately 10,000 square miles in the four-state area, Missouri, Kansas, Oklahoma, Arkansas. The company is small, capacity-wise, compared to its pool connected neighbors with 64 per cent of its present generating capacity producing approximately 70 per cent of the on-system energy requirements, utilizing coal as the fuel.

In 1980 the picture changes slightly with 69 per cent of the generating -- or the generation producing approximately 75 per cent of the requirements by using coal fuel.

Presently the company manages coal fuel ash disposal in clay bottom ash ponds at two different generating sites, approximately 30 miles apart. One in southeast

Kansas and the other in southwest Missouri.

The Missouri plant generation site burns area coal, predominantly Missouri coal, with a mine-mouth operation adjacent to the plant.

The Kansas plant burns Oklahoma coal.

This year the Missouri plant, Asbury plant by name, will produce in excess of 100,000 tons of bottom and flyash, which go to ponds on the property.

Also this year, the Kansas plant, Riverton plant, will produce approximately 18,000 tons of ash which will be sluiced to one of the two ash ponds on this property.

In 1980, the company will be involved in the operation of the first new unit of the Iatan Plant jointly owned by several companies and located in northwest Missouri.

Our company will assume its portion of the joint responsibility of ash disposal on this property. This unit will be burning coal from the Colorado-Wyoming area. Our company's 12 per cent responsibility of the coal fuel ash will mean another 22,000 tons annually.

It is not the intent of the company that this statement be detailed in nature insofar as constructive criticism of the guidelines and the regulations proposed. But rather to share concerns of a general nature and scope.

Insofar as our industry is concerned, there have

been and are and will be numerous organized efforts to address the guidelines and regulations in considerable detail. For instance, EEI, EPRI, USWAG and others.

Our company has a one-person environmental department and that person has to function as the general practitioner. The ash produced by the operation of the company's coal-burning plants is believed to be very low-risk material and does not endanger the health and welfare of employees, neighbors and the environment.

The company has been discouraged to date to utilize the ash from the Kansas plant because to do so would require a permit and the implementation of an ash management program.

Years past the ash was utilized in the rebuilding of numerous cinder tracks and through the efforts of private research groups found to possess desirable qualities that could promote and enhance commercial ventures.

Utilization was discouraged and of late not fostered because of the state permit liability.

The company has been able to utilize a portion of the ash from the Missouri plant. In fact, ash from this plant is going across the state line into Kansas and being utilized in roadway constructions.

The ash characteristics make it possible to conserve considerable oil that would normally be used in con-

vention asphaltic concrete.

The company to date, in Missouri, has not been burdened with a detailed ash management program.

It appears that the RCRA amended Solid Waste Disposal Act severely threatens the prospective utilization and interim on-site storage of a coal fuel ash. The wording in the subject EPA document serves to place and apply its statement on this material that will discourage commercial utilization of coal fuel ash.

That document states that flay ash, bottom ash, and scrubber sludge are special wastes and implies that they are a hazardous waste by stating that the Agency is calling such high volume hazardous waste, special waste and is professing to regulate it witn special standards.

Further, on Page 58993 this statement appears: "A proposed ruling will be published at a later date regarding treatment, storage and disposal of spedal wastes."

Are we, as producers of coal fuel ash, to anticipate being prospective permittees and storage facility operators? Are we to proceed to prove that ash we produce is nonhazardous and does not threaten human health and the environment, when the material has already been declared hazardous?

The company believes Subpart F, the statement,

"Program requirements will be extremely important. Decisions by the states on a case-by-case will ultimately formulate a workable program. Allowing states to utilize suitable alternate testing methods is recommended."

The company concurs that utility coal fuel ash should receive separate treatment, with the present emphasis on coal as a primary fuel and the fact there is no reasonable probability of adverse effects on health and/or the environment with the disposal of the ash from these properties.

With an ever increasing need for adequate cooling water, for condensors, steam electric generated plants, many future facilities will need to be sited in the 100-year-flood-plain. On-site storage and disposal of both the bottom and fly ash especially should be allowed, from a reasonable engineering standpoint when, of course, provided with adequate diking and control.

Historically both bottom ash and fly ash have been disposed of on-site and on the immediate property owned by the utility with no problem of consequence or import.

Projection of the problems facing the electric utilities in the area of disposing of coal ash material is unknown and fraught with liabilities. It has become obvious to the company that from the standpoint of the

current national energy policy that continued utilization of coal as a primary fuel for both existing and projected plants must be encouraged. History substantiates that utilities have adequately handled its waste problem and should have separate consideration to avoid unnecessary expense to the rate payers.

Thank you.

CHAIRPERSON DARRAH: Thank you.

Would you be willing to respond to questions from the panel?

MR. FULLER: Sure.

MR. LINDSEY: Mr. Fuller, I guess there seems to be some -- I think there may be some confusion.

We do not list -- I guess I got a couple of things I want to point out and then I do have one question. We do not -- and one of the observations I make is that we do not list fly ash as a hazardous waste in here. But information which we have, some preliminary information that we have, indicates that occasionally fly ash does fail, if you will, the characteristics tests we have under Section 250.13, specifically with the leaching of heavy metals, I guess. Not always but sometimes, apparently.

In recognition of that, the fact that it sometimes does but not usually, and the hazard level, when it does exceed those limits it's relatively low. Plus the

fact the high volumes of this particular waste plus the fact that the standards which we have under 3004 for other hazardous wastes don't seem amenable to this kind of material. We have listed them as a special waste and said that we need to do some more studying to determine whether and how to fully regulate these things.

Now I guess the problem I have is that what you seem to be suggesting is that we delete this particular waste stream from a special waste category and if we were to do that, then any time that the fly ash were to fail the criteria or the characteristics under Section 3001, they would be subject to the full set of requirements. And I don't think that's what you're getting at.

MR. FULLER: No, Mr. Lindsey, I respectfully say that -- I mean I've heard you, I've been here at the meeting, and I heard you make the statement several times in clarification, and it still is a problem with me because the words, "elicited" right from the paper, and it says that is a hazardous waste and, you know, those words are right there just as I read them.

MR. LINDSEY: O.K., it says, "Which is determined to be--

MR. JESSEE (interrupting): "that they are a hazardous waste", yes.

MR. LINDSEY (continuing): --which is determined to

be a hazardous waste under 250.13, Subpart A," meaning if they fail the criteria. If they don't fail the criteria, they are not a hazardous waste. Maybe that's not clear.

MR. FULLER: The words say that they are high volume hazardous waste, special waste.

MR. LINDSEY: You must be in the preamble. O.K., well, maybe we need to clarify that.

MR. FULLER: It's there and I can point it out to you. I mean, I didn't bring it up here with me. I've been waiting for you to say you don't really mean that and I haven't heard you say that so I want to point it to you right now.

MR. LINDSEY: Unless it fails the criter-- characteristics under 250.13, it is not a hazardous waste inso far as the regulations are concerned. And the implication through the wording somewhere tends to give that impression, that it's always a hazardous waste--

MR. FULLER (interrupting): Now, what I'm really asking for is that you understand it, we understand it.

MR. LINDSEY: O.K.

MR. FULLER: I want to be sure that, you know, that they get cleaned up and at this point the general public, you know, because it is there.

MR. LINDSEY: O.K., we'll take another look at the wording and try to clarify that if we can. So -- but the

intent is that if it only fails the characteristics of the hazardous waste under Subpart A.

MR. CORSON: I just wanted to follow up on that and again I wish you would and certainly may follow up later, indicate to us because as we read it, the preamble, we say "some portion of certain high volume wastes might be hazardous" because the regulation is clear.

But the other thing you did indicate in your comments, Mr. Fuller, that you feel your wastes are a low-risk. I'm wondering whether you might have some data which tells us the characteristics of your ash, both the fly ash and bottom ash, as well as the sludge. And particularly if you have any tests you may have run on the wastes that we might, you know, if you'd share that with us so that we can look at it. It would help us build our data base to possibly further identify those wastes which are of concern. So I'd certainly appreciate it if you'd do that.

Also I have a problem -- you indicated, I believe, and I forget, which one of the two states it was but in one of the states, apparently, you require a permit?

MR. FULLER: Kansas.

MR. CORSON: What is the purpose of that permit? Could you tell me why or what it is that the permit is for?

MR. FULLER: Just their interpretation. I kept asking. I said, "What does it take to be in compliance with their solid waste management program?"

MR. CORSON: Somewhere in their solid waste regulation they feel that ash requires some special control?

MR. FULLER: Well, they say that if I don't remove any over the sides of the ponds, I'll never need a permit. But as long as I leave it in storage on-site. It's when I lift that first bucketful across the dike is when I change status and require a permit. That's why I've discouraged usage of that particular ash.

MR. FIELDS: One question.

MR. FULLER: O.K.

MR. FIELDS: I think you alluded to this in your presentation, it wasn't clear, following up on Fred Lindsey, if certain fly ash or bottom ash is hazardous waste, do you have any particular problem with the special waste standards for utility wastes in the current regs?

MR. FULLER: You mean the running--

MR. FIELDS (interrupting): The standards, themselves. The standards on reporting, do you have any problems with the standards that would be applicable to those portions of the fly ash that were hazardous? Do you have any problem with those standards?

MR. FULLER: Not in particular no.

MS. DARRAH: Thank you very much.

(Whereupon the statement of the aforementioned speaker was made part of the formal record.)

HEARING INSERT

Statement Made Regarding EPA Proposed Hazardous Waste Regulations at Public Hearing, February 14-16, 1979, St. Louis, Missouri
by The Empire District Electric Company

The Empire District Electric Company is an investor-owned electric utility company with Corporate Headquarters in Joplin, Missouri. The Company's service area is approximately 10,000 square miles in the four-state area of Missouri - Kansas - Oklahoma - Arkansas. The Company is small, capacity-wise, compared to its pool connected neighbors with 64% of its present generating capacity producing approximately 70% of the on-system energy requirements utilizing coal as the fuel. In 1980, the picture changes slightly with 69% of the generation producing approximately 75% of the requirements by using coal fuel.

Presently the Company manages coal fuel ash disposal in clay bottom ash ponds at two different generation sites approximately 30 miles apart, one in S.E. Kansas and the other in S.W. Missouri. The Missouri plant, generation site, burns area coal, predominately Missouri coal from a mine-mouth cperation adjacent to the plant. The Kansas plant burns Oklahoma coal. This year the Missouri plant, Asbury Plant by name,

will produce in excess of 100,000 tons of bottom and flyash which will go to ponds on the property. Also, this year, the Kansas Plant, Riverton Plant, will produce approximately 18,000 tons of ash which will be sluiced to one of the two ash ponds on this property.

In 1980, the Company will be involved in the operation of the first new unit of the Iatan Plant jointly owned by several companies and located in N.W. Missouri. Our Company will assume its portion of the joint responsibility of ash disposal on the property. This unit will be burning coal from the Colorado-Wyoming area. Our Company's 12% responsibility for the coal fuel ash will mean another 22,000 tons annually.

It is not the intent of the Company that this statement be detailed in nature insofar as constructive criticism of the guidelines and regulations proposed, but rather to share concerns of a general nature and scope. Insofar as our industry is concerned there have been, are, and will be numerous organized efforts to address the guidelines and regulations in considerable detail, i.e., EEI, EPRI, USWAG, and others. Our Company has a one person environmental department and that person

has to function as a general practioner.

The ash produced by the operation of the Company's coal burning plants is believed to be very low risk material and does not endanger the health and welfare of employees, neighbors, and the environment. The Company has been discouraged to date to utilize the ash from the Kansas plant because to do so would require a permit and the implementation of an ash management program. Years past the ash was utilized in the rebuilding of numerous "cinder tracks" and through the efforts of private research groups found to possess desirable qualities that could promote and enhance commercial ventures. Utilization was discouraged and of late not fostered because of the State permit liability.

The Company has been able to utilize a portion of the ash from the Missouri plant, in fact ash from this plant is going across the State line into Kansas and being utilized in roadway construction. The ash characteristics make it possible to conserve considerable oil that would normally be used in conventional asphaltic concrete. The Company, to date in Missouri, has not been burdened with a detailed ash management program.

It appears that the RCRA amended Solid Waste Disposal Act severely threatens the prospective utilization and interum on-site storage of coal fuel ash. The wording in the subject EPA document serves to place an applied stigma on this material that will discourage commercial utilization of coal fuel ash. The document states that fly ash, bottom ash, and scrubber sludge are Special Wastes and implies that they are a hazardous waste by stating that the Agency is calling such high volume hazardous waste "Special Waste" and is progressing to regulate it with special standards.

Further, on page 58993, this statement appears, "A proposed rulemaking will be published at a later date regarding the treatment, storage, and disposal of special waste."

Are we, as producers of coal fuel ash to anticipate being prospective permittees and storage facility operators? Are we to proceed to prove that ash we produce is non-hazardous and does not threaten human health and the environment when the material has already been declared hazardous?

The Company believes the Sub Part F, the State Program Requirements, will be extremely important.

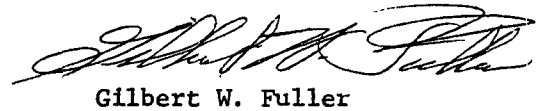
Decisions by the States on a case-by-case basis will ultimately formulate a workable program. Allowing States to utilize suitable alternate testing methods is recommended.

The Company concurs that utility coal fuel ash should receive separate treatment with the present emphasis on coal as a primary fuel and the fact there is no reasonable probability of adverse effects on health and/or the environment with the disposal of the ash from these properties. With an ever-increasing need for adequate cooling water for condensers of steam electric generating plants, many future facilities will need to be sited in the 100 year flood plain. On-site storage and disposal of both the bottom and fly ash especially should be allowed from a reasonable engineering standpoint when, of course, provided with adequate diking and control. Historically, both bottom ash and fly ash have been disposed of on-site and on the immediate property owned by the utilities with no problem of consequence or importance.

Projection of the problems facing the electric utilities in the area of disposing of coal ash material

is unknown and fraught with liabilities. It has become obvious to the Company that from the standpoint of the current national energy policy that continued utilization of coal as a primary fuel for both existing and projected plants must be encouraged. History substantiates that utilities have adequately handled its waste problem and should have separate consideration to avoid unnecessary expense to the rate payers.

Yours truly,



Gilbert W. Fuller
Superintendent of
Environmental Engineering
& Liaison

CHAIRPERSON DARRAH: The next speaker tonight will be Betty Wilson from The League of Women Voters of Missouri.

MS. WILSON: I've got three copies that are somewhat briefer than my final version if they will help.

STATEMENT OF BETTY WILSON

MS. WILSON: Members of the Panel, I am Betty Wilson of St. Louis County, speaking on behalf of the League of Women Voters of Missouri.

The League is vitally concerned about the consequences of improper management of hazardous materials. The League in Missouri worked for adequate legislation in 1977 to establish a state program. We do not want unnecessary delay but there are some changes that we see as necessary to achieve the intent of the Missouri and Federal Laws.

Our primary objection to the proposed regulations is the exemption of generators, 250.40, by the volume of waste produced. We do not have the technical background to offer the solution but we recommend that the classification of waste be further divided so that total tracking of the most hazardous materials is required except for the Congressional exclusions.

Recognizing limits to program startup, we would prefer a year or two delay before bringing less hazardous

wastes into the system. We are aware of a program in Maryland which classifies waste both by degree of hazard and the concentration of hazardous substance in the waste. We concur with this type of classification system.

After refining the classification system, reporting time should be shortened for substances with the greatest potential for health and environmental damage and left at the proposed one year for the less harmful waste, 250.23.

For the waste that would not be reported under the hazardous waste program and therefore required to be sent to an approved disposal facility, we would suggest there be a requirement for informal reporting to the state agency responsible for the solid waste disposal.

In this transition time from open burning and inadequate waste disposal to developing adequate facilities, it is imperative that a well-designed and well-operated site be selected and that the number of small generators using a given site is within the tolerance of that facility.

In regard to Section 3004, disposal facilities, much of the specificity and therefore security for the citizens of the siting regulations has been removed from drafts to the proposed regulations.

We believe the exemption provisions in siting

a facility are too loose and should be rewritten.

We do not believe it should be necessary to locate hazardous waste facilities in the flood plain, wetlands, critical habitats, on sole source aquifers or within 200 feet of the property line.

Landfarming of hazardous waste is a complicated problem. In the proposed regulations, toxic wastes are not included in the excluded categories.

The guidelines are still to be written for the wastes with genetic impairment or bioaccumulative properties. And therefore they are not included.

The statement in the discussion that "EPA does not have the data needed to make a definition of persistent organics at this time" would justify omitting this option or, at a minimum, placing the responsibility and liability on anyone seeking a permit to landfarm hazardous waste.

If there are to be permits for landfarming, the burden of proof that there will be no health or environmental damage should be on the operator and at the experimental level for the first few years.

Many organic wastes do not contain appreciable levels of heavy metals, could be landfarmed as the best method of management, certain sludges, for example.

On the other hand, highly toxic nonbiodegradable

wastes should not be landfarmed because of the potential to enter the environment.

We hope that in these comments we have been able to point up our feeling that there is a need for a hazardous waste classification system.

Thank you very much.

CHAIRPERSON DARRAH: I realize you weren't trying to give us really technical comments but would you try and answer questions for us?

MS. WILSON: I'll try but my technical information is lacking.

MR. FIELDS: Ms. Wilson, you had one comment regarding your site selection comment in general. We have a problem, the most we have with everybody on standards in there is site selection criteria, but one of the reasons is that, in the case of existing facility, now some facilities are already handling hazardous wastes and they would be handling it in an environmentally acceptable manner.

What would you do in the instance if, for example, we didn't have a note and a facility was adequately handling hazardous waste, there were no problems, he had a track record of good environmental management and the facility, for some reason, violated the 200-foot bumper zone, what would you propose that EPA do in the case of

existing facilities that would be in violation of one or more of these standards if there was no note maximum?

MS. WILSON: Well, I'm not sure. What would you do?

MR. FIELDS: I would do what I have here. That's why we have these notes. That's one of the reasons. Because we want to allow some flexibility in those kinds of circumstances. But you indicate that you would not want to have those notes. I was wondering how you handle -- you see the problem that we have.

MS. WILSON: I see the problem that you have and I think we're probably not able to answer our own questions in some of these cases.

MR. LEHMAN: Can I get a little clarification from you, Ms. Wilson, about the last part of your statement? I'm just not clear what your main point was in your discussion of landfarming. I think that maybe part of the confusion is that there is a typo in the text here.

It says, "In the proposed regulation" and then you have a specific citation there but it doesn't track with anything we have in our regulations. It must be a typographical error.

MS. WILSON: You mean in the second sentence?

MR. LEHMAN: Yes.

MS. WILSON: I had trouble with that, too. I

didn't do all of this by myself. This is some of it. I never could find it so I crossed it out in my own copy. But unfortunately I had not considered the fact that we were going to give them to you, so I didn't cross them out in all of them. So that's it. That citing was a typo.

MR. LEHMAN: Aside from that, though, the main thrust of your remarks, as I understand it, is that you believe that organic wastes with genetic impairment potential or accumulative properties should not be landfarmed, isn't that the general gist of your remarks, or at least it ought to be under some sort of a special--

MS. WILSON (interrupting): Should be very carefully and very specially investigated before landfarming. In fact, we thought that only a very few of the organic wastes, and especially those that contain no metal at all, should be landfarmed at all.

I think in terms of certain sewage sludges and certain pesticides and so forth, it's probably acceptable. But landfarming seems to us, at least, something that we have to treat with great care.

MR. TRASK: Ms. Wilson, you testified that you thought that we ought to change our regulations to have the effect of shortening the reporting period for certain wastes which may have high degrees of hazard.

MS. WILSON: Yes.

MR. TRASK: I wonder if you could share with us some of your thoughts on what the characteristics of those wastes might be or otherwise the names of some of the wastes. What exactly do you have in mind here?

MS. WILSON: I was thinking of some very hazardous wastes such as PCB's.

MR. TRASK: When you say like PCB's, you mean wastes that have characteristics similar to PCB's? And the PCB's, themselves?

MS. WILSON: Yes, and wastes that are considered to be extremely hazardous.

MR. TRASK: Well, as you know, we haven't done that sort of a breakdown, a split between the different kinds of wastes so the different hazards that we're dealing with, we're searching for some split.

MS. WILSON: I think that we're recommending, trying to reccomend, that there be different classifications and therefore that certain more hazardous wastes be treated in a different manner from the less hazardous wastes. And I smmply give PCB's as an example because it's one that we have dealt with in Missouri.

MR. TRASK: Are you going to send -- are you sending your comments later in writing or is this your statement here?

MS. WILSON: This is my statement.

MR. TRASK: All right, thank you.

MS. WILSON: Thank you.

MR. CORSON: One comment, if I may, Ms. Wilson, because your answer to Harry kind of treated one of the problems that we've been wrestling with. Because you looked for the bad actor, bad waste, and then earlier on in your comments to Mr. Lehman, you indicated or you indicated in your statement that you were concerned about some possible carcinogens when you do landfarming.

By -- we seem to be trying to read into it that it would be very hazardous wastes when landfarmed, maybe not very hazardous wastes when incinerated. So--

MS. WILSON (interrupting): Well, that must be confusion in the way we've stated it because we felt that certain wastes lent themselves to landfarming and the sun and air and so forth might help take care of it. And the danger to the surrounding environment would not be as great, that there should be such criteria as that for landfarming.

CHAIRPERSON DARRAH: Thank you very much.

(Whereupon, the aforementioned statement was made part of the formal record.)

HEARING INSERT

League of Women Voters of Missouri
2138 Woodson Road
St. Louis, Missouri 63114

Statement at the Public Hearing on
PROPOSED HAZARDOUS WASTE REGULATIONS
February 15, 1979

I am Betty Wilson of St. Louis County speaking on behalf of the League of Women Voters of Missouri.

The League is vitally concerned about the consequences of improper management of hazardous materials. The League in Missouri worked for adequate legislation in 1977 to establish a state program. We do not want unnecessary delay, but there are some changes that we see as necessary to achieve the intent of the Missouri and Federal laws.

Our primary objection to the proposed regulations is the exemption of generators (250.40) by the volume of waste produced. We do not have the technical background to offer the solution, but we recommend that the classification of waste be further divided so that total tracking of the most hazardous materials is required, except for the Congressional exclusions. Recognizing limits to program start up, we would prefer a year or two delay before bringing the less hazardous wastes into the system. We are aware of the program in Maryland which classifies waste both by degree of hazard and theconcentration of hazardous substances in the waste.

After refining the classification system, reporting time could be shortened for substances with the greatest potential for health and environmental damage and left at the proposed one year for less harmful waste. (250.23)

For the waste that would not be reported under the hazardous waste program and therefore required to be sent to an approved disposal facility (discussion on page 58,970), we would suggest that there be a requirement for informal reporting to the state agency responsible for solid waste disposal. In this transition time from open burning and inadequate waste disposal to developing adequate facilities, it is imperative that a well designed and well operated site be selected and that the number of small generators using a given site is within the tolerance of the facility.

Re: Section 3004 - Disposal facilities. Much of the specificity, and therefore security for the citizen, of the siting regulations has been removed from drafts to the proposed regulations. We believe the exemption provisions

(250.43-1) in siting a facility are much too loose and should be rewritten. We do not believe it should be necessary to site hazardous waste facilities in the floodplain, wetlands, critical habitats, on sole source aquifers or within 200 feet of the property line.

Landfarming of hazardous waste is a terrifying thought. In the proposed regulations (250145.5), toxic wastes are not included in the excluded categories. The guidelines are still to be written for the wastes with genetic impairment or bioaccumulative properties, and therefore, they are not included. The statement in the discussion (p.58,990) that "EPA does not have the data needed to make a definition of persistant organics at this time" would justify omitting this option or at a minimum placing the responsibility and liability on anyone seeking a permit to landfarm hazardous waste. If there are to be permits for landfarming, the burden of proof that there will be no health or environmental damage should be on the operator and at the experimental level for the first few years.

Thank you.

CHAIRPERSON DARRAH: Is Marie Roberts here?

(No response.)

CHAIRPERSON DARRAH: Is David Wilson here?

(No response.)

CHAIRPERSON DARRAH: Is Richard Meunier from The Farm Nuclear Study here?

MR. MEUNIER: Yes.

CHAIRPERSON DARRAH: I hope I didn't mispronounce your name.

MR. MEUNIER: That's all right.

First I'd like to ask the panel, it is my understanding that transportation of nuclear or radioactive waste was to be included in this as a specialty, is that?

CHAIRPERSON DARRAH: Only to a very very limited extent.

Alan, if you want to explain under RCRA how it fits in?

MR. ROBERTS: We have two outstanding rule-making actions regarding the transportation of nuclear materials.

CHAIRPERSON DARRAH: This is the Department of Transportation speaking here.

MR. ROBERTS: One is a complete restatement of the Department of Regulations from A to Zit on radioactive materials transportation system in the proposed new Part 127 entitled 49CFR. Possibly you're addressing our Docket

HN 164 which deals with the routing of radioactive materials.

MR. MEUNIER: Right.

MR. ROBERTS: This is not the subject of this hearing.

MR. MEUNIER: Not the subject?

MR. ROBERTS: No, sir.

MR. MEUNIER: Did that happen yesterday?

MR. ROBERTS: We have an open docket on it and you're welcome to submit comments to the same address on our ruling docket at the back of the room for transportation.

MR. MEUNIER: O.K.

MR. ROBERTS: I forget the closing date of the comment period. If you submit them within the next few weeks, I'll cover you for sure.

MR. MEUNIER: O.K.

CHAIRPERSON DARRAH: Let me just explain, the RCRA regulations cover hazardous waste but most nuclear waste is not included under RCRA. That is within the purview of another agency, so we do deal with some low level nuclear wastes, some hospital wastes or some of the other phosphate mining.

MR. ROBERTS: Are you talking about nuclear fuel?

MR. MEUNIER: About nuclear fuel in particular or nuclear fuel just in general or any kind of low-level

radioactivity, transporting that.

MR. ROBERTS: You're making a very broad comment there. Then possibly there may be something here. But if you're talking about uranium ore such as yellow cake, then it's not the subject of this hearing.

MR. MEUINIER: I was under misunderstanding. I thought--

MR. ROBERTS (interrupting): This hearing will deal mainly with radium, material of that type, and not get into enriched uranium, spent nuclear tools, or anything of that type.

CHAIRPERSON DARRAH: If you have some comments on -- that seem to be applicable to low-level, transportation of low-level radioactive wastes, we'd be happy to hear them.

STATEMENT OF RICHARD MEUNIER

MR. MEUNIER: Well, just that we've had several hazardous waste spills in Missouri fairly recently. One wasn't radioactive wastes. It was a train spill in Sturgeon. And we had a truck accident out here on I-70 with low-level. Now that was yellow cake and you say that's not the subject here.

MR. ROBERTS: That was a load of specific radioactive material. That is not the subject of this hearing. That was virgin material and it was not lethal.

MR. MEUNIER: Yes, I guess my question to the panel here is you have no control of this. Is this totally NRC or does the EPA have any kind of a say in what--

CHAIRPERSON DARRAH: If you want to ask us those kinds of questions, we'd be happy to talk to you after the close of the hearing.

MR. MEUNIER: O.K., I'm sorry. I was understanding that this was part of this hearing and that's what my statements were going to pertain to.

MR. ROBERTS: Well, I do strongly suggest that if you have something to say about the transportation of radioactive materials, if it's the routing of radioactive materials -- in other words, the route followed by the vehicles transporting those materials--

MR. MEUNIER (interrupting): Right.

MR. ROBERTS (continuing): --if you'd make a note, jot down Docket 164. In the back of the room on the table there is a document with my name and address on it, and you may write to us and discuss, under Docket 164, the routing of radioactive material.

If you want to talk on the other rulemaking docket which is, like I said, A to Zit, the whole business other than routing, you better give me your name and address and I'll mail you the rulemaking. And it will probably take you about a month to review it. I don't mean

that facetiously. I mean that seriously.

MR. MEUNIER: Right.

MR. ROBERTS: If you started at the time it came back, it would probably take you at least a month.

MR. MEUNIER: All right, thank you.

CHAIRPERSON DARRAH: Thank you for coming.

Is there anybody else that would like to speak or has comments on 3001, 2 or 4 of the RCRA regulations?

(No response.)

CHAIRPERSON DARRAH: Is anybody for the Coalition for the Environment here?

MR. MEUNIER: I think their interest is the same is mine. Maybe they found out before I did and that's why they didn't show up.

CHAIRPERSON DARRAH: O.K., thank you.

O.K., we will close the official record of this hearing and we'll pass out three by five cards if somebody has -- now for people who have not been here during the daytime hearings, anybody here tonight who has questions on how the regulations are meant to apply, if they are not clear, if you need some help from us, write down your questions and we'll have people bring them to us and try to answer them.

(See separate transcript for question and answer session.)

SEPARATE TRANSCRIPT FOR QUESTION AND ANSWER SESSION

St. Louis, Missouri

February 15, 1979

MR. ROBERTS: I have one. The handwriting looks familiar. "Would you explain the requirements of proposed Regulation 171.3 (e), especially 171.3 (e) 3. We're almost as bad as EPA, I think, on that.

And by the way, put on the table back here are copies of our notice of proposed rulemaking and also there are more than 100 of them down at the registration desk. And I apologize but I was not here this afternoon. I was having a lovely time touring the airport of Kansas City and I finally came over from Kansas City by Greyhound Bus. So I just couldn't make it this afternoon.

Proposed 171.3 deals with the preempted aspects of the Hazardous Materials Transportation Act of 1964. And I guess in the simplest way to say it is that in terms of the transportation of materials, we are saying that any state or local requirement that's inconsistent with the Federal requirement for the transportation of hazardous wastes is -- I better read it because if I start to interpret it before I read it, we might run into trouble.

What it says is, "With regard to a hazardous waste subject to this subchapter, any requirement of a state or its political subdivision is inconsistent with this subchapter if it applies because that material is a waste material and applies differently from or in addition to the requirements of this subchapter concerning packaging, marking, labeling and placarding, or the format

or content of discharge reports except immediate reports for emergency response -- that's excluded from the preemption, obviously -- "or the format or contents of shipping papers, except any additional requirements of the state or locality of consignment, which is part of an authorized state hazardous waste management program under 42USC6926."

The simplest way to explain this is that we are dealing with thousands of jurisdictions in the United States. In order to have an orderly system for the movement of hazardous waste to their authorized or permitted disposal locations, chaos would prevail if every jurisdiction within the United States would decide to write its own rules.

Visualize the packaging of a given material and it comes into some local jurisdiction and they decide they want it in a concrete vault and then the next jurisdiction says it has to be in a steel tank. And in many cases we would have wastes in the transportation cycle for months while we were just trying to move it through these jurisdictions if everybody wrote their own rules.

One of the reasons why we've been very desirous of actively participating in all these hearings with the EPA, is to receive comments on our proposed rulemaking and also consideration of our proposed rulemaking in regard to the 800 pages of Federal regulations presently set forth

for shippers and carriers of hazardous materials. We have one of the fattest CFR's in the U. S. Government system, including 400 pages of packaging specifications. Now that doesn't mean that a state or local jurisdiction may not be able to do a better job of specifying packaging but we must have a consistent and harmonious system or chaos would prevail. And I hope you will all understand that.

What we have done, though, we've recognized that in the proposal, and it's already been objected to by a number of commentors, we have recognized that destination state may require certain additional information to be set forth on the document relative to its determination of the appropriateness of the disposal of the material.

In other words, we've said, in terms of the destination state, we are not requiring a preempted situation to exist if it's done under a state-authorized, authorized state hazardous waste management program. And I think someone from the EPA can explain that better than I.

What this means is that when a man prepares a document, say, in New Jersey and for some reason the material is going to Ohio, the document prepared consistent with the EPA and the DOT regulations for that material would be acceptable in the state of Pennsylvania, an interception of that shipment within the state of Pennsylvania, when it is only transiting that state, would be considered

having the potential for being declared inconsistent under the provisions of the Hazardous Materials Transportation Act. However, the state of Ohio may have some requirements concerning the preparation of documents under its state-approved plan and I would again suggest that somebody from the EPA could explain some of the situations that would illustrate the desirability of permitting that type of requirement to exist.

And I must again emphasize at previous hearings and some of the commentary, this has been strongly objected to from the standpoint of the railroad industry, for example. I can understand some of the distress with this proposal.

I believe that's just about as well as I'm able to explain where we are on this particular part of the scope and application of the standard and I would be delighted to answer further if I have not explained it well enough.

On an earlier question that was raised deals with tankcars. The commentor says, "Our plant receives empty railcars for the shipment of our products from our plant. Frequently these empty cars contain up to several hundred pounds of previously shipped unknown materials. Since railcars are frequently in short supply, we must empty the cars or use them with the unknown material still

in them, which is obviously unacceptable." I agree.

"We are therefore frequently put in the position of accumulation of other company's" -- then the word "waste" is stricken -- "products for our disposal. Does EPA or DOT have any recommendations on what we can do to resolve this problem. Note: The railroad isn't interested in keeping the material. Significant costs would be involved in determining what this material is in order to adequately comply with the RCRA regulations for disposal."

I think the only way I can answer that is that if the inbound car contained a hazardous material subject to DOT regulations and the car is not empty. Meaning in our case, cleaned and purged, the car -- if the car moves out on the rails again, under Section 173.28, Paragraph F, of our regulations, that car is subject to our regulations in the same manner as when the car came in with a full load, with one exception. At a certain level, a certain quantity of the material, and we are working on the rulemaking to specify that, of the residue of the car, they may turn the car and show the empty side of the placard. Meaning when the empty placard in the railroad industry means the car is not full and is virtually empty of its contents. That's just about what it means. It doesn't mean it's entirely empty or cleaned and purged. Or otherwise the placard must be removed.

As to how that material is dealt with, if they clean the product from the car within the plant facility and store it or do something with it -- I again must refer to my good neighbors here from the EPA as to what determination would be done with that material.

I only deal with the transportation aspect of these cars. And if they are on the plant facility and the material is removed from the car, as to what happens to it is not within my purview.

"Do you see any way that DOT and EPA could develop one regulation to cover transportation of hazardous wastes rather than two regulations as proposed? What is a way for a person who has not used DOT regs before to develop a meaningful understanding of DOT regulations? Is there a good summary document?"

First of all, if I'm not mistaken and, Mr. Trask, I'm sure you'll correct me, there is an indication in the EPA transporter document that there may be significant modifications of that document if DOT proceeds to adopt the regulations that it proposed last May 25. I believe I'm correct on that.

MR. TRASK: That wording is in the proposal, right.

MR. ROBERTS: Maybe we ought to have a talk before we proceed.

I should point out that so far as the generator part of DOT's involvement, there's been a change in the Act by the quad communities amendments, as I call them, of a few months ago. And where previously it talked about regulations issued by the Secretary of Transportation under the Hazardous Materials Transportation Act, relative to adoption of EPA rules, it used to say "Subtitle" meaning Subtitle C and now it only refers to Section 3003.

And of course most of our rulemaking deals with matters that are covered by 3002 in terms of what the shipper must do in giving the materials to the carrier. Packaging, shipping documents, labeling, marking, things of that type, EPA is no longer, as I see it, obligated to promulgate regulations for generators that are consistent with the Hazardous Materials Transportation Act.

And before somebody writes me a card and asks the question about the origin of that modification, a few months ago under the revision of this Act, I have no knowledge of how it was revised. As a matter of fact, I was not even aware of it until last week.

But I think if you look at the DOT and EPA proposals, by and large, they are consistent, one with the other. Obviously, in our case, we wrote them to fit within the existing DOT regulations. So there are differences in the language. But by and large, I think you will find

that they are very compatible. If someone disagrees with that, I think they should bring it to our attention.

As far as becoming aware of DOT regulations, DOT holds seminars around the United States. We do make some slots available at the Transportation Safety Institute in Oklahoma City to industry people who have a desire to receive intensive training in this area. We have regional and field offices around the United States, hazardous material specialists. There is one in Kansas City, Mr. Crowder from the Bureau of Motor Carrier Safety, who is a hazardous material specialist.

The first thing you must do if you're not familiar with this, though, is I would strongly recommend get a copy of the regulations. And they are available from the Superintendent of Documents and whoever asked the question, later on I'll be delighted to tell you how to get it.

MR. CORSON: I have a three-part question.

"One of the main points of the past two days of discussion has been a desire to classify wastes by degree of hazard. The League of Women Voters mentioned that Maryland is currently in the process of doing this. Why aren't you following the example, if this is true, since you keep asking for ways to do this?"

That does remind me, I should have thanked Ms.

Wilson for reminding me about the Maryland work.

But we did, in part of our investigation leading to the regulation as we have proposed it, looked at several state regulations which looked at degree of hazard and many of them were quite cumbersome and we felt required quite a large amount of testing on each and every waste to determine degree of hazard. We felt the approach which we included in our December 18 proposal, which was to use 3001 as a yes-no gate and then allow for the flexibility of 3004 to accommodate to the waste-specific problems with a site-specific solution to be an adequate answer to the degree of hazard.

Now we did raise in the preamble the fact that we will be looking, and we are, at relating degree of hazard to the small quantity generation problem because it does appear that, at least it certainly has been shown in the last two days here and I think in New York, that there is a fair amount of interest that relates to the problem relating to small quantity at least, or the quantity exclusion to various degrees of hazard we'll be looking at.

And we will certainly, at least now that we have it on the record, it will be a visual reminder to review the Maryland work and we will do so.

Second question: "Also isn't this a state which

classifies fly ash a natural resource, not a hazardous waste?" And I cannot answer that question because I don't know.

"Where may we view your data on fly ash leaching studies?" We have, between the work we have done in-house, that's with a contractor, what we've done jointly and done separately by the American Society for Testing Materials has probably had some results on, perhaps, eight to ten fly ash samples. My recollection of the data is we have yet to come across a fly ash which, when exposed to the extraction procedure, failed the analysis for the contaminents of concern and our toxicity test. I believe there was just one sample that was borderline with cadmium but they are -- you can contact us at our office in Washington. The problem is the next time we will be there is the beginning of the week starting February 26.

MR. LEHMAN: There's a question here which has come up time and again and indicates the difficulty I think the general public has in understanding our intent with respect to the definition of discarded materials. And also to some extent it illustrates the difficulty we had in writing that definition and making it clear. But let's try it once again.

Question: "Would incinerators be used to convert by-products streams which frequently are disposed of as

waste to usable products and/or usable energy? And would such incinerators be covered in any manner by RCRA? If such devices are covered by RCRA in any manner, are there criteria that will determine coverage versus noncoverage?"

O.K., now to answer the first part, no. In other words, what you're really referring to here, I believe, are what we would call boilers rather than incinerators. Boilers using by-products streams to generate energy or to use as fuel to generate steam for future process use, whatever, as opposed to an incinerator which, in our term, is used for the one and only purpose, being to destroy the waste.

So if I can interpolate this question a little bit, what I think is being asked here is if you have a by-product of a manufacturing process and you feed that back into an in-plant boiler, use it as fuel or use it to generate steam and so on, that is not covered under our definition of discarded materials under RCRA. Is not solid waste and therefore is not an hazardous waste.

So our intent here is to encourage, where you feel it is safe to do so, the reuse of these types of materials for fuel or for other purposes.

If we find abuses to the intent behind all of this, EPA can and will bring into regulatory control these other types of uses, and we make that point in Section

250.10, in a note where we have a statement that, "A reserved section where we say that other materials and their uses will be included by an amendment to this list of controlled substances upon a finding by the EPA that it is necessary to control such uses."

So we feel that we should go with the proposal as we've indicated, encouraging people to do this. But if we find that there are environmental and public health problems associated with it, then we will go back and restructure that.

MR. TRASK: I have a question here that deals with the 90-day storage period.

It says, "How does one handle, within the framework of hazardous wastes regulations, secondary process material which is destined for recycle but is held longer than 90 days before sale or treatment?" And there's a note: "The material fails the ET test."

If it's held longer than 90 days then a permit is required. During the 90-day period, it must meet the storage requirements of the 3004 regulations and of course when it's under the permit it must meet all of those. But it also must have the permit for more than 90 days.

MR. ROBERTS: I have a question here.

It says, "It was stated this afternoon that the DOT regulations may be amended to control hazardous wastes

transported only intrastate." I think the question is will it be amended to include intrastate as well as interstate, if I may interpret the question.

We regulate interstate transportation and have and our predecessor agencies since 1908.

The question goes on, "Does DOT have this authority? Is DOT attempting to obtain intrastate regulatory authority?"

Now the answer is as follows: first of all, this particular rulemaking, Docket 18145A, published last May 25, is from the standpoint of highway carriage. And the highway carriage alone, this comment, is the first time there has been a proposal to extend the DOT regulations to cover intrastate transportation.

Now as to whether we have the authority, the answer is yes, and I can only, without a long explanation, cite 49 United States Code 1801. And the person who asked the question should look that section up and find how we obtained that authority in 1974.

And to the latter part, yes, DOT is proposing to apply the hazardous waste transportation standards to intrastate commerce as well as interstate commerce.

There are two other rulemakings in the mill, both of which will be in the Federal Register within the next two weeks that also deal with intrastate commerce. The other

one that would have some relationship to this hearing is the transportation of hazardous substances under Section 311 of the Federal Water Pollution Control Act and the other deals with the transportation of flammable cryogenic liquids.

So DOT is going into the intrastate regulatory area on a selective case-by-case basis and not in the broad sense of applying its standards for all materials that are classed as hazardous materials jurisdictionally to intrastate commerce.

MR. LEHMAN: I have a question here.

First of all, it says, "Comments are due March 12, '79." Well, first of all, it's March 16, '79 on these proposed rules. "However, the issue of the degree of hazard, need for classification systems, et cetera, is clear." It's a statement by the writer. It's not necessarily EPA's conclusion. "Upon submission of preliminary or outlined alternative proposals of this nature by March 16, is there a mechanism to follow this with details, supporting information at a later date? If so, how much time would be available?"

The answer to that is no, the comment period, when it closes on March 16, is the last date upon which we are going to receive information concerning these proposals. There is no mechanism to receive comment on these

proposals after March 16.

MR. LINDSEY: If a company had a contract for sale of hazardous wastes and must store it for more than 90 days before removal, would this storage require permit?

The answer is yes, it would.

MR. ROBERTS: Questioner says, "I am not familiar with the DOT regulations pertaining to containers for hazardous materials. Would new steel barrels or drums be required for containerizing hazardous wastes?"

This is depending on what the material is. Again it would be too lengthy of an answer. Everybody would fall asleep, I'm afraid, if I tried to explain it all. It depends on the classification of the hazardous material or, in certain cases, if it is a specifically named material in our regulations as to what the packaging is called for.

For example, certain materials are incompatible with steel and therefore we do not authorize them in steel drums. Some material are allowed in fibre drums. Obviously nitric acid is not authorized in fibre drums.

So the hazardous wastes regulations we are proposing are a simple extension of the existing hazardous materials regulation to the extent that we presently regulate the materials.

That comment enables me to answer another question raised and I'll do them both together. The person is alleg-

ing that we would -- what happens if he is hauling a hazardous waste that is not a hazardous material?

I would suggest that that person read again carefully our notice of proposed rulemaking. Because if it's a hazardous waste subject to 40CFR250, it is a hazardous material under the DOT proposal. And if you read our notice, we have one category at the very tail end of our entire list of two thousand and some entries which covers this situation. The legal description, legal shipping description, hazardous waste, and a list. After you go through and track through and find out it's not an explosive, it's not a corrosive material, it's not a compressed gas, et cetera, radioactive material, ediologic agent, all the things we presently regulate, it points out at the bottom of the pecking order, it's a hazardous waste and unless, and it would shipped accordingly under that designation.

And the paper, the shipping document, would identify the EPA required description in parentheses following that designation. So I think that answers both these questions as best as I'm able to in a few minutes.

MR. CORSON: I have a short one.

"In 250.13," and I believe it's referring to Paragraph D, "does it make any difference if the elements listed may be in oxide form? In does make a difference

insofar as the leaching characteristics of certain elements."

The answer, if you're referring just to the question where is it, in fact, referring to the list of substances we've extracted from the drinking water standards. The topic is whether it be oxide form or not and we are concerned only with the solubilization. So to the extent that other forms may make them less soluble, they would not be released and therefore they may not be in the system.

MR. LINDSEY: "Do you have any credible evidence that earthen built containment ponds for toxic and hazardous material will, in fact, contain these materials? If so, please explain how the containment works, liners work," containment liners, I suppose that is.

By earthen built, our regulation require more than what I would call earthen liners. There are two techniques in the regulations for constructing landfills that are put forward. Where we are using natural materials we are talking about clays and roll clay liners. Let me -- I think maybe it would be useful to talk about the overall intent here of the way in which we've put together this landfill criteria under Section 3004.

I think what the person is getting at here is that there is no absolutely zero -- notabsolute way to insure absolute zero discharge.

When we first started into these regulations we thought what we would try to do would be determine and try to model the movement of waste from a land disposal site into the ground water in such a way that we could predict, given the chronocologic requirements and so forth, the movement of wastes in the ground water in such a way we could predict the maximum concentrations thereof.

We found, after a lot of work, that we really couldn't do that. So we went to a maximum containment approach. In so doing we mandated the use of liners and the main concept of the liners is that during site life we will prevent the escape of materials from the landfill site and then post-closure, and what we would be depending on is the reduction of the elimination of movements of liquids from the surface, namely rainfall, from the surface into the contained site through capping techniques so that you build up no driving head, that is no leaching which can then leach out of the site. That is the concept.

With regard to credible evidence that earthen built containment ponds -- I'm talking about ponds, not landfills, work. There are a great many of them around and they are not doing any harm. If someone would like to share with us this kind of information -- it gets kind of involved. I would suggest that maybe if you look at the background documents that we have for this work and, as

an alternative to that, they can talk with our people. And whoever wanted to do this, I can give the names of people who would get right along with it, I think, here.

MR. LEHMAN: Question: "Can the Agency request information or support data on the proposed regulations from selected associations or individuals after March 16, 1979?"

The answer to that is yes, the Agency can and does ask, for example, for clarification for comments received. The Agency can and does gather supporting information on particular issues that are raised during [illegible]ment period. So, yes, the answer is yes, the Age[illegible]n request information after closing the comment pe[illegible]

CHAIRPERSON DARRAH: Do you have a qu[illegible]n you were going to answer?

MR. ROBERTS: No, I just wanted to be sure to insert in the record and for the purpose of the meeting that the Federal Register of February 8, 1979, Page 7988, states the closing date of the DOT rulemaking to be June 1, 1979, as far as the receipt of public comment.

CHAIRPERSON DARRAH: O.K., we are going to reopen the official record. We have one person who wants to offer us comments who was delayed getting here.

Court reporter, do you need a short break before we go?

COURT REPORTER: Yes.

CHAIRPERSON DARRAH: If you won't mind, we'll take about a five-minute break.

(Whereupon, the question and answer period was temporarily closed.)

CHAIRPERSON DARRAH: O.K., would you identify yourself for the record, please?

DR. PARKER: I'm Dr. James Parker, La Marque, Texas. LaMarque is situated between Houston and Galveston. It is some nine miles from the Galveston causeway in the vicinity of Texas City and is a part of Texas City.

STATEMENT OF DR. JAMES P. PARKER

DR. PARKER: The two documents that I am going to leave on file with the panelists is for their information. One is to show today how many waste classification systems that is currently in use by the Texas Department of Water Resources which is a branch of the Texas Water Commission.

This is a waste classification code in which there's 53 pages. I think there's 25 to the page. The idea that I would leave with the panelists is that the classification, and this is out of a computer and I think this will be evident when they see it, is a highly inadequate classification in that is very general. And if any of you care to look at this later, I would be happy to go over it with you.

I think that we will be, in Texas, breaking down such things as commingled wastes and tank bottoms, et cetera.

CHAIRPERSON DARRAH: We'll submit it to the

court reporter and they will make it as part of the record.

DR. PARKER: All right.

The next exhibit that I will present is some Xerox pages from a book by Dr. Harry Cedergren, John Wiley & Sons. I might, for the record, state that John Wiley & Sons have given open permission to utilize this material by my letter to them and their letter to me.

Now this, by no means, encompasses the work of Harry Cedergren or Dr. CasaGrande or Dr. Kerzage, but it would give you men at least my view, from an engineering point of view, of up-to-date work that is quite relevant here to the question that I submitted on earthen built levies for containment ponds.

The actual book I'm going to retain but I would advise any of you to buy this book here. Harry Cedergren is a consulting engineer in soil mechanics. He's currently in Sacramento and I have his address, if any of you care to consult with Dr. Cedergren. He is by no means the only expert that I have utilized but I think that his book -- it is widely used in universities and engineering schools.

Now the slides that I have proposed to show tonight are all from a rather small area. The Gulf Coast of Texas. Primarily these are from the Galveston Bay. Well, I would say they are all from Galveston in the West Bay, the Houston Channel and an area designated as

Bayport, which is eastward extension of the Houston Channel.

The slides, most will be in a color reversal. For those of you that are unfamiliar, I might just very briefly explain the process of looking at an infrared film. Infrared is the film that was developed by Eastman in World War II for air reconnaissance. In utilizing its emulsion you use a minus blue filter which will cut out the ultraviolet, the violets and the blues. And depending upon the filter that is used, you may edge into cutting some green.

Now the advantage of using this emulsion in pollution detection work is several. One is that you have eliminated the troublesome shorter wave length of light. And the usual fuzziness, particularly in aerial work that would come from reflected light off of moisture.

The other great advantage is that you do go into the invisible spectrum, into about 900 dedometers. Now I have utilized film that went much further but I'm not exhibiting that here tonight. I speaking of rays that almost go to the radio wave length. That type of emulsion has to be used with liquid nitrogen.

This emulsion is common. I have used it in medicine and I have used it in forestry work. The basic principle that you need to bear in mind is the reversal of color. Anything that is blue will appear black because we have filtered out blue. Now anything that is blue --

well, we're getting into chemicals here. Let's say that anything that is red will appear green. And anything that is green will appear blue with all the gradations.

The one thing that you might most bear in mind is that polluted water, either by dissolved or suspended material or simply by a lack of oxygen, will appear milky. Now you will see vegetation here but it's quite red. That is healthy vegetation will be the color of this rug. We call it magenta. That is the chlorophyl. Now the damaged or stressed plants will appear in various shades of yellow and brown and this is important from the point of view of tracking pollution.

Now I'll be glad to explain as we go along. We will be looking at things that don't make any sense here in a few minutes, because of exotic chemicals. For example now, a spigot of water out of a treatment plant, if it's working right, should be black. Healthy water will be black. Polluted water will be white. I may be telling you something you already know here.

Let's go on to some of the slides now and we'll have the rest of the lights out now, if you will.

CHAIRPERSON DARRAH: We have allowed Dr. Parker to show these slides. He has promised us they are exhibits. He will supply us a copy within the time the record remains open.

DR. PARKER: I will give them to you tonight.

The kodachrome slide, this is not color reversal. This is a picture of the Houston Channel.

This first slide is presented merely to give you a comparison between kodachrome and the infrared which will follow. I would call to your attention in the Houston Channel, the containment pond that I'm concerned with.

You will note there immediately adjacent, directly adjacent to the Marine Waters of the United States. In the channel alone there are well over 100 of these. And as we go on down the coastline of Texas to the south, we find even more.

This is simply another one showing that even without the use of infrared, you will note the wastebed here creating a line. You may argue that that's something else but I will show you very clearly that that is, in fact, sewage from an earthen land.

This is again just another visual spectral film showing the multiplicity of waste containment ponds on the Houston Channel.

Now we go into the main usage that I have made in many aerial reconnaissance missions in flying a plane in the channel of the entire Gulf Coast of Texas.

That is a spill -- not a spill. That is an illegal discharge. I think it was visible to the unaided-

eye. This black would, as I have told you, be blue if the eye could see it. This water here is channelled, part of the Houston Channel or some add mixture with whatever is being done. And there is a pond source here and I observed it over two hours in circling over.

Now the water in the channel, and I call your attention, has a murkiness, milkiness. If it was a healthy water it would be black.

This is just another shot showing the proximity. There is the channel. Here is your containment pond, another pond there. These dikes are levies between them, may not be more than 10 feet.

You can see Houston in the background. This is the battlefield monument, a portion of channel back here and within a few yards of the monument we have waste contained in the ponds. This is the reflection pond there. These are ones that have been built in the surrounding area. And now for the first time I'd like to show you what a stress plant looks like in infrared.

Those have more of random color and that's because of the season of the year. In the springtime this would have been more of a yellow.

Out here on the freeboard or levee, you will see the chlorophyll response, which is a magenta and those plants are healthier.

Now in here you must bear in mind as winter comes on some trees shed and you will have that picture from the wintertime on many of the trees.

The value of aerial reconnaissance I think is well defended here. This is a little channel that goes into the Houston Channel. That's called Vince Bayou. That particular channel runs out to the international airport. Where it divides in two.

You will note here someone is letting a stream go. Now that is very characteristic, whether it is municipal or whether it's industrial, it will have that look. If that were treated water it would be black.

Now we're getting into the question, you might say, is this a healthy body of water? Well, that Vince Bayou is polluted at that point. And you might see here the little containment pond. You can see three in this picture. They are only separated by inches. The water moves freely in and out and I would be happy to go over with any of the panelists the engineering data, they will not work, they have never worked, they've totally polluted the Gulf Coast of Texas and that's why I'm here tonight.

This object here is the wing of the plane. I was using a wide angle lens so discount that object. This is another illustration along the Houston Channel waste pits and over there to that side you can see where

it is seeping in at the edge of the channel and if you can, perhaps, see from where you're seated, the vegetation along that ledge has the characteristics of dying vegetation. Now this will not be visible to the unaided eye, Infrared is the only way you're going to detect this.

In background, I might say this, that infrared does penetrate water about one foot. And that will vary a little bit depending upon the time of the year and infrarays of the sun. And for the first time, the temperature may have a little bit to do with it.

For those of you who are totally unfamiliar with this, this is not photography. It has nothing to do with any emission of infrared. It is primarily all reflectants of infrared.

There is the same spill that I showed you earlier. Now one of the ways of testing levies that should be done, bore holes in the levee and bore hole inside the proposed pond and one outside. Throughout this whole vast area of Texas I have, perhaps, five hundred slides showing what you can see very clearly, whatever this black material is on the infrared is coming out in a stream. This is called piking. And when you build a levee, as you must, from available materials, you build dissimilar styles and that is a very important consideration.

The permeability of the pike clay versus the

permeability of a sand or a calciferous material will vary into the billions. Now I want you to bear that in mind. And when you saturate a levee, and it's going to be saturated, either from tide rising -- and in that part of Texas we have some 1,300 tidal rises a year, you're going to saturate and every time it's saturated, you're going to have the more permeable material in essence melting. And your ball of clay will act like oricle. And this is the one thought I must leave.

This is just another example. I couldn't tell you what's in there but from my experience I think it's styrene. Probably vinyl chloride in styrene. I haven't matched a great deal of these chemicals but it's a very risky thing to do.

All right, here is the bayou I showed you with the illegal discharge. This is Vince Bayou or Little Vince, one. Now a very good illustration here of polluted water coming down in the little bayou. There are some 50 plants upstream and I don't know how I could show you better the characteristics of highly polluted water.

The remainder of this channel is not healthy. You can tell by this color there is chemicals. Now here again you can see seepage out of the whole saturated earth along the side.

I just guess this is just another illustration of

I guess we're advertising we have industries down there. Wherever you look you find these.

To this side is a portion of the channel and this is made with a telephoto lens. Incidentally I used in this work largely wide angle lenses and primarily light cameras and Nikons. The Nikon is excellent for this.

This material here reaches the water. It has some pollution and changes color somewhat.

On a flight, this is a flight in January. All of these were made in January, incidentally. I had observed -- I don't know whether you can see it or not, the barges are tied up there and we observed a barge spraying down. In water like this, it's not subject to much tidal action up here. Not as much as you get in the bay. The stream from a washed down vessel will be visible for some two hours.

That's just another exposure of the same thing.

I don't think that this adds a great deal except for the continued multiplicity of these earth containment ponds. You can see them back in here and you can see the dead construction of the plants which is indicative of their seepage. And of course you always find the material going in.

To the left you can see the ponds that are right

at the water. They are all leaking.

Now I don't recall the precise distance from the water that your guidelines proposal stated. I think it was 75 feet. It might have been more.

But my point, gentlemen, is that wherever you put them you are going to have them seep into the underground water and you're going to have them seep into any adjacent water because the first thing you have, wherever on the Gulf Coast, you have stratification. You have the first two or three feet of muck and then you have a sandy, a calciferous and down to clay.

Now these materials, like water, will travel along these interfacings between varying types of soil. Incidentally, in this area, which is near Bayport, the entire shallow underground water, the entire bay is polluted. We had the same thing in Galveston. The water at 26 to 32 or 33 feet, wherever you have a waste pit, is all polluted.

Now the great question that concerns us in that area of the country, we're trying to go to overground water supplies. We're still in many places dependent upon well water and the prospect that we look at today is that this pollution of the shallow layers will go down to the Algoa Sands or the Evangeline Cistern which is some 600-700 feet down. There is no reason why

it will not reach there and then the entire underground water supply of the largest industrial area of the United States will be gone. And I don't know how far away we are but we're down to 32 feet deep now.

The primary evil is the erroneous concept that someone might have that you can contain anything in an earthen pond.

That is more pollution out of another bayou and I didn't identify it. These are all in the Houston channel. If you look with care you can see the skyline of Houston in the background.

I said there were 100 of these things. There must be 300. This is a vast area. Here is one over here. You see the stress. There isn't any vegetation all around it. This is the simplest way in the world to detect pollution.

I don't think that shows anything essentially that we had not seen before. Just another shot. You can go upstream here, a whole complex of these things, and see where they were going. And I might add that this is a major dogfight in the state of Texas in which I have been involved for now some 30-odd weeks and we're resuming the fight on Tuesday. And I'd like some of you to join me in Austin.

I would tell you quite frankly it is very unlikely

the state of Texas will ever allow this, whatever the guidelines are here. Because we've had Court rulings recently and this past year from our own Court that in regard to pumping underground water, that the people, and we're now talking largely about these industries that you've been looking at, must be responsible for their damage. And that's where it went on to recite just what we've seen in the Love Canal area, industry. We're talking about chemical. Industry is responsible for its spill waters. And one of my great concerns in these guidelines is that there should be some effort on the part of the Federal Government to shield industry.

And I will tell you that Texas will not apply because we've already had a ruling to the effect and the people who are pumping underground water and further siting, and this whole area has undergone perhaps three to five feet of subsidence. Those industries that continue that are now paying. And industries that will pollute with these earthen built things are going to pay.

This is more of a panorama shot. Here is an open pollutant. This is again near the monument. And wherever you look you can see it streaming into the water. This isn't a waste containment pond but it's seepage from somewhere back of the plane. It will all seek its own level just like water.

This is at Bayport, a Gulf Coast waste disposal authority they have in Texas -- a facility in Texas also. I think if you had to pick the one major polluter in that part of the state of Texas, they have polluted, I suppose, more of the bay than any other single entity.

Well, this is a good picture here of a totally polluted -- this is a little basin for boats to put in being polluted. Several of these containment ponds have concrete around the outer portions. Incidentally, I don't think concrete will work either. You can move gasses through concrete, you can move water through just about as readily.

Now we come back again to the kodachrome as the eye would see it. This is again, in my opinion, a number one polluter. This is a treatment facility. One of the things he has done in our area is bubble air through waste materials and these are solid wastes, Class I toxic hazardous materials, on the idea that he may have either aerobic or a fibel type of degradation. Some of it may exist but in this particular facility, they are taking in, perhaps, 4,000,000 gallons and they have discharge point there back of that barge. And I made three flights. There are two barges there. The barges are being fake loaded. The material is being pumped out the back end. Those barges have a designated destination

of 1,000,000 gallons a day down in the mine area.

We're still on kodachrome. Even on kodachrome you can see -- and this is Vince Bayou again. You can see the contents of this Gulf Coast waste pouring right on out into the Bayou. That's unusual to see it that clearly.

I would again call your attention to the barge, and that's the subject of the current hearings in Austin. Illegally, totally illegally discharging. There are two of them. As you will see in a moment.

That's just another view. I don't think that adds anything new.

Now you can see the two barges and on another film at the other end, you will notice another one discharging.

Now in three successive missions covering 32-days period, this situation was constant. That Agency, under the present state law, has a political immunity. And I know a lot of people don't like to listen to political things but it was created by an Act of Legislature. The executive director, former campaign manager of United States Senator Tower, the President's campaign manager and fund raiser for Senator Schwartz. The assistant man, Joe Teller, appointed by a former Governor of Texas and so they have license to do anything. And this is what we are looking at. And this is the name of the game in Texas.

Now in this particular one you can see the blue. I couldn't tell you the outfit. I have no idea, but those barges are permitted on the destination site. They were headed for 1,000,000 gallons a day. Or about -- rather 480,000 each.

We're still on regular color, put on a telephoto lens. They are a little bit better in finding them. This is an unusual circumstance. This is the current rule in Texas. Now I have called the attention of the Coast Guard and Dallas EPA. Of course the Texas Water Commission would have nothing to do with it. There isn't a Federal Agency nor a state agency that will make one move against this type of thing. And this might be very discouraging to some of the young people in this game. It doesn't bother me that much. Here is their NPDS discharge.

I'm not going to bore you with what the bottom seven samples revealed, but I will tell you that they run' the whole gamut of chemistry.

Now we're into the infrared. Actually infrared didn't help us a lot here but it will get better -- little bit better delineates the discharge, illegal discharge of the barges. Now a good contrast. This water here is discolored by the various chemicals that went into it. The other water is just a good example of pollution.

On the second flight, which was in January, they

were putting out for their normal permitted area, an accelerated amount. I don't know whether that's permissible or not. But with this going on in Galveston Bay, the Governor, ex-Governor, recently declared it a disaster. It is the largest bay on the whole coastal United States. The largest in our state. It's the second bay to be so declared a disaster and not usable for many purposes, including dragging. The oysters I have examined here are highly contaminated with chromium, cadmium, lead, to name just a few of them. And the contaminents in the crabs and oysters parallels pretty well what the stream analysis from the various industries will show.

Well, that's just another one with the infrared. I don't know that you need all of it but you're welcome to it.

This is coming on down toward Galveston. If you've ever been in that area, it's dividding line between Harris County to my right and Galveston County to the left. I present this slide really to show what an incoming tide looks like and the contrast as it moves the accumulated polluted water out of the way.

Now on this particular day, we had a bad winter there. The chill factor in that area that day was 11. The highly polluted little bayou coming back in there, I think you can see. The municipal discharge outfit is here. The homes down in there, most of them do not have a tie-in

and you can see the pollutants moving into the water. Now as the tide goes in you can see it pushing it all up into the clear lake. On up into Clear Lake, well, you're only a mile from NASA at this point. Some of you might have been there. Portions of this volume of water is going into the NASA area.

This is simply another shot showing what the tide does. That's a great dream of most polluters, that the tide will exchange it. Now I think I have one as the tide moved out on a successive shot there.

Yeah, this is one as the tide was beginning to leave.

You will note that in these areas you have had exchange fresh water and you can still see the fresh water moving out in a clearly dilineated line there.

That's just another shot made of the same area. I might point out that infrared and you buy a carton of 20. And the batch is, one or the other will vary, although the relationships colors remain the same. This film has to be kept in the deepfreeze and you really cannot load or unload it in light. You either need a darkroom or use a changing bag.

We still have a lot of green trees in the winter-time in Texas, as you can see. Up in those areas they are quite healthy.

That's just another showing the tide coming in a little more.

Some of you might wonder is this is shallow water. I'll tell you, I fished in this area a lot. Water out there is eight or nine feet deep.

Now you might see NASA. This little bayou here went on out to the space center.

This one came back to my old friends, the Gulf Coast Waste Disposal people. We're now down on into Galveston's West Bay, swinging around to the south. Texas City is another highly industrialized spot and this pond here is Union Carbide, the Texas Division. I thought it was interesting in that whatever that material is, you can match it coming out into the water.

But we had an incoming tide and I want to show you a little bit what happens. This is a lake known as Swan Lake. Now the water moves in and it will follow the path of least resistance. You'll see the clear water following the perimeter of that little lake and the polluted water remaining in the center.

In this channel here is a small manmade channel going up to Highway 146. The tide is beginning to move in. It is tracking material from here and here. And I think I have some showing you what happens on an outgoing tide.

That's just another one of essentially the same thing. The tide is now moving out. And you can see the polluted pattern. Incidentally, for stress on plants, you see that all through this area and over the other side as well.

This stress on plants is one of the most valuable things that you can do, I guess. One of the many ways indirect. We use it in Texas analyzing cotton fields and fruit orchards.

That's another one of the same thing. The discharge point of that facility is there. And you can -- at the end of this channel and you can note the highly polluted water. In that area, I found levels of chromium, cadmium and lead. Some 15 to 20 times above the allowable in shellfish. And of course the bay has been closed to shellfish. By now since the crabs in that area, it's even worse.

The big question that's in Texas now is, "When can you reopen the Galveston Bay complex?" And this is the subject of many controversies. Great many people are out of work, the commercial men, the sportsmen and the monkey is now on the back of the Legislature. And some of us may hang it around our new Republican Governor if he doesn't wish to act.

CHAIRPERSON DARRAH: Can you tell us how many more slides you have?

DR. PARKER: 15.

CHAIRPERSON DARRAH: Let me just make one comment. We have asked people in general to limit themselves to about 10 minutes. A lot of people have been pretty good about that and I take it that you do want some time to discuss.

DR. PARKER: Well, I will hurry through the remainder. I think it was about 15.

CHAIRPERSON DARRAH: O.K., if you would particularly contain yourself to what you think is going to be relevant to your comment on a regulation.

DR. PARKER: All right. Well, this is all relevant to the earthen ponds. Everything you've seen here, these containment ponds have been built of earthen materials. And that is the subject. All right, let's move on.

Here is the Gulf Coast Waste facility at Texas City, aereated, here is the polluted water outside. Highly polluted. You can see the stress on the plants here. This is the way it is in the summertime.

This is the same site on a different day. Looking to the east. Galveston Island is in the background. That long thing right there is the dike. I call your attention again to the highly polluted water here and here.

Well, I don't think that adds a great deal except there is a tide moving out. But here you spot it and of

course you see the aftermath of polluted water in the stress to damaged plants.

This is the Gulf Coast Waste facility looking at 146. I might point out the plants will pick up the materials just like an oyster or crab and then you've a different problem because, in fact, these are the chemicals that were in the water. Some of that vegetation is still alive, like this, more durable plants even though those out there, they are highly stressed.

I don't think that shows anything that you haven't seen before. You know that polluted water is the center of that little thing and dying vegetation wherever you look.

This is another waste facility built on the edge, the direct edge of our west plain. And these are the ponds without any levee. These are just dug. And there are four of them there and I don't think I need to tell you what's happening right here. There is an incoming tide there and you can see the stressed and damaged material.

Now similar to this part of Texas -- this authority in Texas, and this one in particular did not have a solid waste permit. This particular operator has only a deep well injection permit.

This is the same site. With a telephoto lens and you see the polluted water, stressed and damaged vege-

tation in an area and you can see the normal response.

That tells -- that is still another. The telephoto tells the story. The tide was moving into the channel here. You can see.

Still another. I don't think we'll pause on that. Well, that looks like one we've seen. Move on that, if you would.

Those are the same site. I held that in there because this thing is under heavy controversy in Galveston County. All right, move on.

That's the same thing with a different exposure and the tide beginning to move out at the time.

This is another light in our area, the water communities. They are built on marshes and trapped. These waters in here, while they are dark, the darkness is not from -- it is not a sign of health. That is trapped water and in most instances it is dead water.

That's another shot of the same thing except that we go into a municipal thing. They have a municipal treatment plant. I think that is called KeKe Island and here is a discharge point and here you go with the stream. Now this was an incoming tide. It doesn't track too well.

You can better see here the treatment facility and the channel over here is just white. And that was only

about 15 per cent filled up at this time with houses. That is next to Galveston Causeway. You approach the Causeway from the mainland.

This is a regular color film of where I live, about two miles from there. I'll show you one in kodachrome. These are containment facilities for oil and one way or the other the Texas coast will either have big deep ports or off-shore facilities and all ready. They were building literally hundreds and hundreds of storage tanks and the cur-- the storage tanks all have earthen levee around them and that's why I'm showing you this.

Now that's a backup view of the site that we just looked at which would be in here and that is a bayou. This is the Gulf Freeway running between Galveston and Houston. Now I think I have a telephoto lens for the next shot.

Get another one. Well, keep on.

All right, that's the one I was thinking of. This was made with a 135 milimeter lens at about 1,500 feet. But I want you to look at it carefully because I think it well illustrates for the hundredth time my view here.

This is where the oil that you saw in the telephoto was being trapped. It was strained into all of these. This is a railroad coming from Hitchcock over into

the industrial part of Texas City. The material has seeped right on through and right on out into the bayou.

Well, now you say you see some good vegetation. That's on the freeboard and it doesn't reflect here from the aerial shot but those things that are healthy are probably four feet above the level of the marsh.

Here is another water community, thanks to the Corps of Engineers. These are highly polluting with miles and miles of just water that cannot circulate. And for many years many of those spots there had septic tanks. The elevation there today was subsided. This is a minus. It is below sea level actually, as you can see in here. This whole area has undergone, at this point, about three feet subsidence. And even if you stopped all ground water, it just means it would retain it for over a decade. And I would say that it would be that you would look at five or six more feet of subsidence in all of this area. That is the mainland Galveston area and Harris County. Not so much on the Island.

Now to illustrate that community you just looked at as over 1,200 residences and some of them are up and down. There's probably 1,500-1,600 families with one small facility and you see what the output is. You can trace it on into the water. As a matter of fact I traced that last summer by air into the Gulf of Mexico and

it run, I think, for over 20 miles to get out beyond the lighthouse. It is always a billowy streak in the water. It's a lot more visible in the summertime than it is in the winter.

This is another shot of it and it doesn't add anything essentially to the last one.

Well, this is a little big lighter exposure of the same thing and of course it penetrates the water better. That water is -- I wouldn't want to guess what the DOT would be, but I will tell you that there are no fish in it. Some might wander in there by mistake. All right, move on.

Now this is the subject of some recent articles in national magazines and some of our state magazines. This is my town, LaMarque. This is, you might say, the Love Canal. This is the island. This was built back some twelve years ago without any permit. The water is only a few hundred feet from here. This is a confluence of roads going to Galveston and back to Houston. It contains styrene, chloride, kepon and I don't know what else.

That's how it will look, same scene, in infrared. This w s made in September. This vegetation -- very beautifully illustrates the stress along the shoulder of the highway, you have a healthy good response.

This is simply another one of the same thing.

Well, let's move on. That's just more stress plants.

These are ground level shots and you can't follow pollution at ground level as satisfactorily as you can in the air.

This is part of the Bay right here now.

Now these are some aerials and here the material goes to Texas and goes on up to LaMarque and my plane is over the Gulf Freeway going from Houston to Galveston. Here we can find the telltale stress vegetation and I want you to follow it. This was done also in September, that shot was. All right, let's move on.

Now a little further away, looking back toward Texas City and LaMarque, which is this view to the west, the material is from here seeping right on down following the power line and here you can trace it very well, the dying vegetation, and into Galveston's West Bay and with every moving tide you suck it in and out.

Now the Texas Department of Water Resources tried to get a bid to remove this and they advertised it for $5,000,000 and they have yet to have a taker. And I can understand why. And it's only 11 acres.

This is another shot made in the same direction showing the track of it, coming on down into the Bay. It has spread into the other outlying areas there. You have,

in these things, they totally saturate the mass of earth and the disaster of Galveston Bay will last for a long time even if you remove these sites.

This is simply another one. Showing more of Galveston Bay. The Causeway to Galveston is seen to my left. Straight ahead for 40 miles would be the city of Houston. You can see the reflectants values in this the same as you say, probably styrene and vinyl chloride, the same as you saw back in the pits.

These slides, here again now, is the subject of controversy that I have engaged in with the Texas Department of Water Resources since October. And this is a 1,400-acre site built south of Hitchcock, seven miles to the Causeway to the west and toward Freeport.

Now this is a dragline, red dragline. The barge canal, highly polluted. Here's Rockaway Lake. You can see the murky water. And I want to particularly call the panel's attention to this. I observed the building -- this is the last containment probably built. As it was built it filled with water. Here you have the marsh, itself. As they made it, the water comes up. Now they were borrowing dirt along the way. They had borrowed some there and it had not filled up yet. Possibly that had not filled up.

Now with stereoscopic negatives and I have some

those. I don't have them here. You can identify the height of that ledge inside that. I didn't calculate the ledge at Rockaway Lake.

This is a shot of the entire site -- no, that's back to Gulf Coast Waste.

This is a color, kodachrome, and not too much. You get a suspicion in that inside pond. This is an abandoned portion. It was abandoned as a result of some rather bitter fighting in 1975. But really without infrared you can see very little.

This is a better view of the Guiness site, an arm of Rockaway, another arm of Rockaway, an intercoastal canal that runs on down to Freeport and back to Galveston. I call your attention, this is shallow, about three feet deep. You can see the streets and polluted water, this bay not quite as polluted as that. Now also you will note where the barge canal enters the intercoastal there is a very sharp line of demarcation.

This is a close up showing varying degrees of stress, this canal being a hazardous yellow color under stress, some kind of water plant. You see water one color here, another color there. The entire mass is leaking just like a sponge.

Now we use the term infrared, exotics. These are some type of chemical matching closely to this. I

couldn't tell you what it is but these were simply termed exotics in the marine environment.

There is another shot and I want you to look very carefully. This is probably styrene and we will match it up with styrene inside as a color indicator.

CHAIRPERSON DARRAH: Doctor, we'll ask you to end your slide show now. If you'd like to offer us some comments. You've been going for 45 minutes or longer, longer than anybody in here.

DR. PARKER: We only have two more I think.

CHAIRPERSON DARRAH: All right.

DR. PARKER: This would be sufficient to match the styrene, if you can see it inside now with what we were observing outside. And you can see in the background.

I appreciate the time you've given. It is a big subject and I would be happy to answer any questions here or possibly there's some of you that may be interested to provide you with slides. I have some 400 of these and we have only tonight here touched very lightly upon it. Sort of a handle preview.

CHAIRPERSON DARRAH: Can the slides be numbered for us in the order in which they were shown here tonight before you submit it, please?

DR. PARKER: All right, I will do that.

I would be happy to go over any of this at length

while I'm up here in St. Louis or if any of you people are in the Houston area. I would particularly like for some of the panelists to visit in Austin where we are -- we are in no great hurry there. Hastiness might have been the sin in the past and I think at this point I have some 60 hours of recorded testimony that is going on yet and will be starting again for eight hours on Tuesday.

And we're going to fight this out in Texas. I don't know whether the problem is this bad anywhere else or not.

CHAIRPERSON DARRAH: Do you have any comments specifically on our proposed standards under Section 3004 or one of the other sections?

DR. PARKER: Well, I must apologize in that I read the sections hurriedly. What I gathered from reading it is there was a regulation on how far back from a water's edge impoundment would be located.

Now I did not gather that there would be any requirements for specific testing, which should be done as you build an earthen bank, whether it's a dam or anything else or all levies.

Now I may be mistaken because it is a big volume. They call it the Bible in Texas. I could easily have overlooked the requirements that I would have put in, standard engineering requirements as you build it and

the testing of it that must go along and the borings and the soil prior to building, this book by Dr. Cedergren and Dr. CasaGrande and Kerzage. They clearly point this out. They point it out at every conceivable way and I'd be happy for anyone that's interested technically to go over the engineering of these men.

CHAIRPERSON DARRAH: O.K., I have one other question or comment for you. You have referred to this book. If you write down for the court reporter the title and the spelling of the author's name, that would help them out. Not right this minute but before you leave.

DR. PARKER: All right, it is on that document I submitted. I submitted the front sheet and the acknowledgements. This is a part of the copyright agreement.

CHAIRPERSON DARRAH: O.K., thank you.

I will ask the panel members if they have any questions.

MR. LINDSEY: I would just like to ask Dr. Parker, if he would, to take a look at the proposed regulations which we have for surface impoundments and so forth, and tell us, you know, if he has any problem with those relative to his experience with the construction of some of the lagoons that you have indicated have been problems through your work.

In other words, if some of those lagoons which

have caused problems would meet our standards then I guess we would like to know that. Frankly we think these standards will do the job. That's why we've got them in there that way. But if you would take a look at them--

DR. PARKER (interrupting): I will, I will read them in detail and I will write and submit to you -- I hope we're not on the deadline that I heard awhile ago. I'm preparing a critique of the entire proposals.

CHAIRPERSON DARRAH: O.K., the commentary closes March 16.

DR. PARKER: March 16, I can get it done by then.

CHAIRPERSON DARRAH: All right, thank you.

MR. ROBERTS: Dr. Parker, you introduced as an exhibit a list from the Texas Water Quality Board, Solid Waste System.

DR. PARKER: Well, that's a misnomer today. They abandoned that agency. The umbrella agency is the Texas Water Commission and specifically under that is Texas Department of Water Resources which would have concern with the solid waste, toxic and hazardous materials.

MR. ROBERTS: Well, my question is why did you introduce the list?

DR. PARKER: The list was introduced because of the ill-defined content of the material. Chemically, for

many of those designations, you could not determine in any manner what you -- you have determined the source of the material but not the identity.

MR. ROBERTS: Well, I just took one at random, sir, because I assume that some of this material will end up in my public docket, also, and I may be asked some questions about it. One of the entries on here is corn.

DR. PARKER: Corn?

MR. ROBERTS: Are you alleging that this is a hazardous waste?

DR. PARKER: Anything that would demand oxygen from water, and we're talking about a marine biological point of view, it is a marine hazard so far as marine environment goes. Now of course that's unusual to find corn in there but it would, just like barnyard manure in large quantities can deplete the oxygen supply of a shallow base.

MR. ROBERTS: Well, I just picked that one at randome. There's many more like that. I just want to get clear what the purpose is you're introducing this, sir, are you going to let us figure out what's wrong with this list?

DR. PARKER: Well, it does not define. For example, you will come across tank bottoms, designation of material, tank bottoms. And I have another list out of

a computer from that department that many, many gallons designated as comingled wastes. Well, this really doesn't tell me anything.

CHAIRPERSON DARRAH: Dr. Parker, how do you find that relevant to our proposed regulations? I think that's what Mr. Roberts is getting at.

DR. PARKER: I say the relevance that I see is this, and we're beginning in Texas, the industries are being required to define their waste streams. There is a problem witn infringing upon secrets and so on, however, in view of the legal problems involved, and they are now beginning to computerize the waste streams as they leave the plant. And I think this is an essential thing. If you're going to poison someone, for example, in our area, the Bay area, we have a higher leukemia rate among children than anywhere else in the United States. We have the highest cancer incidence overall in Harris and Galveston Counties. And in the last year we've had the highest incidence of abortions, spontaneous abortions, in women. And there's a lot of tie-in with such things as chromium, cadmium and lead. And we're not even mentioning the thousands of organics.

And I would certainly want to see in these guidelines the requirement by industry to define -- and I didn't say, "Jump in and tell us how we're going to get rid of it."

MR. ROBERTS: Doctor, I still don't think you're getting my point. What do you want us to do with this list? Look at it?

DR. PARKER: I just submitted it for inspection to show you what one state is doing, merely what one state--some of that's good and some of that's bad. It's not meant as a model and it's not meant to be destroyed, either. And I think we've come a long way in doing what we have done.

CHAIRPERSON DARRAH: O.K., if you would, in your comments characterize it. If you've used it as an exhibit, characterize what you think is good and what you think is bad and what would you have us use? That's the type of information.

DR. PARKER: All right, I certainly will.

MR. FIELDS: Two questions. One was we've had in our regulations -- you might not have seen it yet, a natural design option, natural for surface impoundments. You specify ten feet, seven, so did I understand your statement to say that you are against natural surface impoundments? Or just certain types of natural design impoundments? We allow a design of 10 feet of a natural, permanentability and so on as one of the design alternatives or surface impoundments. And you didn't indicate anything about the designs of the various impoundments.

DR. PARKER: Specifically the last slide that you looked at, that were built to a 10 to the minus 3 or 10 to the minus 4. Now the tests were performed upon all the clays from 25 feet down. Southwest Lab took some clay and issued a permanentability on it and said, "If the building is out of this, you will have such and such seepage." And of course they didn't say anything about putting an old muck on top of the muck. And when you build anything of dissimilar materials, you are going to have 100 per cent failures. And these impoundments that you've been looking at for an hour are built out of whatever was available on-site and they all have failed.

And I believe myself, and this is the debate of Texas, whether or not these can ever be allowed. Because we're looking at a serious economic loss.

MR. FIELDS: Were any of those impoundments of something similar to 10 feet or 10 minus 7 permeability with some of the impoundments?

DR. PARKER: Well, I don't know what the engineering data would indicate but I would tell you that the soil on the Gulf Coast of Texas is a ripple. It varies a lot from one hundred feet to another. And it all is essentially on top, muck soil, mucky, highly pourous, goes into sand and then into calcarious and then into pockets of sand and in clay. And it would be impossible on

the Gulf Coast of Texas to build a levee that would contain anything. Now on top of that, you don't have a key in down to solid clay. And when you did down as far as these ledges were built, you have another problem. You're in the first ground mark. I don't think that they should ever be permitted one and I'd be happy to spend a lot of time and go over this to any extent. They should not ever be permitted. We have ruined millions and millions of dollars for the Bay and destroyed the ground water in that area just by this type failure. I'm a physician but I do understand this much of the engineering. I hate to be dogmatic but I would say they were all failures.

MR. FIELDS: You mean all the ones in Texas?

DR. PARKER: I think if you could go to someplace where you do have a continuous run of a type of clay, I wouldn't say that that hasn't existed in the country and in Texas but not on the Gulf Coast.

MR. FIELDS: Second question: What do you mean by polluted water?

DR. PARKER: I didn't hear your question.

MR. FIELDS: How do you define polluted water?

DR. PARKER: Well, let -- you mean as far as infrared goes?

MR. FIELDS: Yes.

DR. PARKTER. It will have a characteristic light

color in contrast to a nearly black, a healthy water and it can be due to suspended, dissolved, or just from plain They test water containing essentially no oxygen and it will give the same appearance as if you had some suspended material. And of course the extent of these things will give you a degree of color there.

CHAIRPERSON DARRAH: Thank you very much.

Is there anybody else who wants to speak on the Section -- any of the Subtitle C regulations?

(No response.)

CHAIRPERSON DARRAH: O.K., we will close this evening's hearing. We will reconvene tomorrow morning at 8:30 to receive comments on Section 3004.

Thank you very much.

(Whereupon, at 10:00 o'clock p.m., Thursday, February 15, 1979, the public hearing in the above-entitled matter was adjourned until 8:30 o'clock a.m., Friday, February 16, 1979.)

C E R T I F I C A T E

This is to certify that the attached proceedings before: Environmental Protection Agency

In the Matter of:

Public Meeting on Improving Environmental Regulations

Place: St. Louis, Missouri

Date: February 15, 1979

were held as herein appears, and that this is the Original transcript thereof for the files of the Department.

Bernice M. Jackson Reporting Co.
1139 Olive Street Suite 310
St. Louis, Missouri 63101

UNITED STATES OF AMERICA

ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

Public Meeting on Improving Environmental Regulations

Main Ballroom,
Breckenridge Pavilion Hotel,
One Broadway,
St. Louis, Missouri,

Friday, February 16, 1979.

The public hearing in the above-entitled matter was convened, pursuant to adjournment, at 8:30 o'clock a.m., Dorothy A. Darrah, presiding.

BEFORE:

PANEL

DOROTHY A. DARRAH, Office of General Counsel, EPA, Washington, D. C., Chairperson.

AMY SCHAFFER, Office of Enforcement, EPA, Washington, D.C.

JOHN P. LEHAMN, Director, Hazardous Waste Management Division, Office of Solid Waste, EPA, Washington, D.C.

ALFRED LINDSEY, Chief, Implementation Branch, Hazardous Waste Management Division, Office of Solid Waste, EPA, Washington, D. C.

TIMOTHY FIELDS,	Program Manager, Hazardous Waste Management Division, Office of Solid Waste, EPA, Washington, D. C.
CHET MC LAUGHLIN,	Solid Waste Branch, EPA, Kansas City, Missouri.
RON DEXTER,	Desk Office for Financial Department, EPA, Washington, D. C.

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P R O C E E D I N G S

MR. LEHMAN: Good morning.

I would like to begin the hearing today, please.

My name is John Lehman. I'm director of the Hazardous Waste Management Division of the EPA, Office of Solid Waste, Washington, D. C.

On behalf of EPA, I would like to welcome you to the public hearing which is being held to discuss the proposed regulations for the management of hazardous wastes. We appreciate your taking the time to participate in the development of these regulations which are being issued under the authority of Resource Conservation and Recovery Act, better known as RCRA.

The EPA, on December 18, 1978, issued proposed rules under Section 3001, 3002, and 3003--excuse me--3004 of the Solid Waste Disposal Act, as substantially amended by Resource Conservation and Recovery Act of 1976, Public Law 94-580. These proposals also respectively cover, first, criteria for listing hazardous waste and identification methods and hazardous waste l i c e n s e, second, standards applicable to generators of such waste for record-keeping, labeling, using proper containers and using transport manifests, and, third, performance, design, and operating standards for hazardous waste management facilities. These proposals, together with those already published pur-

suant to Section 3003 on April 8, 1978, Section 3006 on February 1, 1978, Section 3008 on August 4, 1978, Section 3010 on July 11, 1978, and that of the Department of Transportation pursuant to the Hazardous Materials Transportation Act on May 25, 1978, along with Section 3005 regulations pertaining to facility permits which have yet to be issued, yet to be proposed, constitute the regulatory program under Subtitle C of the Act.

This hearing is being held as part of our public participation process in the development of this regulatory program.

The panel members who share the rostrum with me are, from your left, Chet McLaughlin, of the Hazardous Waste Management Section, Hazardous Materials Branch, Region VII, Kansas City; Amy Schaffer of our Office of Enforcement, EPA headquarters in Washington; Dorothy Darrah, Office of General Counsel, EPA headquarters in Washington; Fred Lindsey, Chief of our Implementation Branch in the Hazardous Waste Management Division, EPA headquarters in Washington; and Timothy Fields, program manager in the Assessment and Technology Branch, the Hazardous Waste Management Division, EPA headquarters in Washington.

As noted in the Federal Register, our plan again is to cover Section 3004 today. The comments received at this hearing and the other hearings, as noted in the Federal

Register, together with the comment letters we have received, will be a part of the official docket in this rulemaking process.

The comment period closes on March 16 for Sections 3001 through 3004.

This docket may be seen during normal working hours in Room 2111D, Waterside Mall, 401 M Street, S. W., Washington, D. C.

In addition, we expect to have transcripts of each hearing within about two weeks of the close of the hearing. These transcripts will be available for reading at any of the EPA libraries. A list of these locations is available at the registration table downstairs.

With that as background, I would like to lay the groundwork and rules for the conduct of this hearing.

The focus of the public hearing is on the public's response to a regulatory proposal of an agency or, in this case, agencies since both EPA and the Department of Transportation are involved.

The purpose of this hearing, as announced in the April 28, May 25, and December 18, 1978, Federal Registers, is to solicit comments on the proposed regulations, including any background information used to develop the comments.

This public hearing is being held not primarily

to inform the public, nor to defend a proposed regulation, but rather to obtain the public's response to these proposed regulations and thereafter revise them as may seem appropriate.

All major substantive comments made at the hearing will be addressed during preparation of the final regulation. This will not be a formal adjudicatory hearing with the right to cross-examination. The members of the public are to present their views on the proposed regulation to the panel, and the panel may ask questions of the people presenting statements to clarify any ambiguities in their presentations. Some questions by the panel may be forwarded in writing to the speaker. His or her response, if received within a week of the close of this hearing, will be included in the transcript. Otherwise we will include it in the docket.

The Chairman reserves the right to limit lengthy questions, discussions, or statements. If you have a copy of your statement, please submit it to the court reporter.

Written statements will be accepted at the end of the hearing. If you wish to submit a written rather than an oral statement, please make sure that the court reporter has a copy. The written statements will also be included in their entirety in the record.

Persons wishing to make an oral statement who have

not made an advance request by telephone or in writing should indicate their interest on the registration card. If you have not indicated your intent to give a statement and you decide to do so, please return to the registration table, fill out another card, and give it to one of our staff.

As we call upon an individual to make a statement, he or she should come up to the lecturn, identify himself or herself for the court reporter, and deliver his or her statement. At the beginning of the statement, the Chairperson will inquire as to whether the speaker is willing to entertain questions from the panel. The speaker is under no obligation to do so, although within the spirit of the information-sharing hearing, it would be of great assistance to the Agency if questions were permitted.

Our day's activities, as we currently see them, appear like this: We will break for lunch at about 12 o'clock and reconvene at approximately 1:30. Depending on our progress, we will either conclude the day's session in the afternoon or continue on through dinner if there is need to do so.

Phone calls will be posted on the registration table at the entrance, and restrooms are located outside this room directly ahead.

If you wish to be added to our mailing list for future regulations, draft regulations, or proposed regula-

tions, please leave your business card or name and address on a three-by-five card at the registration desk.

Section 3004 addresses standards affecting owners and operators of hazardous waste treatment, storage, and disposal facilities. These standards define the levels of human health and environmental protection to be achieved by these facilities and provide the criteria against which EPA or state officials will measure applications for permits. Facilities on a generator's property, as well as off-site facilities, are covered by these regulations and do require permits. Transporters and generators do not otherwise need a permit.

EPA intends to promulgate final regulations under all sections of Subtitle C by December 31, 1979. However, it is important for the regulated communities to understand that the regulations under Section 3001 through 3005 do not take effect until six months after promulgation. That would be approximately June of 1980. Thus, there will be a time period after final promulgation, during which time public understanding of the regulations can be increased; and during this same period, notifications required under Section 3010 are to be submitted, and facility permit applications required under Section 3005 will be distributed for completion by applicants.

With that as a general summary of Subtitle C and

the proposed regulations to be considered at this hearing, I return the meeting to the Chairperson, Dorothy Darrah.

CHAIRPERSON DARRAH: Thank you.

I hope that my beginning this morning is not an indication of how this day is going to go. My 6 o'clock call had not come by 7:30, and I went to get some coffee, and this person was sitting there telling his friend that this was going to be four inches with no accumulation. So that was slightly distressing to hear. But I'm sure you all have very interesting things to tell us about our 3004 regulation, so why don't we start on that.

Mr. W. A. Schimming of CF Industries.

STATEMENT OF W. A. SCHIMMING

MR. SCHIMMING: Good morning.

I am William A. Schimming, director of environmental affairs for CF Industries' Florida Region. CF Industries, Inc., is organized an an interregional cooperative and is owned by 19 regional farm supply cooperatives in the United States and Canada. These 19 regional co-ops serve a market area including 1.5 million farmers.

CF Industries is a major fertilizer producer in the United States and during 1977 distributed 7.2 million tons of fertilizer directly to member companies. The proposed hazardous waste management guidelines and regulations, if promulgated as final rules, would impact CF's phosphate

fertilizer production facilities in Central Florida.

Ever since October 1977, CF, with the assistance of The Fertilizer Institute, has attempted to provide meaningful input to EPA in its development of solide waste management regulations. For example, in February 1978, Messrs. Alan Corson and Harry Trask visited CF's Bartow Phosphate Complex. We have appreciated these opportunities to relate our current phosphate fertilizer waste disposal practices.

The phosphate industry wastes--overburn, clays, tailings, and gypsum--are not hazardous in the ordinary sense of hazardous waste characterization. Apparently EPA has recognized this to some extent in that the Agency has not listed radiation as one of its Section 250.13 criteria. As noted by the Agency in the preamble to Subpart D, Page 58991, and I quote:

"The limited information the Agency does have indicates that such waste occurs in very large volumes, that the potential hazards posed by the waste are relatively low, and that the waste generally is not amenable to the control techniques developed in Subpart D."

CF agrees that any potential hazards posed by phosphate mining and processing wastes are indeed relatively low. In fact, it is quite possible that after a thorough analysis is conducted by the Agency pursuant to its Advance Notice of Proposed Rulemaking on the identification and

listing of hazardous waste, it will be concluded that such wastes are not hazardous. Should this be the conclusion, we believe EPA should delete such wastes from coverage under Subpart D.

As far as the present proposals are concerned, however, we believe that our industry would be over-regulated by the rules proposed in Section 250.46-3 in at least two significant ways; past operating experience indicates that both the security requirements and the ground-water monitoring provisions should be modified.

The security requirements of Section 250.43-2 have been proposed as applicable to phosphate industry wastes; in particular, the use of a six-foot fencing and ingress control have been proposed. With regard to gypsum, this waste has been successfully managed and secured at our Bartow Phosphate Complex for 25 years and at our Plant City Phosphate Complex for 14 years without the six-foot fencing as required by Section 250.43-2(a). These plants are located in rural areas with sizeable company-owned buffer areas between public access and waste locations. It would be useless to require the same level of security for admittedly low-risk wastes and highly hazardous wastes.

It is stated in the preamble to these regulations that the Agency intends some flexibility in situations such as ours through its recognition as an alternative to fencing

and ingress control the use of a natural or artificial barrier capable of preventing the unknowing and/or unauthorized entry of persons and domestic livestock. We urge that the Agency also recognize the suitability of buffer zones in rural areas.

The phosphate industry's years of successful management of these wastes, along with the special waste categorization suggested by EPA, would appear to justify deletion of fencing and ingress control for phosphate industry wastes. To the best of our knowledge, none of those within the Agency responsible for drafting the special waste standards (Section 3004) for the phosphate industry wastes has ever visited a phosphate fertilizer complex or phosphate mine. We suggest that if they had, the security requirements would have been waived for the phosphate industry. We, therefore, invite the Agency to visit our facilities in central Florida to see firsthand that Sections 250.43-2(a) and (b) are not necessary for phosphate industry wastes.

Our interest in this matter is not academic. The costs of fencing and ingress control are significant. The following cost estimates in 1978 dollars have been developed for fencing and ingress control at CF's Florida Region facilities:

At the Bartow Complex, the cost of fencing and

ingress control would be $140,000 to fence approximately 670 acres. At our Plant City complex, the cost would be $105,000 to fence 650 acres. At our Hardee Phosphate Mine, the cost would be $1,200,000 to fence 18,000 acres.

These cost data clearly demonstrate that fencing and ingress control would require an excessive expenditure while providing no apparent benefits.

Our final point of concern with the proposed regulations is in the appropriateness of the groundwater monitoring, sampling, and analysis list. The minimum analysis list, as found in Section 250.43-8(c)(5), contains several parameters, the analysis of which would be meaningless for tracing groundwater contamination relative to phosphate waste disposal sites. A suggested minimum analysis list of nonhazardous tracers would consist of the following parameters: pH, phosphorus, fluoride, sulfate, and nitrogen.

The analysis of these parameters would be sufficient to detect groundwater contamination consistent with the goals of that section.

Likewise, the comprehensive analysist list, as found in Section 250.43-8(c)(6),contains several parameters, the analysis of which would be unnecessary. The suggested comprehensive list for phosphate industry groundwater monitoring would be those characteristics included in the minimum analysis, as I previously mentioned, and radium 226.

The establishment of the groundwater monitoring, Section 250.43-8(c), should take into account existing monitoring data. The monthly analysis for a period of a year seems excessive. Even where no previous groundwater monitoring history exists, quarterly analysis would seem to provide sufficient background information during the first year of monitoring for the phosphate industry.

To summarize our concerns on groundwater monitoring, the minimum and comprehensive analysis lists should be formulated to be specific for potential contaminants in the phosphate mining and processing industries. Also, there should be a certain latitude allowed in the rules such that the frequency of analysis is a meaningful schedule specific to each case in question.

We have limited our comments to two major points today--security and groundwater monitoring. We will submit a more extensive comment for the written record which will include other Section 3004 comments as well as Section 3001 comments. We would be pleased to discuss in greater detail our recommendations for groundwater monitoring and to demonstrate that present security provisions appear adequate for phosphate industry wastes.

We appreciate the opportunity to provide oral comment and stand ready to assist the Agency in developing workable waste management regulations for the phosphate in-

dustry.

Thank you, and I would like to answer questions if you have any.

CHAIRPERSON DARRAH: Thank you.

We would appreciate such specific suggestions for change.

MR. LINDSEY: I would like to address the security issue a little bit further if we could. In guess in including the security aspect in the special waste category here, our concern was with basically with unknowing, as you pointed out, access to these piles, which I believe we all agree are to some degree radioactive. The question is whether that radioactivity poses a hazard or not, and that is basically why this particular material is, one of the reasons why this particular material is a special waste, because it is low level, and the question is what real hazard does that pose. I guess our thinking was that we wanted to prevent, given that there is some--at least in our minds we're not certain of that situation--that we wanted to prevent the access of children and others from blundering onto these areas, and I think you recommended that perhaps a buffer zone was sufficient for that, or that we should allow other things, natural barriers or something like this. Could you expand on that, in other words, how much of a buffer zone is necessary to prevent children from wandering

around and climbing around on these piles and so forth, and what other kinds of things would we allow?

MR. SCHIMMING: Well, to set the risk in perspective, I think the Agency has made some statistical extrapolations, and they conclude that if somebody lived in a worst case situation for 70 years, their chance of lung cancer may double. So that kind of puts the risk into perspective. If I trap somebody on my pile for 70 years, I, statistically, may have that event. So that puts the risk in perspective.

Now, walking across overburden, really, I don't think you are going to know the difference between that and natural ground. You have to get to Florida to see. Being from the North, I don't go through those wild areas in Florida--everything just grows up; and if you leave something unmanaged for a couple of years, you get these scrub brushes and all kinds of things, and, believe me, between that and the rattle snakes and the wild pigs and everything, it just keeps me away from, you know, keep me in my neighborhood, so to speak. So you've got to get down there to see it, and then I think you can appreciate what we're saying, and I don't think you'll require us to fence all of that.

MR. LINDSEY: Following up on that, Mr. Schimming, the security requirements do have a note associated with them which says basically that natural or artificial bar-

riers capable of preventing the unknowing or unauthorized entry of persons or domestic livestock is a permissible activity. So from what your answer implied, or, in other words, the way I understood your answer is that the flexibility provided in the note would account for this type of solution that you had in mind, and that would not necessarily require changing the regulations.

MR. SCHIMMING: If the Agency recognizes that as being a natural barrier, we would recognize that the river on one side of our property would constitute a barrier. Whether just the grown-up weeds on the other three sides of it are acceptable to you, I don't know, and that's why I'm raising the point.

MR. FIELDS: My question was what constituted the barrier around your facility, and I guess I understand what it is now.

MR. SCHIMMING: It's just wild.

MR. FIELDS: O.K.

CHAIRPERSON DARRAH: I guess that's all. Thank you very much.

MR. SCHIMMING: Thank you.

(The document referred to follows:

(HEARING INSERT)

Section 3004 Comments

CF Industries, Inc.

February 16, 1979

I am William A. Schimming, Director Environmental Affairs for CF Industries' Florida Region. CF Industries, Inc. is organized as an inter-regional cooperative and is owned by 19 regional farm supply cooperatives in the United States and Canada. These 19 regional co-ops serve a market area including 1.5 million farmers. CF Industries is a major fertilizer producer in the United States, and during 1977 distributed 7.2 million tons of fertilizer directly to member companies. The proposed hazardous waste management guidelines and regulations, if promulgated as final rules, would impact CF's phosphate fertilizer production facilities in central Florida.

Ever since October, 1977, CF, with the assistance of The Fertilizer Institute, has attempted to provide meaningful input to EPA in its development of solid waste management regulations. For example, in February, 1978, Messrs. Alan Corson and Harry Trask visited CF's Bartow Phosphate Complex. We have appreciated these opportunities to relate our current phosphate fertilizer waste disposal practices.

The phosphate industry wastes - overburden, clays, tailings, and gypsum are not hazardous in the ordinary sense of hazardous waste characterization. Apparently, EPA has recognized this to some extent in that the Agency has not listed

radiation as one of its Section 250.13 criteria. As noted by the Agency in the preamble to Subpart D, page 58991, "The limited information the Agency does have indicates that such waste occurs in very large volumes, that the potential hazards posed by the waste are relatively low, and that the waste generally is not amenable to the control techniques developed in Subpart D." CF agrees that any potential hazards posed by phosphate mining and processing wastes are indeed relatively low. In fact, it is quite possible that after a thorough analysis is conducted by the Agency pursuant to it's Advance Notice of Proposed Rulemaking on the identification and listing of hazardous waste, 43 FR 59022, December 18, 1978, it will be concluded that such wastes are not hazardous. Should this be the conclusion, we believe EPA should delete such wastes from coverage under Subpart D.

As far as the present proposals are concerned, however, we believe that our industry would be over-regulated by the rules proposed in Section 250.46-3 in at least two significant ways; past operating experience indicates that both the security requirements and the groundwater monitoring provisions should be modified.

The security requirements of Section 250.43-2 have been proposed as applicable to phosphate industry wastes; in particular, the use of a six (6) foot fencing and ingress control have been proposed. With regard to gypsum this waste has been successfully managed and secured at our Bartow Phosphate

Complex for 25 years and at our Plant City Phosphate Complex for 14 years without the six (6) foot fencing as required by Section 250.43-2 (a). These plants are located in rural areas with sizeable company owned buffer areas between public access and waste locations. It would be useless to require the same level of security for admittedly low risk wastes (page 58948) and highly hazardous wastes.

It is stated in the preamble to these regulations that the Agency intends some flexibility in situations such as ours through its recognition as an alternative to fencing and ingress control the use of a natural or artificial barrier capable of preventing the unknowing and/or unauthorized entry of persons and domestic livestock. We urge that the Agency also recognize the suitability of buffer zones in rural areas. The phosphate industry's years of successful management of these wastes, along with the special waste categorization suggested by EPA would appear to justify deletion of fencing and ingress control for phosphate industry wastes. To the best of our knowledge, none of those within the agency responsible for drafting the special waste standards (section 3004) for the phosphate industry wastes has ever visited a phosphate fertilizer complex or phosphate mine. We suggest that if they had the security requirements would have been waived for the phosphate industry. We, therefore, invite the agency to visit our facilities in central Florida to see firsthand that Sections 250.43-2 (a) and (b) are not necessary for phosphate industry wastes.

Our interest in the matter is not academic, the costs of fencing and ingress control are significant. The following cost estimates in 1978 dollars have been developed for fencing and ingress control at CF's Florida Region Facilities.

Facility	Cost of Fencing And Ingress Control	Approximate Area Fenced
Bartow	$ 140,000	670 acres
Plant City	$ 105,000	650 acres
Hardee	$1,200,000	18,000 acres

The above cost data clearly demonstrate that fencing and ingress control would require an excessive expenditure while providing no apparent benefits.

Our final point of concern with the proposed regulations is in the appropriateness of the groundwater monitoring, sampling and analysis list. The minimum analysis list as found in Section 250.43-8 (c) (5) contains several parameters, the analysis of which would be meaningless for tracing groundwater contamination relative to phosphate waste disposal sites. A suggested minimum analysis list of non-hazardous tracers would consist of the following parameters:

1. pH
2. phosphorus
3. fluoride
4. sulfate
5. nitrogen

The analysis of these parameters would be sufficient to detect groundwater contamination consistent with the goals of that section.

Likewise, the comprehensive analysis list as found in Section 250.43-8 (c) (6) contains several parameters, the analysis of which would be unnecessary. The suggested comprehensive list

list for phosphate industry groundwater monitoring would be those characteristics included in the minimum analysis, as previously mentioned, and radium 226.

The establishment of the groundwater monitoring (Section 250.43 - 8 (c)) should take into account existing monitoring data. The monthly analysis for a period of a year seems excessive. Even where no previous groundwater monitoring history exists, quarterly analysis would seem to provide sufficient background information during the first year of monitoring for the phosphate industry.

To summarize our concerns on groundwater monitoring, the minimum and comprehensive analysis lists should be f ed to be specific for potential contaminants in the phosph ing and processing industries. Also, there should be a cer itude allowed in the rules such that the frequency of analys a meaningful schedule specific to each case in question.

We have limited our comments to two major points today -- security and groundwater monitoring. We will submit a more extensive comment for the written record which will include other Section 3004 comments as well as Section 3001 comments. We would be pleased to discuss in greater detail our recommendations for groundwater monitoring and to demonstrate that present security provisions appear adequate for phosphate industry wastes.

We appreciate the opportunity to provide oral comments and stand ready to assist the Agency in developing workable waste management regulations for the phosphate industry.

William A. Schimming
Director Environmental Affairs
CF Industries, Inc.
Post Office Box 1480
Bartow, Florida 33830
Phone: 813/533-3181

CHAIRPERSON DARRAH: Mr. Howard Chinn from the Environmental Control Division, Illinois's AG's office, is he here?

(No response.)

CHAIRPERSON DARRAH: Mr. Mark Cochran from Central Illinois Public Service Company.

STATEMENT OF MARK COCHRAN

MR. COCHRAN: My name is Mark Cochran. I am employed as a water quality engineer in the Environmental Affairs Section of Central Illinois Public Service Company.

Central Illinois Public Service Company is an investor-owned electric utility system that generates and distributes electricity to approximately 296,000 residential, commercial, and industrial customers in the central and southern areas of Illinois. Our current total generating capacity is approximately 2,400 megawatts and is supplied through the operation of five power stations.

I would like to make a few comments on behalf of Central Illinois Public Service Company concerning the Environmental Protection Agency's proposed hazardous waste regulations which appeared in the December 18, 1978, Federal Register.

Central Illinois Public Service Company is an active member of the Utility Solid Waste Activities Group, USWAG, and fully endorses all comments that have and will

be made by this group on the proposed regulations. Rather than reiterating the majority of the USWAG comments, we have elected to limit our comments to one specific area of concern; namely, the possible impacts of the proposed regulations on the disposal of stabilized flue gas desulfurization wastes.

Central Illinois Public Service Company's total generating capacity of 2,400 megawatts includes a new coal-fired generating unit, Newton Unit No. 1, located in Jasper County, with a rated capacity of 590 megawatts. Construction of this unit was completed in September 1977, and commercial operation was commenced on November 18, 1977. In order to control sulfur dioxide emissions from this unit, a Double Alkali Flue Gas Desulfurization System is being constructed. Although this system is expected to be very effective in removing sulfur dioxide emissions from the flue gas, it will also produce tremendous quantities of unstable scrubber wastes.

To provide the most environmentally acceptable means for disposing of this sludge, Central Illinois Public Service Company elected to install a newly-developed sludge stabilization system. The stabilization system involves blending dry fly ash, dewatered scrubber wastes, and lime additive to produce a product which is environmentally suitable for landfill disposal. The stabilization system

will cost in excess of $13,000,000 and will have annual operating and maintenance expenses of over $500,000, exclusive of the labor and equipment required for placing and compacting the fill material in the landfill.

To date, we have applied to the Illinois Environmental Protection Agency for a permit to develop and operate an on-site landfill for receiving the stabilized waste. After a thorough review of our application, the Illinois Environmental Protection Agency granted us a permit to develop the site. Development of the site will soon be completed, at which time if deemed acceptable, an operating permit will be issued, which will include specific conditions designed to insure groundwater and surface water protection.

Central Illinois Public Service Company is greatly concerned that the implementation of the Resource Conservation and Recovery Act hazardous waste management regulations will nullify our efforts to develop a satisfactory disposal scheme for flue gas desulfurization wastes and will result in burdensome and unnecessary regulation of stabilized scrubber wastes disposal.

We are somewhat encouraged by the Environmental Protection Agency's recognition that the proposed regulations should not be applied across the board to all wastes which may be characterized as hazardous. In the proposed

regulations, certain wastes are designated as "special" based on a lack of technical information on their characteristics and hazardous potential, their very large production volumes, the estimated low risks associated with them, and the unsuitability of applying the Subpart D control techniques to their disposal. Within these "Special Waste" categories, only limited sections of the proposed regulations would apply.

Although flue gas desulfurization wastes are included as a "special waste" under the "Utility Wastes" category, this does little to insure that stabilized scrubber wastes will be appropriately regulated. In the first place, even the limited requirements which would apply to "Utility Wastes" under the proposed regulations will impose additional burdens beyond those generally applicable to non-hazardous wastes. Secondly, all the "Special Waste" categories, including "Utility Wastes", will be the subject of further rule-making, at which time more pervasive and onerous requirements may be established.

When the factors which gave rise to the "Special Waste" provisions are applied to stabilized scrubber wastes, there clearly seems to be a justification for providing a more complete exemption from the hazardous waste regulations with respect to such wastes. Stabilized scrubber waste/fly ash/lime mixtures will attain very low permeabil-

ities and, as a result, will provide excellent protection against the leaching of deleterious materials through the landfill. Where sound engineering practices are followed, runoff into and on the landfill area will be quickly dissipated in order to minimize any surface leaching. Therefore, due to the very nature of stabilized scrubber wastes and accompanying landfill practices which have been developed for its ultimate disposal, there is very little risk of environmental contamination resulting from the disposal of such wastes.

In conclusion, I would like to state that Central Illinois Public Service Company strongly feels that the regulation of stabilized flue gas desulfurization wastes as hazardous wastes, special or otherwise, is unjustified and unnecessary and that existing state solid waste requirements adequately insure the environmentally acceptable disposal of such wastes.

I would like to thank the Environmental Protection Agency on behalf of Central Illinois Public Service Company for the opportunity to participate in the development of these regulations.

CHAIRPERSON DARRAH: Thak you very much.

Would you answer questions?

MR. COCHRAN: Yes.

MR. LEHMAN: Mr. Cochran, I am sure you have read

Section 250.46-2 very carefully with respect to utility wastes--and that's the special waste section--and the first or sencd sentence in there says that these special waste requirements apply only if the waste in question meets the characteristics for hazardous wastes under Section 250.13. Now, to the extent that the flue gas desulfurization sludges are stabilized, do you have any information as to whether or not the stabilized sludges do or do not meet that characteristic, and, of course, if they do not meet the characteristic, then they are not a hazardous waste and none of these requirements apply and, therefore, whatever the state is doing would continue to apply.

MR. COCHRAN: Well, our scrubber is not operational yet, and it could be another six months before we're actually producing the stabilized material. So we haven't had an opportunity to test it under the E.P. to determine whether it will be characterized as hazardous.

MR. FIELDS: We have not made a decision yet regarding disposal procedures for scrubber sludge. We have done some studies and, as we have indicated, we will be proposing rules at a later date for this waste, and the study that we are going to be doing would review practices such as what you are applying to scrubber slude now; and if we feel that those practices are environmentally acceptable, those would be incorporated into the standards we finally do

write.

MR. COCHRAN: Yes, I am aware of the study that the EPA is undertaking, and the Utility Solid Waste Activities Group is also undertaking extensive studies, and I guess our recommendation would be that, rather than including any provisions relative to utility wastes now, would be to grant them an exclusion until this data is developed and hold off development of any regulations until that time.

MR. FIELDS: For that portion of the utility waste which are scrubber sludge which might be hazardous, you indicated you have had problems with the standards in 250.46. You felt that even these limited requirements were onerous, I guess. What specific problems do you have with the standards in 250.46 that we would be applying to hazardous utility wastes?

MR. COCHRAN: I think the previous speaker brought them out. In particular, the security requirements would be quite burdensome, some of the groundwater monitoring requirements, enclosure requirements which would be inconsistent with what would be required by the State of Illinois.

MR. FIELDS: Do you currently have groundwater monitoring requirements imposed by the State of Illinois?

MR. COCHRAN: The landfill that we are developing for the stabilized material, we have installed a sys-

tem of groundwater monitoring, but we are not certain that this would be compatible with what the U. S. EPA would require.

CHAIRPERSON DARRAH: Thank you very much.

(The document referred to follows:

HEARING INSERT

United States Environmental Protection Agency

Proposed Hazardous Waste Regulations

Public Hearing

St. Louis, Missouri

February 16, 1979

My name is Mark Cochran. I am employed as a Water Quality Engineer in the Environmental Affairs Section of Central Illinois Public Service Company. I have a Bachelor of Science degree in Environmental Engineering and a Doctor of Jurisprudence.

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To provide the most environmentally acceptable means for disposing of this sludge, Central Illinois Public Service Company elected to install a newly developed sludge stabilization system. The stabilization system involved blending dry fly ash, dewatered scrubber wastes and lime additive to produce a product which is environmentally suitable for landfill disposal. The stabilization system will cost in excess of $13,000,000 and will have annual operating and maintenance expenses of over $500,000, exclusive of the labor and equipment required for placing and compacting the fill material in the landfill.

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Central Illinois Public Service Company is greatly concerned that the implementation of the Resource Conservation and Recovery Act hazardous waste management regulations will nullify our efforts to develop a satisfactory

disposal scheme for flue gas desulfurization wastes and will result in burdensome and unnecessary regulation of stabilized scrubber wastes disposal. We are somewhat encouraged by the Environmental Protection Agency's recognition that the proposed regulations should not be applied across the board to all wastes which may be characterized as hazardous. In the proposed reguulations, certain wastes are designated as "special" based on a lack of technical information on their characteristics and hazardous potential, their very large production volumes, the estimated low risks associated with them, and the unsuitability of applying the Subpart D control techniques to their disposal. Within these "Special Waste" categories only limited sections of the proposed regulations would apply.

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When the factors which gave rise to the "Special Waste" provisions are applied to stabilized scrubber wastes, there clearly seems to be a justification for providing a more complete exemption from the hazardous waste regulations with respect to such wastes. Stabilized scrubber waste/fly ash/lime mixtures will attain very low permeabilities and as a result, will provide excellent protection against the leaching of deleterious materials through the landfill. Where sound engineering practices are followed, runoff into and on the landfill area will be quickly dissipated in order to minimize any surface leaching. Therefore, do to the very nature of stabilized scrubber wastes and accompanying landfill

practices which have been developed for its ultimate disposal, there is very little risk of environmental contamination resulting from the disposal of such material.

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I would like to thank the Environmental Protection Agency, on behalf of Central Illinois Public Service Company, for the opportunity to participate in the development of these regulations.

MSC/srl

2-13-79

CHAIRPERSON DARRAH: Robert M. Robinson, Missouri Department Solid Waste Management Program.

STATEMENT OF ROBERT M. ROBINSON

MR. ROBINSON: I'm Robert M. Robinson, director of the Solid Waste Management Program for the Missouri Department of Natural Resources.

We wish to make a few comments today, and we will submit detailed written comments in the future, sometime before March 16.

We want to commend EPA for the great progress we think that they have made in developing what we think are approaching very reasonable and a good set of regulations dealing with hazardous waste facilities. Particularly, we think the approach of establishing these special waste standards for high-volume, low-level hazardous wastes is a very good approach, and we think that there should be that tyep of approach to these wastes. We don't have any data as to whether utility wastes are going to fall out or into the criteria, however, but if they do fall into the criteria, we think they ought to be regulated under this mechanism, and, frankly, we don't think that the requirements placed under the special waste standards are really that terribly strict. In fact, we in the State of Missouri would, by and large, be controlling them to almost that standard under our regular solid waste regulations.

We would make one comment, and that is going back to the general site selection criteria, and with regards to the flood plain, we're wondering if an approach possibly--first off, we are very much in favor of protecting flood plains and to protect them to the 500-year flood level with regards to certain types of hazardous waste facilities such as a secured landfill we think is of great importance, and possibly there shouldn't even be the possibility for you even to locate it in a 500-year flood plain if you dike it, for instance, and which would be possible under these regulations, so I think we would suggest that maybe that the provision with regards to the flood plain should be spelled out under each individual type of facility rather than being put in the general section because I think it could be approached differently in each section. For instance, should utility wastes be considered to fall into the hazardous wastes? I don't know that we need to be quite that concerned with that particular waste as to whether it is out or protected by the 500-year flood, possibly a lesser criteria would be possible. In the State of Missouri, of course,we would use the 100-year flood protection for that type of a waste, and, also, as I understand it, the 500-year flood provision would apply to incinerators. Well, we would visualize, and in many cases industries might have on-site incinerator facilities, and we really can't see hardly

protecting that incinerator, which would be a hazardous waste facility, to really any greater protection than the industry already has at the site, because I'm sure they have hazardous waste products probably stored on site; and if they flood, it's going to be just as much of a hazard there as if the incinerator itself floods. So I think this is another reason for considering that provision being applied to each individual type facility.

That concludes my remarks.

CHAIRPERSON DARRAH: Anybody have any questions for Mr. Robinson?

(No response.)

CHAIRPERSON DARRAH: If not, thank you very much.

Mr. John O'Clair from Quincy Adams County Landfill Commission.

(No response.)

CHAIRPERSON DARRAH: Arpad L. Lengyel from Havering, Ltd.

STATEMENT OF ARPAD L. LENGYEL

MR. LENGYEL: Thank you, Ms. Chairlady.

The comments which go to Section 3004 which I expect to submit will also be submitted in writing prior to the March 16 deadline.

I would like to address these remarks to several primarily technical aspects of 3004.

The first one is site selection. I'm sure that most people are in complete agreement with the Agency's desire to see waste disposal sites located in areas where they are unlikely to affect the environment or, conversely, be affected adversely by them. However, as much as I may search my memory, I can't think of any place in the United States where I could find a landfill that would be suitable in all respects, and I would like to cite a few examples.

About two years ago, I was on a trip south, and we encountered a dust storm at the altitude of about 5,000 feet. The dust, according to the Weather Service, came from Kansas, and we were over eastern Georgia. About five or six years ago, in Sweden there was a red snowfall; that is, the snow was tinted a reddish color, the reason--sand from the Sahara Desert 2,000 miles away and on the other side of the Alps. This would somehow speak much against land forming, say, if it was done in Kansas.

Granted, that these are some of the extreme cases, but I am citing extreme possibilities.

If a disposal facility is either located improperly or if it is operated improperly, or if it is not equipped with prior safeguards against the escape of hazardous materials, then the 200-foot boundary is going to be of very little help, and I could easily make the same arguments for groundwater contamination in migration of wastes through the

groundwater table.

The answer perhaps is not the establishment of an arbitrary buffer zone but the construction and the operation of the disposal site in such a fashion that it will prevent migration in all three dimensions. If the rules are followed properly and the monitoring equipment is installed in the proper location, the buffer zone could be reduced substantially, perhaps to 20 feet or less. Or if a buffer zone is still desirable, in spite of all precautions, then its dimensions should be the same as the distance from the top of the landfill to its bottom seal. This is from consideration of construction purposes.

Your other mention of need for a buffer zone is possibly to explosion and fire. The hazards from explosions and fires are mostly a question of quantity and quality, or what is burning or exploding and how much of it. A 200-foot boundary is scant protection against an explosion of any significance, and I am saying something like 3 PSI of air compressive strength.

About six months ago, there was a disastrous explosion in Chicago, in Cook County rather. One of our employees escaped by a hair's breath from dying. He happened to be driving right by the plant. He was about 200 feet away from the plant. This explosion tore apart a concrete building, took a telephone pole and demolished his car.

Slightly in a different direction, there was an earthen dike, about 20 feet high or so. This dike was stripped of vegetation, but everything beyond it was protected. Had the employee been, say, a second or so later, he would have also been protected. He would have been just outside the line of explosion.

So apparently the answer is not so much a buffer zone but the installation of protective structures and barriers. Therefore, it is recommended that the Agency optionally consider that possibility.

The second comment is addressed to the question of site surveillance and monitoring after closure and post-closure. To be more specific, the recommended twenty-year span should be amended and some way related to the contents of the site. Let me see if I can address this question from the point of different types of waste that might go into a disposal area.

The first is radioactive wastes. I don't know if anybody is here from Sheffield, Illinois, but I am sure that they could bear along with me on this one. Let me consider the 20-year time span in terms of radioactive halflives. Radioactive halflives range anywhere from a few microseconds to thousands of years. To cite specific examples, the half life of iodine (31) is eight days. So if wastes bearing iodine (31) went to radioactive landfill or hazard-

ous waste landfill, eight days later half of it has degraded to a stable substance, therefore, it poses no hazard. If Caesar's legions, the Roman legions, had been equipped with luminous dial watches, those watches right about now would be turning to lead, during the Carter administration; but I can stretch this even further. Let's take plutonium, extremely toxic, very hazardous, its half life is 24,000 years. Mankind started using fire 24,000 years ago.

I am asking the question if we are prepared to make the commitment now to monitor some of these landsites for 24,000 years; and in 24,000 years, only half of the hazardous substance has gone to a stable one. The rest of it is still there.

According to a press release, there is some plutonium buried at Sheffield, Illinois, and according to the NRC, there is some at Morehead, Kentucky. Having said that the half life is 24,000 years, if there was 20 pounds of plutonium buried in Sheffield, Illinois, four half lives, or about 100,000 years from now, there would still be a little bit more than a pound of it left. Now, a pound doesn't sound like much, but it would kill just about everybody in this hotel plus a few more; that is, distributed properly.

This may not mean much to somebody who lives on

the other end of the United States, but it certainly may bother people in Sheffield, Illinois.

Before I would answer my own question about the suitability of a timespan for exposure period, let me go to a different example. Let's say something that we are more familiar with, organic wastes, and more specifically the publicized class of compounds called PCB's, but I could with equal ease substitute dizenes and trizenes, substitute phenol compounds, to almost every class of halogenated organics.

These compounds do not lend themselves to the same kind of mathematical equation as radioactive materials do. Their degradation follows a much more complex but predictable pattern. If they are kept under isolated conditions, they would remain stable for decades. If they are exposed to other compounds, or in some instances even sunlight or air, they would begin to decompose, and this decomposition, because of the unpredictable mixture of other materials present, is equally unpredictable. What is perhaps more dangerous is that the decomposition products are quite often far more toxic--and I am saying several orders of magnitude more toxic--than their parent compound was.

Now, let's just say that a very well designed and very carefully operated landfill is closed down due to exhaustion. Let's further assume that a 20-year span has

passed and there is no evidence of any off-site pollution, and now the site is considered secure inasmuch as a developer might come along and build a house on it. This altered land use, introducing now new chemicals, more water, sewage perhaps, different foliage, may just be the trigger that will start the decomposition process, and that could be quite a disaster. Therefore, instead of committing ourselves to a definite time, let us accept the fact that certain types of hazardous wastes simply cannot be disposed of in landfills. These must be disposed of by some other method, let's say incineration, or, alternatively, they must be rendered safe or nonpolluting prior to burial, and there are some excellent methods available for that. Or if you must insist on burial, then there is no alternative to the monitoring of the site for the lifetime of the longest lasting or the most toxic component that has gone into it.

Since the Act requires fairly stringent record-keeping, an evaluation of the monitoring period perhaps should be made at the time of closing, or, alternately, if the 20-year period is upheld as a law, then any hazardous waste whose life span would exceed that period of time should not be buried.

The Agency has addressed the landfill disposability question in 250.45, but I don't think it has gone far enough to simply rule out certain hazardous wastes from

land disposal. The installation of synthetic liners is not a solution since many of the components will simply dissolve it.

Chemical filtration, being primarily an inorganic process, does not apply to organic compounds as a rule.

Furthermore, I cannot think of any filtration process that would survive the Agency's extraction procedure. An exception being perhaps the potassium glass fusion method which is horrendously expensive and very, very slow.

At least in the question of organic wastes, incineration appears to be a practical answer, but I question the necessity for 1,000 degrees Centigrade for two seconds as the established standard. The laboratory procedures that--I believe a laboratory in Cincinnati--yes, a laboratory in Cincinnati performed, they achieved proper destruction after one second at 860 degrees Centigrade. The difference of a second doesn't sound significant, but it just about triples the cost of an incinerator.

It is, therefore, strongly urged, in light of the regulations requiring certain stack monitoring equipment and knowledge of the feedstack, that the Agency establish 99.99 per cent efficiency as the definitive criteria for operation. Having this required instrumentation allows this efficiency to be continuously and adequately monitored;

and by utilization of readily available hardware, the performance of adjustments necessary to maintain proper operation is possible.

Lest I be accused of being an unappreciative audience, may I compliment the Agency on the thoroughness and the care that has gone into the preparation of the regulations, and may I thank you for your kind indulgence.

CHAIRPERSON DARRAH: Thank you, and would you answer questions from the panel?

MR. LENGYEL: Certainly.

MR. LINDSEY: I would like to talk a little bit about the 20-year post-closure requirements, and, first of all, I think it would be useful to state where we're coming from on this whole business and maybe ask you how we can get around some problems if you would want to agree with us.

Our intent in designing these landfill criteria and so forth was to prevent or greatly reduce the release of contaminants from land disposal to nonmeasurable rates--that's what we're really trying to do here--using basically the liners to retard movement and also by preventing infiltration after closure with the use of cast. So that was the idea. Now, the reason for the 20 years, our thinking along those lines is that within 20 years of post-closure monitoring, we should be able to detect the move-

ment if we have been unsuccessful in designing through the capping mechanism. We should be able to detect any movement, and then we can proceed to require additional monitoring and/or remedial action as necessary. I gather you don't believe that that will work, right?

MR. LENGYEL: In most instances it would work, but I need to point out Love Canal happened 25 years ago.

MR. LINDSEY: But we weren't monitoring that.

MR. LENGYEL: That's right, but it's coming to the surface now, not 20 years but 25 years later.

MR. LINDSEY: You're right, I mean I agree that movement from a facility into the groundwater to damage can frequently take decades--there's no question about that, but I would like to point out two things. In the Love Canal case, it was not designed at all like what we are talking about here, and there wasn't any monitoring at the time of disposal or post-closure like what we have, and I don't think that--I mean our thinking is that this would not have happened had we had our standards and design standards and monitoring standards in place.

But let me follow on, assume that we say 20 years is not sufficient protection and we need to go further than that, then the problem which we ran into is this, that how, in effect, can we insure that that monitoring will occur? Frequently what happens is that over decades, companies come

and go, and what we are trying to do with these regulations, the financial part of these regulations, is to insure that there is enough money built up during the site life of the operation to carry out that monitoring for 20 years post-closure; and we feel that the 20-year rate, we can build up enough money in a practical manner; but beyond that, if you go, for example, to requiring post-closure monitoring ad infinitum, for example, the cost of doing that, the cost of building up the fund during the life of the site, assuming a 20-year site life, becomes phenomenal, and we are afraid what would happen is that the charges which would be necessary to insure the buildup of that fund would be so great that what we would end up doing, in fact, would be just the opposite of what we would like, which would be discouraging the use of good facilities and illicit dumping, if you will, down into the streams and the ditches and so forth, and that's part of our dilemma. If we go beyond the 20 years, then we have trouble insuring that the funds and money and so forth to carry this out would be there and that there will be some responsible entity to carry that out. Do you have any comments you would like to make on that, because that's part of the problem?

MR. LENGYEL: Let me try to take this from your own comment about discouraging the use of good facilities. My initial statement that I don't think there's such a

thing as an absolute facility, what would be a facility that would forever be secure and nothing would ever leach out of it, this good facility that you are referring to, definitely some material should be discouraged from going there. In fact, some of it should never be permitted in there; whereas looking at Section 3004, the Agency takes a rather lenient position on that, saying that, essentially saying that if the landfill is designed properly, sited in the right location, and operated properly, it will be able to accept any form of wastes any time, and I take exception to that. I think there are certain wastes that should never go into a landfill.

MR. LINDSEY: I think I would disagree, particularly with regard to chemical groups, with certain classes of material, for example, the volatile materials, we have very definite limitations on what can be put in there. Maybe we haven't gone far enough, in your opinion; and if that's the case and you think we should expand this list, your suggestions would be well received.

MR. LENGYEL: I think I could perhaps name at least half a dozen or more classes of materials which I would, from my experience, I would say they should never appear in a landfill. There are acceptable routes, not very much more costly, but would be, in fact, much more suitable.

MR. LINDSEY: We would like to receive your sug-

gestions and the rationale for that in each case, if we could. That would be very helpful to us.

MR. LENGYEL: Certainly.

MR. LEHMAN: Mr. Lengyel, I wanted to amplify some of your comments about site selection and buffer zone concept. As I understood your remarks, you were basically saying that a 200-foot buffer zone requirement is somewhat arbitrary and really ought to be more, I guess the word would be tailored, if I could paraphrase your remark, to the type of facility or type of waste that's involved and so on, and then you also pointed out that you can build protective barriers to allow, basically allow a smaller buffer zone than 200 feet. That may be true for--in your case, you cited a blast or some sort of an explosion--a protective buffer would certainly be a help there for noise and other reasons; but a third reason we wanted a setback was to allow for, particularly in the case of landfilling operations, a zone, if you will, where one could place groundwater monitoring equipment such that if a problem were detected, it would be detected before it left the boundaries of the facility itself, and some sort of counter-pumping or some other type of remedial action might be initiated there. Now, if we were to allow a smaller buffer zone, as you are indicating, how would you get at that aspect of it, in other words, the ability to place monitoring equipment down to

provide some sort of early warning, if you will, before the material actually leaves the site boundaries?

MR. LENGYEL: My feeling about it was that buffer zones should be no greater, no less, than the distance to the bottom seal of the landfill. Say, the blue clay, for example, is 200 feet down, then, indeed, a 200-foot buffer zone would apply, because you can put your monitoring wells out there anywhere in that buffer zone, and you can build a protective dike of clay in case seepage is detected. If the bottom seal is only five feet down or ten feet down, then ten foot of a buffer zone would be quite sufficient, because within that distance of land, you could get down to the bottom seal of the landfill.

MR. LEHMAN: Is this sort of a geometrical analogy here or you're assuming--

MR. LENGYEL (interrupting): Oh, yes, it is, quite.

MR. LEHMAN (continuing): --diagonal drilling or something?

MR. LENGYEL: Well, it would be trenching. To get 200 feet down, you need off a 45-degree angle, so consequently I'm talkingabout a 200 by 200 area.

MR. LEHMAN: O.K., I can understand that line of thinking, but that still doesn't give you very much leeway, does it, in terms of remedial action in case you find a

problem?

MR. LENGYEL: Well, it wouldn't give you any less leeway than the 200-foot arbitrary boundary would.

MR. LEHMAN: I guess I don't understand that response. Let's just use a hypothetical example. Let's just say that the bottom of a landfill was at five feet, and you allowed--the buffer zone here is 200 feet. According to your geometrical analogy, you could put monitoring equipment around it at a five-foot distance, but that allows you 195 feet of safety zone, if you will, to do something about it if you find some problem.

MR. LENGYEL: O.K., let's look at something different, then. Recently I saw a landfill in Illinois that has some pretty dense clay underneath it, something like 120 feet, of nine or ten minus clay, pretty good clay. If the downward migration is stopped by 180 feet of blue clay, wouldn't you say 180 feet of equally dense clay to the sides would also stop the migration? If that landfill is approved for disposal under such circumstances, say, if it was only 60 feet of blue clay layer underneath this landfill, O.K., and that was deemed adequate, then he would not need 200 feet along the sides either. Sixty feet to the sides would be adequate for him also.

MR. FIELDS: If the only consideration was--you know, what you are talking about, you are only talking

one aspect, which is buffer for groundwater contamination, but there are other things, too, which are indicated in our regulations that we're concerned about in terms of explosions, fire, and other things, so, for example, ten feet would probably not be adequate enough for. I think you will be willing to admit that?

MR. LENGYEL: Sir, if you drive along the Interstate 55, you will see Joliet Arsenal, which contains a fair amount of explosives, and you can see it from the highway about 500 feet away; and if that went off 500 feet away, I think it would cook the neighborhood. It's not really what is exploding but just under what conditions.

Let me give you a little example from my background. We were running an experiment with about a pint of chemicals in a proof-tested vessel, 1,800 PSI, and somebody misheard the directions and measured in slightly more than what should have been in there--we're only talking a few teaspoonfuls--when that thing exploded, it lifted out a steel door that I couldn't have picked up, it tore out 20 feet of fencing, and one of the steel plugs traveled about 325, 350 feet into a wall of a garage and cracked a few cinderblocks. So where do you draw the line? So far there is no protection better than earthen dikes. That's why they put soldiers in foxholes. So the 200-foot buffer zone, if some people discard a case of ammunition into a landfill,

or into incinerators, commercial incinerators, when those go off, they'll go, and they'll go more than 200 feet, and the only thing that will stop them is something in the way.

MR. FIELDS: To follow up on that point, are you saying that the structures or protective barriers that you are advocating instead of the 200-feet buffer zone ought to be waste specific? For example, you're handling highly explosive wastes, you would require the designing of a buffer or structure that would contain any explosion that would result from that waste, is that it?

MR. LENGYEL: I think it would be more site specific than waste specific. It would depend on the size of the structure that contained explosive materials behind it. Obviously, if something is in a 60- or 70-foot tall tower, a ten-foot dike is not going to do you much good. And also the quantity, if you have tons of material behind it, the dike has to be several feet thick to be able to withstand that and redirect the force. We're trying to prevent the force from spreading laterally. It can go upwards quite a distance before it does any harm.

MR. FIELDS: I take it also, then, you're against synthetic liners?

MR. LENGYEL: Yes, sir.

MR. FIELDS: You're recommending that we should not be using them at all in our regs? You made a general

statement regarding that, synthetic liners, they would degrade--I think you mentioned they would degrade and we should not be specifying them?

MR. LENGYEL: I don't think that there is any liner that could be a storer at feasible cost that would stop all organic materials or even a majority of organic materials from not eating through it. Right now I am in the process of specifying certain valves, and I had a lot of trouble finding valves that could handle solvents. Usually their seals go, and they are usually flexible materials, just like liners would be. PVC, polyethylene, polyvinyl, polyvinylchloride--I said that before--but polypropylene, just about any one of these, one solvent or another will attack it; and some of these solvents like Xylene and the various forms of these various solvents are present in a great quantity in landfills or could be present, and every one of them would eat away the liner, in effect, pure toluene, a solvent that is used to glue the liner together, because it dissolves it. So sooner or later, any of these compounds, if it came to the liner would eat a hole in it; and once degradation begins, it continues.

MR. MC LAUGHLIN: You mentioned that you didn't think that 1,000 degrees Centigrade with two-second retention time for an incinerator was an appropriate standard, and you alluded to several chemicals which can be easily de-

graded at less temperature than that. Do you have a suggestion on what should be a minimum temperature or standard for incinerators?

MR. LENGYEL: No, I don't think I--it would be preferable, in view of an incincerator, in terms of its residence time and temperature, that new regulations require the installation of fairly complex instrumentation to monitor the stack conditions, and I think I would rather take that as the indication that the incinerator is working well. If we are introducing, let's take a difficult to combust compound, say, decachlorobiphenyl, which is probably the least combustible of all the chlorobiphenyl compounds, the presence of any carbon / carbon bond, or carbon/carbon double bond, in that stack gas would indicate that combustion is not working well, and that could be fairly simply monitored with an infrared instrument. So I think that, rather than setting an arbitrary standard saying that the incinerator has to be so many feet by so many feet and has to work at a certain temperature, let's look at the actual performance of it, what does the stack say. If the stack gases say that the material has been destroyed, it was effected in half a second at 800 degrees, fine. If the efficiency is not there, all the operator has to do is juggle his conditions a little bit, cut back on his fuel feed, increase his air or increase his temperature. He has the options now to

change his parameters. He is not locked into a 2,000-degree, two-second time.

MR. MC LAUGHLIN: What is released while he is playing with these temperatures?

MR. LENGYEL: Probably bio carbons are released.

MR. MC LAUGHLIN: And you said that the 200-foot barrier was not really necessary as protection to keep people off the site. Yet don't you think that if the incinerator was within, say, 20 foot of the properly line, while you were playing with the temperatures to get everything mixed right, you might be releasing some fumes?

MR. LENGYEL: Well, let's approach it slightly differently, then. If I'm running two seconds, 1,000 degrees F., I can be belching out all the fumes I want all the day long because I'm within the Agency's criteria. I can be polluting-happy all day long regardless of what my stack instrumentation says, I am maintaining my 1,000 degrees, two seconds.

MR. MC LAUGHLIN: You won't break the double bonds?

MR. LENGYEL: I don't know. It's possible.

MR. LEHMAN: I would like to follow up on another point you made, I believe early in your remarks, about alluding to the mobility of surface soils in terms of red

snow in Sweden and so on, and am I correct in assuming that the gist of your remark was that you believed that land farming is an inappropriate methodology for waste disposal because of the potential mobility of the surface soil?

MR. LENGYEL: It really is a question of what was disposed. I am sure that some materials could be land farmed and where there is high degree of mobility, and I was citing extreme examples where this high degree of mobility still would not create an imminent hazard to anyone, but let's say--and I've seen this one--crankcase oil, automotive crankcase oil, being soil farmed, that contains a fair amount of lead, nickel, some chromium, in some cases some of the alloys like tantalum, that could become an airborne hazard. What is more, in extreme cases like this, it would be rather difficult to trace where it came from also, so there's no way of fixing liabilities.

MR. LEHMAN: Thank you.

CHAIRPERSON DARRAH: Thank you very much.

The next person this morning is Leo Domzalski from Chicago.

STATEMENT OF LEO DOMZALSKI

MR. DOMZALSKI: I have only this one copy of my comments. I didn't really expect to comment today, so I didn't come prepared, but I do have this. It's legible and I would leave it with the court reporter after I am finish-

ed, if that's O.K.?

CHAIRPERSON DARRAH: That will be fine.

MR. DOMZALSKI: My name is Leo Domzalski. I would like to offer some comments as a private citizen.

I have listened to most of the comments made at these RCRA hearings in the past three days and feel compelled to speak my piece.

By now it is clear to everyone that we have a problem, and EPA is appropriately addressing this problem pretty thoroughly. However, there is obviously a lot of emotion, as might be expected, when it comes to hazardous waste. Too many people think that industry is bad--all bad. I don't think so.

It's unfortunate that we, as a people, sometimes allow problems to develop rather than take steps to prevent them, but that's the way we are. People don't usually repair the roof until it leaks. They don't go on a diet until they are overweight--and they don't set up sold waste regulations, which are costly, until they see there is a problem.

Industry is faulted for not preventing the problem, and to some extent this is justified. But how many environmentally concerned people are there who will pay one company 10 per cent more or 5 per cent more for their product because that company does all the things right to pro-

tect the air, water, land, while other companies don't? There wouldn't be enough environmentally concerned customers to keep that company in business.

I believe that industry will cooperate and comply with any workable regulatory program. It would be better if that program makes economic sense, but at least it has got to be workable, possible.

From all that I have heard and from my own study of the regulations as proposed December 18, 1978, the EPA criteria for designating a waste as "hazardous" are too broad. These criteria will result in so much waste falling into the hazardous category that there is no way it can all ever go to the waste disposal facilities that comply with these regulations. We have heard again and again of the people's concern and alarm over hazardous waste and how they don't want disposal facilities anywhere near them. Well, waste has to go some place. Even if you incinerate, there is ash that must go some place--and I happen to think that incineration is often not the best solution environmentally.

I think that part of the answer, granted, maybe only a part, lies in recognizing that not all wastes are equally hazardous before we even brand them with the hazardous designation. I think EPA should seriously consider reserving the designation "hazardous" for those wastes that

are truly hazardous in the usual use of the word, maybe more in line with DOT criteria for hazardous materials. Other waste that needs to be controlled and disposed of properly might simply be called regulated waste or controlled waste. Actually, your name "special waste" may be even better, but I share the concern that the gentleman had earlier that once a waste has been branded as hazardous or even is on the same page with hazardous wastes, it's going to be much tougher to find a place to dispose of it, whether it's justified or not.

I have a number of detailed comments pertaining to the specifics of the proposed regulations but will submit them in writing separately in order to avoid diluting these general comments.

One other comment, though, if EPA recognizes and agrees that there is going to be a serious problem establishing enough acceptable disposal sites, it ought to be trying harder to do something about it, at least speak up loud and clear that these, or any, regulations it proposes cannot work unless government and the public cooperate in making sites available.

Thank you.

While these comments are general, I would be happy to go into some specifics if you'd like or answer questions.

CHAIRPERSON DARRAH: If you have sort of a general outline of your specific comments, it might help the panel members in their asking you questions and seeing exactly how you intend for us to change the regulations. That is the purpose of this hearing.

MR. DOMZALSKI: I think for one thing one of the things that could be done to perhaps decrease the number of wastes that would fall under the hazardous category and be labeled or designated as hazardous is the pH limitation, either lessen this pH restriction or maybe eliminate it for those wastes to be called hazardous. That doesn't mean they shouldn't be regulated, controlled, manifest and everything else under Subtitle C, but don't put them in the same category, same designation, with PCB's and a lot of other things that people are so concerned about. If you took a load of vinegar some place to dispose of it, it's going to be hazardous waste, right?

MR. LINDSEY: I gather you would like us to take the hazardous waste category and divide it into, say,two classes, the hazardous class and a regulated class. Presumably, if we were to do that, the reason we would do that would be because we are going to apply some lesser controls either over the movement, the administrative controls, and/or perhaps the technical controls for disposal. Do you have any suggestions, assuming we were to do that, to try

to draw a line to separate hazardous waste or wastes to be regulated into two categories, one which we could call hazardous and other to be called special or some other category? What kinds of things would we cut out for that lesser hazardous, set of hazardous materials than for the more hazardous ones, would we cut out the manifest or what other kind of changes would we make?

MR. DOMZALSKI: Actually, I think the first thing, just don't put the label "hazardous" on it. That's one of my major points. Secondly, how would you treat it differently, I think it would depend on the waste itself. It would have to depend on the waste itself. If it's not toxic and is not really hazardous, for example, take vinegar or take lube oil, if it's not hazardous, why call it hazardous and just raise a lot of red flags, as was referred to yesterday, and get people so worried about it they didn't want to touch the drums. It's just, I think, raising unnecessary barriers, raising unnecessary problems. pH, as I say, is possibly one thing that could enter into this thing. I certainly don't profess to have the answer. I'm just raising this as a comment.

MR. FIELDS: I think your major concern in that regard was the fact that you didn't think there would be enough facilities to handle all the hazardous waste unless we had these two categories, truly hazardous versus regu-

lated materials. I was wondering, are you aware of the interim status provisions in the Section 3005 of the Act?

MR. DOMZALSKI: Yes.

MR. FIELDS: That would have some effect in terms of assure that there will be some capacity to handle those wastes in these regulations when they do take effect.

MR. DOMZALSKI: I guess what I am saying is, in all honesty, I think that interim status could go on forever and you're not going to get there.

MR. LINDSEY: One more thing I would like to follow up on. You made the statement that you felt that oftentimes, anyway, incineration was not the good or best environmental solution. Can you amplify that, why did you feel that that would be the case?

MR. DOMZALSKI: Well, I guess not really, but certainly wastes that are mostly water are not a very sensible thing to incinerate. You can do it. All you do is evaporate the water, and you've still got mostly--

MR. LINDSEY (interrupting): O.K., it is not because of environmental impact but because certain things just don't lend themselves to incineration?

MR. DOMZALSKI: Yes, I think even environmental impact for that matter. If it's going to take a lot of fuel to incinerate the waste, you might be better off to let it biodegrade in the ground than burn it. It would just

both use up the energy and put out more CO_2 into the atmosphere.

If you would like another comment, I'll give you another one.

CHAIRPERSON DARRAH: Sure.

MR. DOMZALSKI: I think, for example, there's a requirement in the regulations that stipulates the use of tanks designed to meet OSHA flammable storage requirements. I see little justification for that kind of requirement for a tank to store a noncombustible sludge. Maybe I misinterpret the regulations, but that seems to me what they're saying.

MR. FIELDS: Those specifications when we apply them to flammable, combustible materials stored at facilities, and we require some additional things over and above OSHA.

MR. DOMZALSKI: If that's the way it will be interpreted, fine, but I don't think that's the way it reads.

MR. FIELDS: We'll clarify that in the final rulemaking process.

MR. DOMZALSKI: One other category, if I may, I would get into. I think that the extent of monitoring and recording and reporting for incinerator operations, both test burns and so-called operational burns, is ex-

cessive, particularly for small process incinerators. It would be perfectly in order for a large waste incinerator; but if you are talking about a small incinerator, I think it's excessive; but, say, somebody that is operating an incinerator to handle the off gas from a drying oven or a paint oven or something, I have nothing to do with paint ovens, but I can see it would be ridiculous to have all of these controls and reporting on hundreds of those incinerators.

MR. FIELDS: Could you give us some specific examples of things you would delete for test burn, for a small generator, for example?

MR. DOMZALSKI: Well, again I do intend to put this into writing, but, for example, I think that I would contend that if the incinerator has been designed and tested and shown to be effective in handling a certain class of materials, and it has been tested to cover the range, let's say from 1 per cent to 20 per cent chlorinated hydrocarbons, and today your incinerating company gets 5 per cent, and tomorrow your incinerating company gets 10 per cent, maybe you could call those two different wastes. I would say there is no point to testing every time. If it's been tested and approved over the range, that's it.

MR. FIELDS: We're trying to get at that in our regulations by saying that test burns would not be re-

quired for wastes which are not significantly different in characteristics, O.K., from a waste that has previously been tested, but I guess you are pointing to the fact that we have not quantified what we mean by significantly different.

MR. DOMZALSKI: I think one way to quantify it would be to say that they have been tested over the range. Who cares if it's 1 per cent or 90 per cent if it's been tested over the whole range? I mean you can come along and say it's significantly different, but so what?

CHAIRPERSON DARRAH: I guess we have no more questions. Thank you very much.

We'll take a 15-minute break and reconvene at 10:20.

Off the record.

(A short recess was taken.)

CHAIRPERSON DARRAH: On the record.

The next speaker this morning is George E. Brown from Mallinckrodt.

STATEMENT OF GOERGE E. BROWN

MR. BROWN: Thank you. I would like to just give some oral testimony at the moment, and then I'll follow up by giving written comments on all aspects of the regulations.

My name is George Brown, and I am employed by

Mallinckrodt. The head office for the corporate headquarters are here in St. Louis as well as our main manufacturing facility located in St. Louis. However, I would like to direct my particular remarks this morning to land farming. I have not heard anyone discuss land farming.

We do operate a sizeable land farm facility in North Carolina for a disposal of an organic residue. We have been in this field for some four years, and we have found that it is an exceedingly difficult technical area to operate in. For instance, I am totally amazed every time we analyze the system in depth at the ability of soil bacteria to degrade organic materials. It's truly difficult to overestimate the ability of soil bacteria to degrade organic materials. It is very easy to write overrestrictive regulations based upon some potential or some person's idea of a potential problem with soil. There are certainly notable cases where soils have literally been ruined for extended periods of time because of a misapplication of material to the soils. However, it is a very technical field, and it can be analyzed in a technical manner. In fact, we like to look at it as an extension of a chemical process just like making any other product.

If you understand the mechanism of how the landfill or land application system operates and how the soil

bacteria operate, one can design a system which is very adequate, offers all the protection for the environment that should be offered, and certainly protection to the public, and performs the job as originally intended.

I am quite surprised--well, I am really very gratified to see the difference between the regulations as they came out on land farming as opposed to the draft documents that I have read from late last summer. These are much more flexible.

However, I do have one specific comment. In the listing of requirements for land farming, there are several in here which may be appropriate under some conditions and might be most inappropriate under other conditions, depending upon the kind of material that is being disposed of.

For instance, in maintaining an aerobic situation, in other words, there's a statement in here you shall not have it anaerobic. I would like to call your attention to a very common kind of operation. A chemical operation that takes place in the soil is a conversion of organic nitrogen or ammonium nitrogen first to nitrate and then eventually de-nitrifying the nitrate to nitrogen, and this is a technique that is used to dispose of very high nitrogenous waste materials. It is necessary, absolutely necessary, to have an anaerobic situation in order to de-

nitrify. If there are wastes, for instance, that have a high nitrate content, then you would want an anaerobic situation. In order to denitrify, it is absolutely necessary.

I grant that there are notes following almost every one of these standards, operational standards; but I am concerned and I would like to see added to this the criteria by which the Administrator will be able to offer flexibility. If the flexibility, which I am really concerned about, is that the standard will be followed unless it can be proven almost without exception that superior protection of the environment will be offered or the standard as written would not function. If it is that restrictive, then I have a feeling we may very rapidly get into a situation where we are trying to fit a square peg into a round hole, because there is a lot of technology being developed in this area, and there's a lot of technology yet to be developed; and to prevent the application of this technology or even the application of research and development in this area, so that technology can be improved, I think may be missing the point.

My main emphasis here is that this is a new field, and the design concepts are not really well understood and there's still a lot to be done in this area, and I would really prefer to see this thing implemented in the direc-

tion of a performance objective, instead of operational standards which may or may not be adequate, and allowing a lot of flexibility for the specific system that is being employed.

I would think that in this area, even in more than landfill, this would be very waste specific as far as standards are concerned as opposed to a rather uniform standard for all hazardous wastes.

I do have some other comments. It's in the other area--it's in the criteria, if I may jump to that, and then I will be willing to discuss land farming in more detail.

In the criteria, with the listing of materials that are to be classified as hazardous, there's two parts of this thing which give a concern to me.

No. 1, there is no discrimination, particularly between a degree of hazard--this has been alluded to before--but some materials are extremely hazardous and require extreme care in their management. Other materials which have been in such common usage, like ordinary road salt, that the general public and everyone else knows how to generally manage those kinds of things, so that there is no hazard to themselves or to the public, or it is acceptable to degrade the environment to the point necessary to use that material. Again I will turn to road salt. Road salt is a very common material that is put on the

roads in order to control ice, but the sodium chloride would be classed as a hazardous material, and it is certainly an act of disposal if it's put on a road because it can get into surface waters. There are a number of other materials--I just draw that as an example, because there's whole gradations of materials, of which some are extremely hazardous and others are certainly less hazardous and do not require the management controls that would be necessary for the more dangerous materials.

The landfill requirements, the standards for landfill, allow very little flexibility in this area. The standard for the landfill is so constructed that it can except almost any of these waste materials outside of maybe some very special ones, and I have a feeling this will lead to a real problem of finding adequate sites or numbers of sites to dispose of these hazardous materials. Rather than selecting a site for this kind of material or this site for this kind of a material, we are going to have to design all of our sites for handling most any of these kind of materials, and we are going to have difficulty in finding siting places.

A good classic example, I'm sure you are well aware, is what's going on in New Jersey where literally you call up the administrator and ask him--you have a waste--"Where can I put it?" and he tells you which land-

fill to go to. I think this will probably be the rule rather than the exception.

The other aspect of the criteria which concerns me is that there is no minimum limitation, in other words, a minimum quantity which is not considered to be hazardous any more. Unless you kind of read between the lines--and it's not clear at all, and maybe this ought to be clarified--there is a list of materials that DOT calls hazardous, and they're listed here in your document; but if you read the DOT regulations, there are certain minimum quantities that do not require the labeling and the packaging as pointed out in the DOT regulations.

Now, presumably, but I'm not sure whether this is true or not, if you had such a minimum quantity that does not require the labeling nor the packaging that normally would be required for larger materials, then it is not hazardous and does not fall into your criteria. I don't think that's the case, but it appears that it might be that that minimum quantity not requiring that specialized labeling and packaging would not be considered to be hazardous.

The other approach that might be used to this area is one that the water quality program used in determination of hazardous quantities. Remember the spill control regulation which was remanded to EPA because it was

not very site specific, but, at any rate, a tremendous amount of work was done at that time to determine hazardous quantities of these toxic materials. It would seem to me that that is a realistic approach to determining some minimum quantity that would be called hazardous.

As an example, as I remember, acetic acid, it was 100 pounds of acetic acid that would be considered to be a hazardous quantity, and this was based upon what damage it might do to the environment if it was spilled, and that kind of requirement would seem to me would be very justified here, because under this situation where you have a managed waste program, whether it's hazardous or nonhazardous, certainly you are talking about controlling that material from its origin point to its final destination, so that it isn't going to be spilled into a river or into a lake, it's going to be placed in the ground undoubtedly, or most of it will be, in a nice, controlled, and well-designed facility; and it would seem to me that the hazardous quantities that were developed under that spill control program would be most applicable to determination of whether a material is hazardous and had to follow all of the detailed requirements that are spelled out for the hazardous materials.

This is going to bear directly on the economics. I seriously question, and many of my cohorts seriously

question, this thing of 10 to 15 per cent of industrial wastes as being hazardous, because every time we make a survey, it looks like it is 75 per cent that's hazardous and 25 per cent nonhazardous instead of the other way around, because of the lack of defining minimum quantities or defining minimum concentrations, and I think we've got a much larger problem than what we are indicating here; and this all leads to the point of finding adequate sites for disposal of these materials.

As I said, I will write up my comments in more detail and submit them.

MR. LINDSEY: Mr. Brown, to start off here, a couple questions. You have hit on some of the problems which we have faced in trying to develop what we hope are reasonable regulations. You mentioned, for example, the developmental category that land farming falls in in the sense that the technology is rapidly developing. We recognize that. You said that the way in which you would rather see us handle that, rather than design standards with notes to provide flexibility, you would rather see us go to some sort of a performance objective. We have considered that sort of an approach, not only for land farming but for others, and the problem is that with performance objectives, it is rather tough to develop enforceable and measureable controls. In other words, we can develop an objective

which says thou shalt not pollute the groundwater beyond some level or there won't be any emissions from, say, a land farming above some level. The problem is when you get a specific design, how does one then develop limits around the operation of that specific facility that can be enforced and measured and overseen and things like that, and that's the reason why we do have basically these performance objectives which are basically the human health and environmental standards that you see at the front which, really, in effect, override the other standards; but we felt that in order to be able to administer a regulatory program the design and operating standards were necessary to be able to get a handle on it, although we do recognize the flexibility problem. Could you talk to that a little bit more?

MR. BROWN: Yes.

MR. FIELDS: If we were to go to performance objectives, how would we develop and write control procedures, I guess is the problem?

MR. BROWN: Yes, I would like to address that particularly. I think it ought to be handled something like the NBDS program is. In other words, there are certain limits of discharge. Now, granted, it's a non-point discharge in almost every case. Very seldom is anything ever collected from land farming so that there would be a

point discharge; but through ground monitoring, which is spelled out in there, which I agree with, incidentally, 100 per cent--it's something we do regularly--incidentally, we soil monitor up near the surface, three inches below the surface, twelve inches below the surface, and three feet below the surface, because we do find variations here as to what is going on within the soil profiles; and if this is managed like a NPDS program to where the permit--and a permit would have to be granted--is written around certain maximum concentrations of the key materials that are to be applied to that land, like, for instance, I'll draw upon nitrate again--there is no place in here, for instance, that spells out the allowable nitrate that can be leached into an aquifer. You really don't do that. All you have is a drinking water quality standard of ten milligram per liter; but I think it is very possible, you see, to grant a permit or write a permit around certain maximum nitrate levels that would be attenuated down to an aquifer that would be for drinking water supply.

Also, I think you could address to any other materials that are applied to the land. If there are heavy metals, they would go, you could apply the heavy metals up to the capacity of the soil or until they migrate.

MR. LINDSEY: The problem with that is, though, when somebody is designing a land farm and wants a permit

and comes in and says, "Here, I want to build this thing," how do we know ahead of time what the capacity of the soil under that is to attenuate, treat, reduce, et cetera? We originally set out with the idea for landfills that we were going to try to model the release of materials out the bottom of a landfill and then predict the maximum concentration of pollutants in the groundwater, and we spent a lot of money looking at different kinds of modeling approaches that would be used. As a matter of fact, we and our consultants, together and separately, traveled all over the world basically trying to investigate that, and we finally came to the conclusion that we just didn't know how to do it, the world just didn't know how to do it; and that's the problem. Ahead of time, the prediction techniques that we would use are not precise enough to know. So what we have done basically is to go the other route and say, well, we'll use design standards which have been shown or which we believe, to the best of anyone's reasonable expectation, and using safety factors to account where we have a relative lack of knowledge to provide that protection.

MR. BROWN: You see, it is the performance objective specifically, though, that--I grant you, and this I'm alluding to all the time--the design of these facilities is so complicated and the technology is so profuse at

the moment that it is really difficult to predict how long a landfill site or a land farming site can operate before it starts to fail. It's extremely difficult, and I think the only way you are going to determine this is through adequate monitoring, and there should be monitoring requirements along with the permit, so that as soon as it shows evidence of failure, then some modification is going to have to be made to it, either the situation corrected or the site abandoned, one of the two.

But, you see, I am concerned, and I'll reiterate the concern, is if you have too many standards and they are a little too inflexible, you may be trying to put a square peg into a round hole and really lose the true objective that you are looking for, and that is the safe disposal of this waste material. It is very easy to do this by restricting the freedom of the technology.

MR. FIELDS: Two questions first and then two comments.

You mentioned that soil organisms degrade more organics than people would normally think?

MR. BROWN: Right.

MR. FIELDS: I interpret that to mean that you feel that we are being too restrictive regarding the type of things that could be degraded in the land farming environment?

MR. BROWN: Right.

MR. FIELDS: Do you have any data regarding some of these other additional wastes that you could send to us that might be degraded in a land farm environment that we might not be aware of?

MR. BROWN: Yes, the volatiles, for instance. Now, you have excluded volatiles in here, and I presume the reason for excluding volatiles is a potential air pollution problem. In other words, they escape from the soil and get out into the air rather than stay in the soil and degrade, and I think even you will grant that if you can put a volatile in the ground and make sure it stays there until it is degraded, that this would satisfy the requirement. That is not really in your regulations, this allowance other than except by your note.

MR. FIELDS: Yes, that's the purpose of the note.

MR. BROWN: Notes don't apply to the volatile materials, I don't think, do they? I thought that was an excluded material.

MR. FIELDS: No, the standard says a volatile material, and we refer to the note in 250.45(c) which is the note which talks about it not exceeding the maximum permissible air contaminant levels, O.K.?

MR. BROWN: Well, I'm looking at (a), which is rather positive, that says:

"Hazardous wastes not amenable to land farming, ignitable wastes, reactive wastes, volatile wastes, waste which is incompatible when mixed."

MR. FIELDS: That note says see the note--

MR. BROWN (interrupting): Associated with 250.45?

MR. FIELDS: Right, (c), and that note says that you can land farm these materials if you do certain things, O.K., so the note allows you to land farm volatile wastes.

MR. BROWN: All right, there is some flexibility.

MR. FIELDS: Second question, but again we would like some data you might have regarding the things that could be land farmed that we might not be accounting for

MR. BROWN: Certainly.

MR. FIELDS: We would also like any data you can send us regarding those waste which should be managed in an anaerobic condition. You indicated one example, but any data you can send us regarding additional wastes that might be land farmed, given anaerobic conditions, would be appreciated.

The other thing, too, you made a comment that landfill--I think you made a comment that landfill standards currently allow the acceptance of almost any type of waste. Was that your comment, that our standards would allow the acceptance of almost any type of waste in a land-

fill?

MR. BROWN: No, I would say you have excepted ignitable, reactive, and volatile wastes, as you pointed out, though, that there is some flexibility here if the system is designed for it. No, I wouldn't say you unduly restricted the kinds of material that can be land farmed.

MR. FIELDS: I'm talking about landfilling now.

MR. BROWN: Oh, land-filling?

MR. FIELDS: Land-filling.

MR. BROWN: Oh, yes.

MR. FIELDS: I thought you made a statement that we allow the acceptance of almost any type of a waste in a landfill?

MR. BROWN: No, no, that isn't my point. My point is that the design and standards for a hazardous landfill site are quite restrictive and overly restrictive for many wastes of which may, in your criteria, be classified as hazardous; and this is going to lead to a difficulty of finding adequate sites for all of these waste materials, not reserving your best facilities for the most hazardous materials.

MR. FIELDS: My last question, what types of wastes do you land farm at your facility?

MR. BROWN: This is an organic waste. It's ring compounds, aromatic hydrocarbon, difficult to degrade, in-

cieentally in a typical activated sludge waste water treatment plant where you get about a, oh, 70 per cent reduction in COlD, in seven days a variation, which is really quite a system--that's seven days of activated sludge, but they degrade very well in soils.

MR. FIELDS: It must be a different kind of bacteria, then, in what we have in the soils than what you can culture in the activated sluge system?

MR. BROWN: I think what goes on, and we really don't know, what we think happens is the organic material gets on the soil particles and is stable, stays there, while the bacteria can just, so to speak, chop away at it for a long period of time.

MR. LEHMAN: Mr. Brown, you mentioned that you and your colleagues have estimated that 75 per cent of your wastes or thereabouts, or up to 75 per cent of the wastes, might be hazardous as opposed to EPA's estimates of 10 to 15 per cent. Now, two points, one, could you share with us your information and your data concerning your testing on this because that would be of great interest to us to know what wastes you believe are hazardous and what you don't?

MR. BROWN: I'll tell you where the argument or difference might be is in quantity. Now, if you talk about the quantity of waste, it's not 75 per cent, but

it's probably the numbers of wastes that might be like the 75 per cent rather than the 10 to 15 per cent. Do you see what I mean?

MR. LEHMAN: Well, yes, but that's a big difference, and our 10 to 15 per cent is based on a quantity. In other words, the 10 to 15 per cent is, in EPA's estimates, is not on the number of wastes but is on the absolute amount of wastes generated all across American industry.

MR. BROWN: Our feeling is it's still much greater than 10 to 15 per cent. I'll back off my 75, but I would be glad, yes, to show you some survey data.

MR. LEHMAN: O.K.

MR. BROWN: I have some survey data of our own plant that runs about, the total quantity is more like 50 per cent would meet this criteria as you have drawn, unless you are willing to add some minimum quantity, something other than the 100 kilograms per month of all wastes. I presume that applies to all wastes, not just one waste.

MR. LEHMAN: That's correct, but moving on to address that other point--well, there was a second question with respect to the 10 to 15 per cent, and that was you have to recognize that that estimate which we have made and which we have checked against our characteristics and listings as recently as six months ago, we still come

up with about 10 to 15 per cent of all industrial wastes being characterized as hazardous. Now, you have to recognize that this cuts across all the industries that we are dealing with. It may be that in the chemical industry that it will be higher than 10 or 15 per cent. In other words, your estimate may be correct, but, in other words, our data does not necessarily, is not necessarily in conflict with your findings. That's what I'm trying to say.

MR. BROWN: That could be because we do not have data on other industries. It's the chemical industry, our primary data.

MR. LEHMAN: The second aspect I would like to explore with you, if I may, is this area of minimum quantity, or at least tying a quantity into some sort of hazardous quantity, and you suggest that we follow the lead of the 311 spill regulations as to hazardous quantities. Now, I'm not an expert on the 311 regulations, but my understanding is that the hazardous quantity concept applies still in the navigable waters, and, consequently, is heavily dependent upon aquatic toxicity in establishing these hazardous quantities. Could you explain or comment on that, in other words, how would one--I'm not sure what you meant by follow the lead of the regs, the 311 regs, do you mean adopt them directly or just the general concept should be?

MR. BROWN: No, I was alluding to the general concept. I don't think it could be adopted directly, because, first of all, it only dealt with nonremovable materials. They did not address the removable materials, like oils and things of that type, so it can't be adopted directly; but the concept that they used in determining the toxic quantity I think is a very good one. Now, it's true it is for aquatic environments. It's the primary thrust of this thing. I think you could add to that protection of groundwater for other uses like drinking water standards, in other words, set some minimum quantity that would really give a potential harm to an aqua--that's used for drinking water.

MR. LEHMAN: I would like to follow up just in the same general area here about quantities. I believe one of the comments you made was the DOT allows different placarding, packaging, and labeling requirements for small quantities of certain things that are listed within their regulations, and it's unfortunate that Allen Roberts from the DOT is not with us today but he was here last evening--he's much more familiar with that than we are, but I think the point I would like to discuss with you is that this, as I understand--I can't comment whether they do, I assume you are correct--but assuming they do, my understanding from previous discussions with Mr. Roberts is that they do

not have any minimum quantity which is completely exempted from all requirements under DOT regulations. In other words, once a substance appears on the DOT's hazardous materials transportation list, it is regulated, it is within the system to some extent. Now, is that what you had in mind here?

MR. BROWN: Right.

MR. LEHMAN: That we make a distinction as to the technical requirements on the basis of quantity or that we have an outright exemption for small quantities?

MR. BROWN: No, I say that technical requirements for the disposal and the management of that small quantity. No, it ought to be in the system. Either it's hazardous or it isn't hazardous material. However, I have always felt that the word "hazardous" is not a good word. I like the word "toxic" much better, because hazard, really, in my mind, at least the way I have always defined it, is its potential to do harm. A material can be toxic, but you could have such small quantities that it would never be hazardous, because it has no potential of doing any harm, you see, but, now, in the DOT requirements, as I said there--what is exempted, though, is the very rigid packaging and labeling requirements when you have small quantities of materials, and they drew this line generally because there is no real danger or there is a minimal danger

to the life and limb of the people that have to handle the material during shipment.

MR. LEHMAN: O.K., that was the reason I was exloring this because, as I understood your earlier remarks, you were saying that we should, in essence, establish a minimum quantity which is not considered to be hazardous, but you are not really, as I understand your--

MR. BROWN (interrupting): Well, it could be toxic, it could be toxic but maybe not hazardous.

MR. LEHMAN: Let me address that, if I may, for a moment. As you well know, the hazardous waste program addresses not only toxic materials but also hazardous materials in the sense of flammability, explosivity, reactivity, and so on, so we cover a broader net than just toxic. I don't really understand your point of liking toxic better than hazardous, but, anyway I just wanted to get back to this other point that you weren't suggesting an outright exemption, you were really looking at a different set of requirements based on quantity?

MR. BROWN: That's right.

MR. LINDSEY: I would just like to pursue that a little more because I think you said that that should be done on a case-by-case basis, depending on the potential of any given waste to cause a problem. You would think a case-by-case basis would--

MR. BROWN (interrupting): Well, it's impractical to do it case by case.

MR. LINDSEY: That was my point.

MR. BROWN: However, I think it is very practical to draw different classes of hazardous wastes -- I think that can be done, so that the requirements for their disposal is also variable, in other words, will vary by the class of waste.

CHAIRPERSON DARRAH: I guess we have no other questions. Thank you very much.

MR. BROWN: Thank you.

CHAIRPERSON DARRAH: The next speaker this morning will be Joe Petrilli from Illinois EPA.

STATEMENT OF JOE PETRILLI

MR. PETRILLI: My name is Joe Petrilli, and I'm with the Illinois Environmental Protection Agency. I work in the division of land pollution control which is responsible for implementing the Resource Conservation and Recovery Act.

I will first comment on the portions of the criteria which deserve specific attention and then offer more general comments about the overall Subtitle C approach.

The Illinois Environmental Protection Agency will submit additional detailed comments prior to the

March 16 deadline.

Although I will primarily comment on the 3004 proposal, 3001 and 3002 are also touched upon in this statement.

In regard to specific comments, first we feel the 100 kilogram per month exception is erroneous. For example, one drum per month of highly toxic pesticide waste is a lot more different than waste, for instance, such as paint waste, and should be handled differently. Special waste exemptions, based upon volumes alone, in our opinion, are wrong. Other low hazard materials but smaller in volume are not exempt, assuming they are over 100 kilograms per month in generation.

Secondly, regarding the 500-year flood plain, it is our feelings that the 100-year flood plain and/or the flood of record, whichever is greater, is sufficient. The 500-year flood is not a recognized design tool and should be eliminated as a design standard.

Third, it is our belief that liners and hazardous waste facilities are unacceptable; and if they are allowed--and we realize that certain areas of the country are not as fortunate as Illinois in that they do not have the clay deposits that we do have--so in this regard, if they are allowed, terms such as being compatible with the waste to be landfilled as delineated in the criteria should

be strictly defined.

Fourth, exemptions for waste streams going to reclaimers / recyclers is a huge loophole. Without a manifest to prove delivery, for instance, we will be essentially in the same dilemma we are now.

Fifth, publicly-owned treatment work sludges in many cases are hazardous wastes. The NPDS requirements do not guarantee equivalency with Subtitle C requirements even with the advent of the super or the one-stop permit.

We recognize in submitting these comments that the U.S. EPA may be virtually locked into the approach of the December 18 document.

Furthermore, we realize that the following proposed changes probably cannot be implemented now. However, we believe these changes must be made eventually to provide an effective, yet rational, control, and may be considered during the two-year review period of Subtitle C regulations.

In view of the previous proposals, Section 3004 has become a more flexible document because of the addition of notes after certain design and operating standards. It is certain that Illinois would have no hazardous waste disposal facilities except for the flexibility afforded by the design notes. This does not mean, however, that Illinois is out of the woods yet.

In Illinois there are approximately 50 sites that have supplemental permits to accept special waste materials of some kind.

Special waste is an Illinois designation which includes basically all liquids, sludges, and hazardous wastes. Basically special waste is anything except garbage, general refuse, and demolition materials.

Being optimistic for a moment, let's assume that 25 of these sites which possess the necessary geologic conditions would want to hassle with the increasing administrative problems, such as training reports, insurance money, and also would develop the site according to the new modifications required, such as construction of berms to prevent inundation by the 500-year flood, more leach collection systems, et cetera, assuming these sites wanted to go through this hassle, 25 hazardous waste facilities would then be located in Illinois.

Of these 25, only one would be strictly a hazardous waste facility. The others would be either co-disposal facilities, mixing the special wastes and fill face of the daily operations, or facilities which accept municipal refuse and then segregate their wastes into separate areas of the site in particular trenches. So this is our site scenario so far.

At the same time that 3004 is reducing the num-

ber of available sites, then, 3001 is expanding what it's classifying as hazardous wastes and creating an illusion of more hazardous wastes being out there.

In our opinion, the scenario described in 3001, which basically relates to the disposing of wastes directly upon the water table, will, indeed, make most wastes hazardous. This we agree with, noting here that we are also disputing the federal statement that 20 per cent of the waste stream will be hazardous.

It is our opinion that closer to 75 or 80 per cent of the stream will be hazardous according to this criteria.

It is estimated by the Illinois EPA, through our supplemental permit system, that we have a handle on about 30 per cent of the industrial waste stream--not a very bright figure.

Let's assume RCRA closes the loop and we have 85 per cent of the hazardous wastes generated within our system. Therefore, Illinois is in the position of managing three times the amount of waste currently permitted, adding to the hazardous waste figures an estimate 3.5 million tons of fly ash material which will be designated special wastes but still require special handling. Twenty-five sites, three times the hazardous waste that we have today, 3.5 million tons of fly ash, and 11 million tons of general

refuse--to me, those figures add up to a problem.

To compound the problem, even if the sites can take the hazardous waste, the site may elect not to just to avoid the hassle from the public which can be associated with a hazardous waste facility. Rather than risk court battles and closure, the facilities will continue to accept general refuse and refuse any hazardous waste of any kind, and this is their right.

Because of this, Illinois will probably have to prioritize waste streams, disposing of the most hazardous wastes first, and face certain pressure of taking care of Illinois-generated waste first. We feel that many of these problems could have been eased and may still be able to be addressed if the U.S. EPA would have taken the approach we have attempted to implement in Illinois since the middle of 1975. This program takes into account levels of hazard based upon concentrations within the wastes and also classifies disposal sites according.

As an example, using conservative figures, in our opinion, a waste containing 100 times the drinking standards of, say, cadmium, or one part per million of cadmium, may be allowed to be disposed of in a low-hazard disposal site where it can be mixed with the general refuse.

Concentrations between 100 or 1,000 times the

drinking standard in this case, or one to ten parts per million, of cadmium would go to a moderate hazardous waste disposal site where below grade disposal would be required, but this could also be mixed in with the refuse.

If the concentrations are greater than 100 parts per million, the material would then go to a high level hazardous waste site where special treatment of the waste may be required prior to disposal.

Your exemptions, for instance, could then be broken down into degree of hazard. Let me clarify here that Illinois has no exemptions whatsoever, but assuming that you wanted to have an exemption, for instance, ten kilograms per month for high-level waste, 100 kilograms per month for medium-level, and 1,000 kilograms per month for low-level waste. Essentially you have broken down your waste stream into low-level, medium-level, and high-level hazards and have matched the waste with the appropriate site and treatment procedure.

It seems to us that designating a waste as a hazard or as hazardous without such distinction will cause a burden on the limited number of facilities which will accept low-level wastes which could have gone to a low-level hazardous waste site.

This system is perhaps more complex and does require arbitrary figures, but this is a problem all regu-

lators, state and federal, face.

Illinois has been working on this type of system since 1975 with the hazardous waste staff ranging from one to three people. The U. S. EPA, with all its resources, could have developed such a system, in our belief.

With the current regulations, it seems a step was taken in the right direction with the "special waste" designation. However, degree of hazard, classes of sites, and not only volume, must be considered and the disposal criteria balanced.

RCRA currently is bound to create more problems, and we accept this, recognizing this type of legislation is long, long overdue; but the fact remains, however, that the law provides too few solutions, and hazardous wastes will continue to end up in the courts which also do not provide disposal alternatives.

Thank you.

CHAIRPERSON DARRAH: Thank you.

Will you answer questions for us?

MR. PETRILLI: Surely.

MR. FIELDS: Mr. Petrilli, thank you for your comments.

You made the comment originally that in the site selection area we should be basing our requirements on the 100-year flood or the flood of historical record,

and that the 500-year was not a well-defined flood. As a point of information, we have been working with the Water Resources Council who have been involved in implementing that flood plain executive order, and the Federal Insurance Administration has been designating araas all over the country through its ten regional offices as 500-year flood plain areas, and those around the country which have not been designated as 500-year flood plains, the regional offices would assist people in calculating whether their particular site would fall into a 500-year flood plain area.

In addition, the Flood Plain Executive Order guidance document which implements that executive order specifically singles out a hazardous waste facility as something that should be protected against a 500-year flood plain.

MR. PETRILLI: If I could comment on that, if we have a 500-year flood, the hazardous waste facilities is the last thing I am going to worry about. You're going to have industries which produce these raw materials which are probably going to be inundated. I think the 500-year flood plain--and this is my opinion--and, excuse me, I didn't know that it is being developed--I'm sure it is only a model, and I don't think our country--

MR. FIELDS (interrupting): There are specific

areas which have been designated. They are not just models.

MR. PETRILLI: O.K. We haven't seen it. I know that, for instance, HUD puts out a map for Illinois about the size of a quarter, and you've got to pick out the 500-year flood plain off of that. In all design procedures that we have been involved in, and I think the Corps of Engineers right here along the Mississippi River accepts the 100-year flood for building dikes, et cetera. In our way of thinking, that is sufficient design criteria. In fact, we tried to get the 100-year flood regulated in Illinois for just general refuse problems and had problems in that regard. That's our problem--the point being I think we're running scared on this issue. The 500-year flood to the public sounds great, you know, the country was founded, North America was founded in 1492. Maybe in 1992 we will have the exact date on just what the 500-year flood is. In my way of thinking, the 100-year flood is more than adequate and should be regulated, and I guess that's my opinion versus your opinion versus the President of the United States, so I know who is going to win out on that one.

MR. FIELDS: The second question was regarding some of our, I guess what we call in our regulations, general facility standards. Based on damage cases, aban-

doned site problems to be identified, we feel there is a need for training requirements, financial requirements, et cetera. Further, Congress specially says in 3004 of the Act that we should write some standards, but you characterize those in your statement as administrative hassles. Is it your feeling that these types of standards are unnecessary?

MR. PETRILLI: I think there are certain standards that you have written here that are required, in my opinion, and that we try to implement in Illinois; but hitting some of these sites with all things in one big shot I think is a little premature. Developing training procedures, for instance, maybe at a high-level hazardous waste facility, assuming there was such designation, where danger probably would exist in dealing with these chemicals on a day-to-day basis, granted, I think that's required; but if you look at OSHA, I think workers at general refuse sites, you know, nix the hazardous business, their injury ratio is six times the normal person. It's a dangerous job just by the mere fact that you are working around heavy equipment, you are working around garbage that people throw any number of things in and don't tell anybody. It's a dangerous job, granted, and I think the guys that are out in the trenches, the people that have been doing this for years prior to you or I even getting involved,

know what the dangers are and have been training their personnel accordingly; but I think by adding training reports, I just think it's a little bit too much too soon. There are other areas that can be dwelled upon a bit more and would give us a few more benefits than a training program, and I hate to dwell on that--that's not one of my big points, train them or not--I think the insurance requirement, the bonding requirement, whatever you want to call it, it's going to force the small guy out of the business, and, granted, if the small guy can't do it right, he shouldn't be in there doing it at all. However, that may cause a lot of your co-disposal sites that could accept some low-level hazardous waste, water-based waste, something like that, they're not going to be able to handle it, and I think this waste designation is the whole key to the issue.

MR. LEHMAN: I have a question I wanted to explore or expand with you on your remark, and I think it was a brief remark, about the exemptions for wastes going to recyclers. You implied that that was a big loophole in the regulations. Could you expand on that a little, why you think it is and what should be done about it to close that loophole?

MR. PETRILLI: No. 1, Mr. Lehman, in Illinois we have a manifest system that will be implemented in this

summer, July. We will not have that exemption. The manifest will require any hauler hauling any type of wastes, special and/or hazardous--and we'll key it into the RCRA definition when it does come out--that he must have the manifest form. To me, if I'm driving a truck loaded with waste, and for some unknown reason I get stopped, and I don't foresee that happening very often, to be honest, I'm either going to say one of two things to you, one, "I'm going to the recycler with my waste," or, two, "I'm going to Indiana". Either one of those, I'm off the hook, and you're not going to stop that many. In our opinion, we're going to be more concerned about the sites that we do know about, the haulers that we do know that are going to these sites and the generators than to have time to go around on a witch hunt looking for haulers that are illegal haulers, and why open that hole when I don't think the reporting requirements are that difficult.

I agree, let's recycle more. I'm all for it, but to give the recyclers a benefit just to open the door for an illegal hauler, to me, is wrong.

MR. LEHAMN: Can I follow up on that? Your suggestion, then, would be to include wastes going to recyclers in the manifest system?

MR. PETRILLI: At least that much, and here's my reason for that--

MR. LEHMAN (interrupting): Would you go further than that, though, would you require permits for recycling?

MR. PETRILLI: Yes, because here's what I want to know. People ask how much waste is generated in Illinois. You know, I can give you a figure, and you can give me a figure and not know anything about Illinois and maybe be closer. The point is I want to know the waste going out the backdoor of that plant, be it going to a recycler--and when that recycler recycles these things, I believe the conservational mass exists. You're not going to recycle 100 per cent of that waste. That recycler is also going to be generating probably a more hazardous residue than is going into that site, and he's going to be under the generator requirements, in our opinion, and this manifest thing may go on and on and on and will, obviously, have to be worked out after you get into the program; but I want to know the waste generated in this state and I want to know where it is going, and whether it is going to recycle or not makes no difference to me. If it's going to a recycler fine, but I want to know what he is taking in and what's happening to that waste when it goes through his black box.

MR. LEHMAN: Let me just pursue it one step further. If we have it in the manifest system, it almost fol-

fows from the way the definition of manifest is described in our legislation that you have to have a permit in order to know that a manifest is used to take a waste to a permitted facility, so that one goes with the other; and just on the side here, we recognize, of course, that a waste produced by a recycler or a re-refiner, whatever, may be hazardous, and, of course, he would be a generator under our system and would require a manifest to ship that waste somewhere else. That is a given, but let me just say that one concept we considered early on was some sort of a special permit for recyclers, to give them a break, if you will, as opposed to other types of facilities, to encourage recycling as opposed to other types of waste management. Do you have any feelings about that, as to whether the full force of all these regulations should be on recycling facilities or whether they should be given--

MR. PETRILLI (interrupting): You have hit a nerve on this whole thing, and I think the regulations should have been developed to protect the environment. That should be the one thing. Whether it promotes recycling or promotes proper disposal, to me, is not the question. If you can dispose of it properly, more power to you. If you can recycle it and have a recycling system that doesn't cost an arm or a leg--it isn't a white elephant--more power to you. I just want to know the waste

coming from out of state and going to your plant, the waste generated in Illinois and going to your plant, and the waste generated in Illinois and going out of state; and this is what the manifest is all about. Obviously, I think most solid waste agencies statewide do not have the expertise in resource recovery to be able to permit a particular site.

In our discussions, if we permit recycling, for instance, we won't be permitting the hardware, we'll be more into, as you would say, safety of the site, handling and reporting, that type of thing. Whether the thing creates a viable product, I'd like to see it work. We're not--Illinois for years is saying you're pro-disposal, you're pro-disposal. No, we are pro-environment; and if the recycling can work, more power to it. So far we are not convinced that recycling is viable; and to say in 1980, when RCRA comes down the pike, that you are going to have all of this technology waiting for you, that you're going to have all these disposal sites waiting for you is a pipe-dream. It's not going to be there. It will take time; and if there is money some place, you better believe somebody will pick up on it; and I mentioned the 75 per cent, and I know you questioned the earlier speaker about that. In Illinois--and you will be supplied with the data--we are going through our supplemental permits which, in es-

sence, take individual waste streams from individual generators, and you have a chemical analysis submitted along with that particular waste, and we will be in the process of classifying those wastes as hazardous under the criteria as they now exist; and from just fingering through the files, I think the 75 to 80 per cent of the permits issued--and there were about 3,000 issued last year--will definitely be hazardous. Of course, if you throw the fly ash in there as a special waste and include that, that will, of course, lower that percentage, but again we do not consider fly ash a hazardous waste, or a special waste for that matter.

MR. LINDSEY: I don't want to beat this subject to death, but I think there are a couple questions here relative to the recycling aspect that should be asked. One of the problems that we ran into was the problem--and since you are planning to do this, you probably have the answer--how do you separate those things which are wastes that are going to a recycler from those things which are legitimate byproducts? In other words, there's hundreds of millions of tons of legitimate byproducts, and where do you draw the line with regard to control? That's the first question, and the second question is if you do, say,manifest the waste to a recycling facility and then the recycling facility has a permit, then do the products

from that recycling facility, do they require a permit and do they require manifesting and control?

MR. PETRILLI: Mr. Lindsey, I think, No. 1, I want to know what is coming out the backdoor of that industry. That, to me, is the key to this whole program. The notification under 3010 will really help us get a handle on this. When it goes to that site, I want to know that that site has, indeedd, signed a manifest form saying yes, we received 1,000 gallons of Waste A. I will assume Waste A is not going into the plant down the sewer. We will have checked the facility out to see just what type of product is created. We do not intend on carrying the manifest past a product stage However, the wage generated by that facility, as you mentioned, would be again under the manifest as a generator, and a whole new permit would ensue. Once it goes into the hoppers and mixes up, obviously your system is breaking down in that regard, but I think a report on products generated and waste generated is not that big of a burden. For instance, in Illinois, I think we counted--there aren't that many liquid reclaimers, for instance, that it would be that great of a burden.

CHAIRPERSON DARRAH: I have a couple of questions.

The first thing, you gave us a sort of post-RCRA scenario of 25 possible sites in Illinois. Was this

an optimistic estimate, or I'm not quite sure what that number was to start with?

MR. PETRILLI: In Illinois, currently we have 50 sites throughout the state that have these supplemental permits that take special wastes. Now, granted, I will say 25 to 30 of those sites take very limited amounts of waste. Some may take the sludge from the town, for instance, that they are in and so on. I would be surprised if 25 sites would go through the requirements to become a hazardous waste facility; and for one reason alone, there is just too much hassle involved; and when you tie Subtitle C up in a great big red ribbon and give it to the public and give it to the regulators, the one variable of public input can change the whole thing. To me, we have probably in Illinois 50 sites that geologically could be converted into hazardous waste facilities. For one reason or another, and it was mentioned earlier in the week by the fellow from Quincy, why would the city of Quincy or Adams County want to even get involved in a hazardous waste facility or being designated as such. I think the political pressure is just too great. The risks are too great to even become involved in such an endeavor.

CHAIRPERSON DARRAH: Do you have some suggestions--you have told us a couple of things which seem like they are slightly contradictory, first of all, that

Illinois is overall--its highest priority is for the environment, and, obviously, we are trying to regulate for the environment, and you are telling us that as we promulgate these regulations, we're somehow doing too much or there's going to be too much hassle. Is there something we can do to make this disposal safe and somehow acceptable to the public?

MR. PETRILLI: I think the first thing you can do is, obviously, break down into degree of hazard, and you've heard that and you've heard that, and you are probably sick of hearing it.

CHAIRPERSON DARRAH: As long as we're talking about that, can you tell me, you said also when you break down by hazard, you have to class the landfill. Can you suggest to us, I hope at least in your written comments, what requirements that we're presently imposing that you think could be lowered for certain lower hazard wastes?

MR. PETRILLI: Oh, for sure. I think, for instance, let's just take the 500-year flood plain, if you are taking water-based paint sludges for some reason--and you have found this out in writing the regulation--when you start listing things is when you get in trouble, because there are chemical plants out there that are probably creating thousands of compounds every day that you have no idea even exist. I think you can come up with a standard

based upon concentrations that would be reasonable, and I think it is funny that we mention semantics all the time, but as soon as you hang that label of "hazardous waste" on anything, believe me, if you change your mind two years down the road and say it's not hazardous, that's not going to wash. That waste is hazardous forever and the same, a hazardous waste facility, some states have classifications, Class One Facility, if you will, is indeed a high priority item and should be engineered, designed strictly and should have reporting requirements, and everything in this document. No argument from us. The problem is there are

low level wastes that do not need the strict monitoring that you have here.

CHAIRPERSON DARRAH: At this time I would reiterate any specific suggestion you have to make in your written comments would certainly be welcome in that regard. Thank you.

MR. MC LAUGHLIN: I'm kind of puzzled by your example of cadmium concentration to define hazard versus the amount generated. I don't understand how you use cadmium concentration as a determinant.

MR. PETRILLI: Chet, I could use cadmium I could use iron, it was just a matter for example.

MR. MC LAUGHLIN: I realize that if I was in industry, I'm trying to paint a scenario, if I was in industry or anyone else and I was producing a cadmium waste, I think that I would look at my costs for going to a high, moderate and low level site and I would look at my concentrations and I would compare, if I could dilute, and go to a low hazard site and save money or I could concentrate it and go to a--

MR. PETRILLI: I get your drift on this thing. Number one, we have thought of that. Number one, your cost for disposal diluting t h a t t h i n g instead of a thousand gallons you went to ten thousand gallons would probably not override it. However, that comes into our office and we see the permit and it's got, let's say, ten part per million, ten thousand gallons of this waste, we're going to request that waste be reduced through one method and the

same with the very high concentration of waste, now oftentimes we'll say send their summary cycle potential for this some place. I think you have to allow for that flexibility. Obviously there isn't that much space that we can afford the luxury to allow something that dillute to go into a landfill and take up space that can be taken up by probably more concentrated waste stream. That's a good point. We've realized that.

MR. MC LAUGHLIN: You brought out what I wanted you to.

CHAIRPERSON DARRAH: Thank you very much.

Before going on, Mr. Lenggel, would you mind coming up and just identifying yourself for the people at the hearing and for the record. I think I called your name but when you started off, you didn't introduce yourself.

MR. LENGGEL: My name is Alfred Leslie Lenggel. I'm a consulting engineer for Abram Limited, Chicago.

CHAIRPERSON DARRAH: Thank you.

I'm going to call again the people who are on my list who did not respond earlier.

Mr. Chin from the Illinois Attorney General's Office, did you get here?

(No response.)

CHAIRPERSON DARRAH: Mr. Klinger from Quinch-Adams County Landfill Commission.

STATEMENT OF JOHN KLINGER

MR. KLINGER: My name is John Klinger. I'm here today representing the city of Quincy, Illinois, the community of 50,000 located in west central Illinois on the Mississippi River 100 miles north of here.

I'm chairman of the city of Quincy-Adams County Landfill Commission and, as such, help direct the activities of a solid waste landfill disposal site that serves our industrialized community. We are the landfill Mr. Patelli just referred to. Besides handling the municipal refuse of the city and the county, we currently operate under the state of Illinois EPA special waste permit system and handle special waste for ten to twelve Quincy industries. We appreciate the opportunity to comment on the proposed regulations for hazardous waste management and the effect of these regulations upon our community and local industries.

We are submitting, in addition to this presentation, written comments that will address specific sections of the regulations and the agency comments and the preamble. But I would like to stress today in my testimony one or two facets of the proposed regulations that are of critical importance to the city of Quincy, its industries and what we feel would be similar problems in other municipalities in the Midwest.

From an engineering standpoint, the proposed regulations under Section 3001, 3002 and 3004 are not overly

stringent and will do the necessary job of protecting the environment. From an economic standpoint, the proposed regulations, as they are now written, will probably prove unworkable, at least for our area.

More specifically, the rules under Section 3004 on 20 year site monitoring, insurance, financial responsibility. closing costs, daily inspection, manifest record keeping, required reports and site examining requirements for either landfills, incinerators, basins or surface impoundments can be done but will be costly. For smaller sites like ourselves or for numerous others to establish a hazardous waste disposal site for the smaller amounts of waste that we now might be handling and allocate these costs over the few years as we have would be prohibitive. Only large disposal sites operating on a big volume basis could hope to keep the unit cost of disposal low enough for the user industries to continue a competitive stance. Smaller sites are just not feasible, especially when the recycling efforts, the Act is encouraging, are slowly accomplished and the hazardous site costs must be picked up by the remaining users of any landfill.

This is one area where the real economic impact of the regulations will be felt. We feel it's wishful thinking to expect most current landfills will upgrade themselves to hazardous waste disposal sites, thus the net effect of the new rules will be to force all hazardous waste into a few true

sites currently in operation. I am sure that many other speakers today have and will address themselves to this idea and the difficulties in trying to locate sites in the face of severe local opposition. I don't want to belabor the point.

What I would like to stress is the idea not covered in the regulations but one that is of paramount importance to us. Federal and state participation in locating hazardous waste disposal sites. We are not requesting that the two level governments assume the complete task. The primary responsibility should be with those who are generating the waste, local communities and industries and other agencies. But for either the federal or state agencies to say that it is our problem, that we can solve it, is ignoring what we feel is the actual case.

Not many cities are directly involved in disposal of either special or general solid wastes as Quincy is. I can assure you that most communities will be vitally interested once the regulations do go into effect since all will be directly influenced by the plant closings, layoffs, et cetera. Cities with one or two industries that generate hazardous waste could suffer severely if these plants relocate to areas where disposal sites are available. We feel federal and state help in establishing disposal sites, constructing incinerators and recycling centers, developing treatment processes and funding research of improved technologies for hazardous waste manage-

ment is essential to heavily populated Midwest and northeast. Here land is at a premium in both price and availability. The disposal sites would be especially hard to locate given the heavierpopulation concentration. To not help us means giving industry one more reason to locate to the south and southwest where sites might be more readily available.

I feel it's important to say that not many plant closings would occur but many might relocate, not affecting national statistics but definitely harming the individual local communities. Any future economic growth in the Midwest where there is a lack of a suitable disposal site could be stopped for many years aggraving already distressing problems.

In closing, I would hope that the government would use these proposed regulations with an eye towards what we have stated. We now express a willingness to work with the regulations and not against them. However, we will need additional help for the first few years. For you to expect private corporations alone to help ussolve the problem is wrong as their main priority is returning a profit and not municipal economics. Interrelation of a strong economy and a clean environment can be successful if common sense in enforcement of future regulations are exercised now.

I thank you for the opportunity.

CHAIRPERSON DARRAH: Thank you.

Will you answer questions for us?

MR. KLINGER: Yes.

MR. FIELDS: One of your initial comments was that costwise the 3004 standards would be prohibitive, I guess, in terms of record keeping, et cetera. I was wondering whether you have any cost estimates of what it would cost your facility to comply with those requirements and if you did, we'd appreciate any estimates you can send us.

MR. KLINGER: We do not have any included in our written comments. We have been attempting to evaluate them since we've seen the proposed regulations. In effect, I speak for all of the Commission members in that the regulation scared us to death and in looking at it, and our attitude has been given the cost of developing our new site, which we have just opened, the engineering cost was approximately $55,000 just for the review. Considering what was required then and what would be required under the other Act, the Commission's opinion was there was no way that we should even entertain serious thoughts of trying to become a hazardous waste site. So we've not really done a lot. We've kind of thought around and asked for a little bit of advice, but our consensus feeling of the Commission was we simply couldn't afford to get into that cost in view of what our cost was to open a new site this past year.

MR. LINDSEY: You did mention that you felt that with regard to locating sites, that the federal government should

go into this and you did rattle off a few things there that you thought we could do. I remember you talked about research and doing design studies on recycling facilities, things like that.

In a more activist role at the federal level, would it be useful, let's put it that way, for the federal government to get involved in a more activist role in trying to locate the support areas, regions of the country or sub-regions in states, cities and counties that might be adequate for hazardous waste management and help back that up in some way?

MR. KLINGER: I think it would be necessary, considering the problems we, and I think all communities have had in locating suitable sites for moving operations to and further the problem that some of the industries and users we have are simply they are not large enough to support any, they come to the landfill and say, what can we do with our waste? Can we treat them some way or can we neutralize them? They're simply not big enough, don't have the resources to know how to handle their wastes and neither do we. I think most wastes would just, the state of the art is not high enough to know whether some of these things can be recycled. But certainly the small industries are not wealthy enough to solve their own problems.

MR. LEHMAN: Mr. Klinger, have you considered

another alternative here, I'd like your comments, of regionalizing these types of facilities? In other words, let's say, for the sake of argument, that your particular locality, given this industrial base and municipal budget and so on, could not upgrade or would choose not to upgrade the standards but is there, in your opinion, a possibility that a more regional type of approach could be taken here where not only your Commission but other commissions in adjoining areas get together and combine together to build such a facility that would service all local industries?

MR. KLINGER: I would think that that is what must of necessity evolve from this. The question is how regional is regional? Quincy is the largest community within a hundred-mile radius of its own territories. We must go to Springfield, Illinois, or St. Louis or noth into Iowa before we have a larger population base. We might be a logical regional base for, say, a 50-mile radius, but we are working in the three-state area with different state laws, different current regulations. I serve as a volunteer on the landfill. My profession is a consulting engineer and the difficulty of getting varying forms of government to cooperate, particularly local government, with strong rivalries between them, I think that the problem is serious enough that it can't wait for some of those rivalries that exist. I don't see a potential for cooperation amongst numerous small governments. I've worked too long trying to

foster that and it literally takes years to get two or three to agree to a joint effort. So I think that I would not see that happening voluntarily. It might happen through state or area wide establishment of landfill sites.

MR. LEHMAN: I would like to point out that--

MR. KLINGER (interrupting): Our neighboring counties are not going to join with us, I guess is what I'm saying.

MR. LEHMAN: I would like to point out that under Subtitle D, the state solid waste plan section of RCRA, it is a requirement for states to develop regional solid waste planning activities and that these plans address not only municipal waste but also industrial hazardous waste in terms of how they're going to be dealt with within the state. So I don't know whether you have been participating in that activity.

MR. KLINGER: Again, we might be unique in our location but, for example, a state plan from Illinois, we are the western most point in the state of Illinois, and we are, in effect, an area of Missouri, Illinois and Iowa would be a more reasonable drawing base.

I feel like Mr. Patelli, there are a number of people here I think from the state of Illinois who probably are better qualified to speak to it than I am. But I feel like our economic base is not just from the state of Illinois. It's from the total area. The industry is from the total area and if there is to be regionalization, and I think the effect of

the regulations will be, has to be some but ours should be on a multi-state basis. I'm speaking for myself and not the Commission.

MR. LEHMAN: Thank you.

CHAIRPERSON DARRAH: Thank you very much.

Is Charles Robertson from INSCO here?

(No response.)

CHAIRPERSON DARRAH: We are going to recess for lunch.

For your information, Mr. Robertson is the only other speaker I have listed for this afternoon. If there is anyone else who wants to speak, if they would check in with the registration desk and indicate that to us, that would be helpful. If there is time this afternoon, we'll probably have another brief question and answer session.

We'll reconvene at 1:30 p.m.

(Whereupon, the hearing recessed at 12 o'clock noon, to reconvene at 1:30 o'clock p.m.)

AFTERNOON SESSION 1:30 p.m.

CHAIRPERSON DARRAH: This is our afternoon session of our public hearing on Section 3004 of the Resource Conservation Recovery Act Regulations.

If there is anyone who wasn't here earlier who does want to speak, please sign up at the registration desk and they will send your name up to me.

The only person I have on the list who wants to comment this afternoon is Mr. Charles Robertson from ENSCO in Eldorado, Arkansas.

MR. ROBERTSON: Thank you very much.

STATEMENT OF CHARLES ROBERTSON

MR. ROBERTSON: Being from Arkansas, we do things somewhat differently, that state we do and some other states, even though everyone else says Eldorado, we say Eldorado. In my first appearance before the City Council in Eldorado, I made the mistake of saying Eldorado and I think I'm still being punished for it.

My name is Charles Robertson. My company is Energy Systems Company and we go by ENSCO in Eldorado, Arkansas. We operate a high temperature incineration system for treatment and destruction of hazardous waste.

I will be submitting written comments concerning the proposed regulations. I would like to commend the various members of the panel here and their staffs on the job that

they've done in putting together these regulations under what I consider to be very adverse circumstances and under a very restrictive time frame.

I think when all of us learned about the Resource Conservation Recovery Act in late 1976, we felt like the time tables were very ambitious and a lot of words were said that they won't be made and some people were very comfident that they would be made. And in the light of the criticism that has come before, come to the EPA on their delay or their tardiness in promulgating the regulations, I would like to give my thanks to them because I think they could have gone in a quick and dirty fashion and we would have had a more difficult situation to live with than we're going to have under the regulations as they're now proposed.

I would like to hold my comments this afternoon to the financial responsibility requirements for storage treatment and disposal sites. I am not concerned with post-closure but primarily the continuity of operations. The insurance industry, as it operates in this country today, basically is an industry that, if you don't need coverage, they are happy to do business with you and if you need coverage, they would just as soon you talk with someone else. Similar to the fellow who's got a great idea of no money and goes to the bank and no collateral, the banker has no use for him. But if he can take that same idea to the bank with

two to one collateral, I'm sure he can get his loan.

We have been working for the last four years to obtain insurance coverage in an amount that we feel would be adequate to protect our operations and to protect our customers. The biggest hurdle that we had to overcome was to first buy a coverage that would cover sudden and accidental discharge. Up until approximately 20 months ago, it was excluded from all policies that we had been able to purchase. I had talked with various people who said they had sudden and accidental coverage only to find out, upon investigation of their policies, that there were endorsements, perhaps, on the back that they had signed without knowing what they were and they were exclusions of sudden and accidental coverage.

Sudden and accidental coverage can now be obtained. It's a very narrow market. You can't go out necessarily and shop for the insurance coverage that you need to cover the sudden and accidental coverage. Premiums are rather expensive, probably running somewhere in the range of from one half of 1 per cent to as much as 5 per cent of gross sales.

The term comprehensive general liability is used by many people in talking about insurance coverages. However, in chemical operations, and particularly in our industry, comprehensive general liability is almost impossible to obtain. General liability you can obtain and there's a tremendous difference between comprehensive general liability and general

liability. Contractual liability is impossible to obtain. The basic reason for this, so I have been told by the members of the insurance industry that I have talked with, is the fact that the chemical waste disposal industry as a whole, while it's made up of three very large corporations, which are basically solid waste people or municipal waste as opposed to chemical waste, and a number of small organizations, if you lump them altogether, they still are a small industry as compared to the chemical industry, the automotive industry, the general classification of retaining industries and this type of thing, the premium dollars that are necessary to cover the risks involved are just not there.

The part that concerns me most under the proposed financial requirements is the non-sudden, non-accidental requirements. I've talked with members of the EPA who have worked on this, and I'm informed that there are two sources that will provide this coverage. As of now, I've only been able to find one of those sources. I'm concerned that the contractor who provided information to the EPA under the financial responsibility portion may have provided information that is either not entirely correct or needs to be expanded upon. That particular contractor is involved in the non-sudden and non-accidental insurance coverage in a condition to make an application for insurance for non-sudden and non-accidental discharge, an inspection is required and it so

happens that this inspector, the only inspector that's approved, is the same contractor who wrote the financial responsibility report for you people.

In the insurance industry it's not unusual to have an inspection. It is unusual, however, to pay a fee for that inspection.

The other thing that discourages me, I'm not totally adverse to paying a fee for inspection, but the disclaimer in their contract is extremely distressing. The disclaimer, and I will provide a copy of this with you in my written report, the disclaimer disclaims anything that they prepare in their report having to do with a lack of diligence, a lack of accuracy and a failure to provide service of a professional quality. I have asked the question on several occasions of the EPA if that same disclaimer was in the contract that RAT had with the agency. If so, I question the validity of the information you may have received from the contractor. Disclaimers are not unusual but that is a very unusual disclaimer.

I have worked with three of the largest insurance firms in the country, national insurance firms, brokers, whatever you want to call them, they represent most of the major underwriters, and, to our knowledge, there is only one insurance agency in the United States that will provide non-sudden and non-accidental coverage. I am submitting in my

written remarks a copy of their proposed policy and one of the questions I will ask is will the wording of the proposed policy meet the financial responsibility requirements as proposed by the regulations? I don't know. I read both of them, I can't tell you whether they do or not.

To sum that up, I question the statement in the regulations that non-sudden, non-accidental coverage during the life of the site is generally available.

I thank you.

CHAIRPERSON DARRAH: Thank you.

Will you answer questions?

MR. ROBERTSON: Only on the financial responsibility.

MR. LINDSEY: Mr. Robertson, we did have a person in New York at the New York hearing from the Halden Swan group. I don't know if that's the one you've talked to or not.

MR. ROBERTSON: That's correct.

MR. LINDSEY: Who testified as to the availability of the kind of insurance we're talking about and mentioned some figures and so forth, and they had no limits. They also mentioned the fact that they had great expectations that they were imminently going to get a great deal of competition in this area. Maybe reference to that testimony might be a help to you.

Giving that you're questioning the availability of

this kind of insurance and, as I say, our contacts, both with that organization and with both the stock companies and the mutual companies, the associations that represent them, indicate that there should be no problem providing this kind of insurance once the regulations go into effect. In other words, they like the regulatory approach because it gives them, then, a bench mark from which they can proceed. And I think, hopefully, that will help as well.

Let's take another approach. Assuming insurance is not the way to go,and maybe you're saying that, I don't know, you haven't said that exactly, but let's assume for a moment that we do that, is there another approach that we can use, do you think, to provide protection to the public from, let's say, fly by night operations that kind of shut down and pack it in, provide protection for problems along these lines, liability problems, for example?

MR. ROBERTSON: I believe you've got two separate situations in what you're talking about. Let me try to cover first, you're saying am I in favor or not in favor of insurance coverage. I am definitely in favor of insurance coverage. All the point I want to make is that the insurance coverage is not generally available. For instance, if I want to buy a pair of shoes and there's only two places in the United States that make shoes, I don't see that those shoes are generally available. But if there are shopping centers in

all the major cities where I can buy a pair of shoes, then I think it's generally available.

The fly-by-night operator that you have mentioned, I think that the other portions of the regulations, the standards applied to generators and transporters, and then in the permitting of the facility itself, will cover those requirements.

The problem has to do with what is sudden and accidental and what is non sudden and non accidental. And if you look at the situations that have occurred at disposal sites, active disposal sites, those have been sudden and accidental situations. And I don't think that we have had, at least to the best of my knowledge, damage to the environment nor to human health andwelfare from sudden and accidental coverage or occurrences.

The famous Love Canal, this has happened over a long period of years from a non-active site. The indiscriminate dumping of drums, as people talked, off the back of trucks and the recent programs this week on the Today Show showing some of our situations, those are not going to be covered by a non-sudden and non-accidental policy anyway. So if the insurance is available, I don't think any of us have an objection to buying it. If it costs ten cents on the dollar, we'll simply pass it along to the generator. Particularly from the fact that the generator is going to have to have the same

coverage that we do, either that or he's going to be self-insured.

Another thing that you haven't covered in that is what types of deductibles might apply. We were looking at a $50,000 deductible on $4 million worth of coverage at a premium of $57,000 a year.

MR. LINDSEY: There may be some misinterpretation here. Maybe I'll point that out. The deductible which would apply or the maximum deductible which we would accept here under this particular regulation is the degree of self-insurance which is allowed which is based on 10 per cent of the equity. So whatever your equity is, 10 per cent of that would be the amount of, maximum amount of self-insurance that we would allow, according to these standards, the way they are now.

Let me follow upon that just a little bit, then. If it's not--you're claiming that if this kind of insurance is not readily available, what other alternative would we have? You said that you felt that the design standards may be enough to provide the degree of protection. But as in chemical plants, for example, or other kinds of industrial operations, there are accidents, and I guess our position here is that the public needs to be protected, that is to be assured that if there is such an accident and they are in someway damaged during the short haul, that there is a

fund of money which can be attached if the company is not substantial enough to handle it. I think that's where we're coming from.

If you've got any further thoughts on that and you want to make them either in writing or today, that would be helpful, if there is another alternative, I guess that's the approach.

MR. ROBERTSON: Mr. Lindsey, I think your key word there is "accident". An accident in the interpretation I received from our carriers, an accident would be under sudden and accidental coverage. I am not quarreling with the sudden and accidental coverage requirement. That's there. It's generally available. By that I mean there's at least three companies in the United States that you can talk to and they all want to be reinsured by Lloyd's of London.

My concern is the non sudden, non accidental, and there you're talking about environmental damage as well as endangering human health and welfare. The underwriting requirements for non sudden, non accidental are of great concern to the insurance industry because there you're actually even covering pre-existing conditions unless you go in, and the insurance company would require you to do a tremendous amount of perhaps test borings as to what had been on the site before to find out what risks they are exposing themselves to.

MR. LINDSEY: As a point of clarification, I think

the requirements were non sudden and accidental not non sudden, non accidental, is that right, Ron? Yeah, that's right. I'm not sure that makes any difference in your remarks.

MR. ROBERTSON: I think from the standpoint of the underwriters, sudden and accidental is very clear. Those two things have to happen. It has to be sudden and it has to be accidental.

MR. LINDSEY: It's the non-sudden part.

MR. ROBERTSON: It's the non-sudden part that gives the problem.

MR. LEHMAN: Mr. Robertson, you made a reference a moment ago to a particular, the word escaped me, deductible for a particular case, I believe you said $50,000 deductible.

MR. ROBERTSON: $50,000 deductible on a $5 million policy, right.

MR. LEHMAN: $5 million policy.

And the premium you said was something like--

MR. ROBERTSON (interrupting): It was either fifty-one or fifty-seven thousand dollars a year.

MR. LEHMAN: Per year.

Was that a quote for a non sudden or was that a true or current premium you pay for sudden and accidental?

MR. ROBERTSON: That was what they called a preliminary quote subject to inspection and underwriting.

MR. LEHMAN: For non sudden?

MR. ROBERTSON: For non sudden.

MR. LEHMAN: I wanted to just clarify that.

MR. ROBERTSON: Right.

MR. FIELDS: Mr. Robertson, one comment we did get in the New York hearing was that, I know you dispute the EPA's statement that this insurance is generally available, but he did indicate that he felt that because of the fact that EPA was coming out with these 3004 regulations and because of the fact that these would require the waste be managed safely, that it would encourage additional insurance companies to write the type of insurance that you're talking about now. Do you agree with that assessment?

MR. ROBERTSON: I think that the assessment is true over a period of time. The real facts are going to have to be assembled. The concern that I have, if I have interpreted the permitting process correctly, is that after the notification and in the issuance of whether it's permits or interim permits or however long it takes to get around it, but, as I understand it, somewhere in 1980,in order to have an operating permit, we have got to have both sudden and accidental and non-sudden coverage to the tune of $5 million an aggregate ten on one and $5 million on an aggregate of ten plus legal cost in the second case.

I question anyone in the insurance industry who would

say that if the regulations are published on schedule that on January 1, 1980, that we're going to have a large number of insurance agents or companies aggressively seeking to write insurance for twelve or fifteen companies that own disposal sites.

CHAIRPERSON DARRAH: Thank you very much for your comments.

Is there anyone else who would like to offer us comments on the regulations this afternoon?

(No response.)

CHAIRPERSON DARRAH: We'll close the official record of this public hearing and we'll, for at least a short time, take your written questions on Section 3004.

(See separate transcript for question and answer session.)

SEPARATE TRANSCRIPT FOR QUESTION AND ANSWER SESSION

St. Louis, Missouri

February 16, 1979

MR. LINDSEY: How do you intend to issue permits for large complex manufacturing facilities that consist of several independent operations which produce one or more raw materials for an end product, and there's a list of assumptions?

Each of the raw material production facilities could, under proposed regs, be a generator of hazardous waste. The end product in the finishing stages could also generate a hazardous waste requiring disposal. Some of the processes could require settling basins resulting in storage of hazardous waste sedimentation for periods of greater than 90 days before disposal. In that case, that particular waste, if it's hazardous, would need a permit.

The next question. Will each separate independent facility require a permit as a generator?

No, there would be one permit for each site, that is each contiguous property or facility, manufacturing operation and all the associated hazardous waste disposal or treatment operations or storage operations would be incorporated in one basic piece of paper.

Will a separate permit be required for storage?

If by separate you mean a different piece of paper, no, it would be part of the overall permit, although there would be conditions on the permit related to the storage facility.

If some of the above waste is treated in a surface

impoundment before discharge, is a permit required for treatment?

If it's a leaching lagoon or a leaching surface impoundment and if the material in there is hazardous, then the answer is that would be incorporated as well.

Then there is a question about enforcement. I think what I'll do is, since I've answered the permit part of this, I will turn this over to our enforcement people and you can think about it for a few minutes.

MR. FIELDS: The first question, why are security requirements necessary for other mining wastes? Has EPA considered writing less strenuous security requirements for special wastes?

The first question, first of all, to clarify, the security requirements will only apply in the case of other mining wastes which were deemed to be hazardous, that is they fail one or more of the hazardous characteristics under 3001. So we're not applying it to all mining wastes but just those that are hazardous. And we believe that certain security requirements are necessary for mining wastes so as to protect the public from hazardous waste that might be at a particular site. As indicated this morning, we do have a note which allows deviation from the six feet fence and the ingress, egress requirements so there is some flexibility built into these requirements. But in the case of special waste, some of

the commenters have indicated that there might be some alternative requirement specified.

The EPA has considered writing lesser or more stringent security requirements and the position we took is the one represented in the proposed rules and we welcome any comment on the security requirements on special waste that we have specified thus far.

Next question is, if a facility has extremely low permeability, can marginal liquid and plastic limits be accepted? What is the reasoning behind establishing a particular liquid and plastic limit for soils?

First of all, the first question is if you have a soil that has a low permeability, can marginal plastic and liquid limits be accepted? The answer to that is,yes, as long as you can demonstrate or satisfy the note requirements. As indicated in the surface impoundment and other sections, we have a note. Although we specify ten mile seven permeability for soil at a particular site, natural design or alternative synthetic membrane, we do allow, in the case of the note associated with the plasticity index, a note which says that as long as an equivalent or greater degree of structural stability can be achieved, waste containment is achieved, we would allow alternative soil characteristics at a particular site than those specified in our regulations.

The reasoning for adopting these soil characteristics

is that, like I said earlier, our regulations are designed to provide the containment necessary so as to protect the soil, I mean the ground water beneath that site from being contaminated. And one way to assure that is to have tight soils and make sure that soil meets certain characteristics.

The next question is, why does the note on Page 59000, middle top, dealing with sampling of incoming truck loads of waste apply only to on-site facilities? Why was off-site generator owned facilities not afforded the allowance of less frequent sampling?

Well, we welcome your comments on this, but the reason as to why we only excluded or allowed an exemption in the note for on-site generators was because we felt that most on-site, a lot of on-site generators would be handling, for example, one type of hazardous waste at that facility, they would not be accepting a myriad of waste from off site, therefore, we thought it would not be appropriate in certain cases. Again the note is a variance which would have to be granted by the Regional Administrator in that particular region. In certain instances, we believe that a generator of hazardous waste might have sufficient information about that one waste he might be handling so as not to require every time, he takes the waste down to his landfill located on his own property that he do an analysis of the waste.

On the other hand, a lot of off-site facilities, in

that case, we're talking about people who handle waste from a variety of sources, and these sources, it could be ten ways, it could be hundreds of ways, we believe there should be a requirement that there be some sampling of that waste received from off sites to verify that the contents of that waste on what the permit or manifest says should be is being received.

The next question is, what is the rationale for excluding anaerobic conditions in the land-farm regulations?

The rationale was that, the people who were involved in writing the land-farm regulations felt that aerobic conditions were needed for effective waste degredation at land farms. However, based on the comments we've gotten this morning, an example was cited where an anaerobic condition would effectively degrade some wastes. We will be receptive to receiving data and comment from the public on how we might incorporate anaerobic conditions into a landfill regulations in the final rule making.

MS. SHAFFER: I'm going to answer the rest of the question that Fred had concerning multi-faceted permits.

The question, to continue was, if the answer is that there would be only one permit, if only one permit is issued for the generator for all of his various processes, how will he be affected with regard to non-compliance problem

developing in one area? In other words, could his whole operation be stopped because of non compliance?

First, I want to say that the generator per se doesn't get a permit, unless he handles his waste on site and I assume that's what Fred assumed was the way the question was answered.

Secondly, if you have a multi-faceted permit and you are in non compliance with a certain portion of it, your whole operation will not necessarily be revoked or stopped. If there are a number of processes which are drastically out of compliance and you need to stop your operation in order to correct them, then, yes, we have the authority to suspend or revoke your permit. But hopefully that won't happen.

MR. LEHMAN: I have a question here which says, when can we expect a grid of about fifteen to twenty miles for waste disposal even of regular trash? And we have a clarification on this point. I believe the question deals with, it's in the analog, to a Clean Air Act requirement where there would be some sort of a restriction on location of new facilities, that they would have to be located within ten or fifteen to twenty miles from a waste disposal site.

The point here is that RCRA does not empower EPA to make any type of regulatory action concerning the production process, that is the generation of hazardous waste per se is not directly controlled under the provisions of RCRA. Conse-

quently, I believe this type of a concept would just be beyond the statutory limits of, for our particular law.

Now here's another question, it's actually about three questions. Let me read them. I'll read it all the way through. Based on what happened at Wilsonville, Illinois, it is a realistic possibility that hazardous disposal sites will be in short supply. How is EPA prepared to deal with this situation and what alternatives will generators have if disposal sites are not available? How fast could EPA react and furnish sites?

There are several points in here that deserve comment. First of all, the assumption is made in the first statement, I believe, that hazardous waste disposal sites will be in short supply. As we have indicated earlier on, perhaps the gentleman or lady who wrote this question wasn't in the earlier parts of our hearing, we believe the Congress anticipated this kind of problem and dealt with it via Section 3005 (e) of the statute which calls for interim status of facilities that are currently in operation that, subject to certain minimum requirements, mainly that they have notified EPA as required within 90 days after promulgation of the Section 3001 regulations, and that they have applied for a permit, they automatically, according to the statute, have interim status and can continue to operate pending a permit, pending the issuance of a permit.

Furthermore, the permitting rates, which are not being discussed here today, provide, as all the other programs do, air, water, for compliance schedules to be proposed on facilities as permanent conditions. And these can extend, according to our current drafts anyway, up to a maximum of three years.

So what you're talking about here, then, is a transition period between the way things are now and the way things will be in several years where we hope that all facilities will, in fact, meet all these regulations and standards. But in that transition period, there will be this interim status which will be allowed by the statute. Consequently, it is not given in our mind that there will necessarily be a shortage of hazardous waste disposal sites.

Now, assuming that that were the case, let's go on and address the other parts of the question. How is EPA prepared to deal with this situation and what alternatives will generators have if disposal sites are not available?

Well, generators have a number of alternatives. First of all, if there is no facility available in the immediate area, there is always the possibility of transportation to a facility further away. It is not at all uncommon, even today without a regulatory program, for waste to be transported up to a thousand miles. I know of one instance where waste was transported from California to New York. It's

about twenty-five hundred miles. So that is one option.

Another option is, of course, to build your own facility. There are a number of industries that are taking that option. If that is impractical, because of the size of the operation, there is another alternative of grouping together either similar industries or industries in a similar area, regional area, grouping together and building a centralized facility to deal with it. This is also being done in several areas around the country.

And a further option is storage.

Now, the last part of the question says, how fast could EPA react and furnish sites?

That presupposes that EPA can furnish sites. I would like to point out that under the statute, EPA has no authority to build or operate hazardous waste disposal sites. In other words, EPA, in accordance with our statute, is not going to rush in and furnish sites. We do not have the legislative authority to do so. RCRA is not an analog to the water law. There is no construction grant type of authority. under RCRA as there is under the Water Act.

I hope that answers that question.

MR. LINDSEY: Before I start, I would like to introduce Ron Dexter who is now to my left or your right all the way over on the end. We've got a question here on interpreting the financial responsibility requirements and

Ron is the desk officer in that area, he's in charge of them, so I'd like to have Ron handle that one.

MR. DEXTER: The question is, could you explain financial responsibility? If a corporation owns five disposal sites, is his total responsibility ten million for non-sudden plus twenty-five million for sudden occurrences?

The sudden coverage is usually written like this. If there is a policy for $5 million, no matter how many sites a company owns, they would be covered for as many occurrences that happen, for example, in a year, if a policy is for a year, they would be covered for any occurrences that happened no matter how many of them there were up to $5 million per occurrence. So as far as the sudden goes, essentially a corporation that owns more than one facility would be covered for as many occurrences that happen in the life of the policy. Normally that is one year.

Now, non sudden, the only difference between the non sudden is we require $5 million per occurrence with the $10 million annual aggregate. The reason for this is this is the way non-sudden policies are usually written. An insurance company will pay up to $5 million against claims and damages for any one occurrence but no more than $10 million worth of claims again usually in a year. That's usually the length of a policy. So the difference is that the sudden has no annual aggregate and it will pay for any amount of claims

up to $5 million for any amount of occurrences where the non sudden only covers a maximum of $10 million.

When we first wrote the regulations, we had in there per site, per occurrence. But now a facility that has more than one site only needs one policy, which the insurance industry refers to this as corporate policy, one policy for $5 million for sudden, five and ten for non sudden, no matter how many facilities they have. And you can see like when I was explaining sudden, it doesn't matter because every occurrence that happens is covered up to $5 million for sudden and then there is an annual aggregate limit of $10 million for non sudden.

MR. LINDSEY: Thanks, Ron.

I have a couple up here. I have one which is really a statement about the long thing here, about the inapplicability, at least in the mind of this person, of our incineration regulations relative to explosive waste and so forth. We'll take this with us. However, I would urge that the person who wrote this to send us some comment on that and maybe expand upon it because it's not real clear. But we will take it with us.

Several speakers have suggested indirectly that a disposal philosophy be established. A disposal philosophy is implied in 250.45(a) and (c). Is it EPA's intent to allow the states to establish their own disposal philosophy and, if

so, how will EPA handle the approval of a state program under 3006 which has a disposal philosophy which is more stringent than that implied in 250.45(a) and (c) and which may affect the import of hazardous wastes from out of state?

I don't know exactly what they mean by, the person means by the disposal philosophy here. I will assume that it means what is our philosophy with regard to putting things into the ground. Our philosophy is that it should be the recourse of last resort, I guess, and that recycling is preferable and failing recycling that detoxification is the next preferable approach to handling waste whether that be through incineration or some other type of detoxification and that land disposal should be a last resort.

On the other hand, relative to RCRA and defined in the development of RCRA, it's our opinion that our authority extends only to disallowing landfill only if we can show that it cannot be appropriately done, that is that it cannot be done in the manner which protects public health and the environment. This is different from philosophy. Our reasoning here has to do with the way in which the legislation is written and in the definition of disposal.

But the question goes on beyond what our philosophy is to say suppose the state has a different philosophy which then results in a different set of regulations which may be more stringent?

Well, by and large, as RCRA points out, more stringent regulations are allowed under RCRA. A state can have more stringent regulations than we do. However, under Section 3006, there is a provision in the draft of 3006, or rather the proposed version, which was last February, I believe, I can't remember the date exactly, February 1 if I'm not mistaken, there was a provision in there which said that if a state had standards which were very, very much more stringent than EPA so that they were impeding premovement of waste into the state or worse yet causing all the waste generated in the state to exit the state, then EPA could discretionarily decide whether or not that particular set of standards was necessary or could be defended on the basis of protecting public health and environment.

If the answer to that was no and we could make that sort of a finding, then we could choose not to authorize such a statement. That same general kind of thinking is still there. I think realistically it would be a difficult thing for EPA to ever use. It would have to be such an arbitrary set of standards, that it would have to be obvious what the intent of the state was and that their intent was simply to cause all the waste to exit the state. If that were that definitive and that arbitrary, I suspect we might be able to make such a finding but, otherwise, it would be very difficult.

This one has two questions. Number one, where can

I get a copy of the flood insurance rate map in 250.43-1(c)?

We'll have to think about that and I'll see if we can give you an answer to that after a minute or two.

To go on to your other question, 250.41(b)(83) gives an exception for a less than 90 day storage and subsequent transport off site. Why hasn't the agency allowed for exempting less than 90 day storage for subsequent treatment or disposal on site?

Well, the only reason for the exception at all is that when you're going to ship stuff off site, usually you have to accumulate a volume to make a truck load in order to make the whole thing economic. Normally this is less than 90 days, although people have indicated to us that sometimes it's greater than 90 days, and the reason why we don't want to get into the permitting game for all those storage facilities is because they tend to be low rish if it's a short-term operationg, meaning that while those facilities will have to meet the standards under 3004, if it's a short-term storage operation, we don't normally have deterioration of drums and so forth to the degree that creates a hazard in 90 days or less. And so, therefore, we feel that it's acceptable not to create all the paper work and the thousands and thousands additional permits which would be necessary to cover those short-term facilities, short-term storage facilities and that there is no environmental hazard there.

The question goes on to say, why not do the same thing for on-site disposal?

The reason is because there's no need to. If you've got an on-site facility that needs a treatment or a disposal permit, then the storage facility is just part of that whole parcel. And the granting of a permit is no additional burden in that regard. The standards have to be met in either case. So that's the reasoning.

If a person owns an incinerator with a heat recovery boiler and burns primarily plant wood and paper trash, would any permit be required if some oily rags got burned on occasion?

The answer is probably not because of the hundred kilogram exclusion. Unless you're throwing a lot of rags in there, I suspect that the answer would be probably not.

MR. LEHMAN: Question, will sites which were constructed after October 21, 1976, that is the date of enactment, but before Section 3004 promulgation and have a state permit be granted interim status?

This points out a real problem with the way the statute is constructed. What we have done here is that, according to the statute, the way the statute reads, it says those facilities that were in existence on October 21, 1976, have this interim status possibility. And what we, EPA recognizing that there may be this inter-regular, if you

will, between the time of enactment and the time of promulgation, we have covered this in the draft permit regs under Section 3005, which are not being discussed here today, but I'll go on and address them. We have defined in existence in those draft regulations to mean any facility which was under plan, design, construction or in operation as of October 21, 1976. In other words, if you could show that the facility was being planned, designed or constructed as well as being in operation, then the interim status would apply.

Now, this is a fix that we have tried to make via the regulatory process. We also feel that this should be addressed legislatively and so the Office of Solid Waste within EPA has recommended that the legislation be changed to change the date of where you start to count interim status from the date of enactment to the date of promulgation of the regulation. But it's not clear as to whether that recommendation will be followed.

Another question, again this deserves some discussion, assuming a local site is not available upon promulgation of the regulations but that one will be available in, say, two years, are there any provisions for variances based on economic hardship, severe or otherwise?

Well, first of all, the assumption is made here that a local site is not available upon promulgation. I should point out, first of all, that the regulations do not

become effective until six months after promulgation, not on the date of promulgation.

Nonetheless, the basic point here is that the statute is silent on economic aspects of the regulations. It is not like the Water Act or the Air Act, at least the Water Act, I'm not sure about the Air Act, where Congress specifically mandated certain economic tests to be made. There are no such tests in RCRA. Therefore, there is no provision for this type of variance in our regulations as proposed.

If, on the other hand, whoever wrote this question or others, feel that there should be, I would urge you to make such comments to us, either for the record at the hearing here or in writing, bearing in mind that the basic thrust, however, of the statute, as indicated by Congressional intent, is the protection of public health and environment.

Now, an additional point can be made here and that is, I just discussed the interim status provision a little while ago, and the basic point there is that whatever waste is going to whatever site it is going to and provided this site notifies and makes a permit application and provided that site lives up to the interim status standard, then that site can continue to operate while a permit is issued. So there will not necessarily be a drastic curtailment of the availability of sites that are currently taking waste. And, as I mentioned earlier, there is also a transportation option available for,

in this case, shipping the waste to a facility further away while this other facility, which would be available in, say, two years, is being constructed.

MR. MC LAUGHLIN: My question in, where are at least six landfills with permits that allow disposal of non-hazardous waste within a 50-mile radius of St. Louis?

I would like to, first of all, comment that Illinois EPA and Missouri Department of Natural Resources, who permit these facilities, both have regional offices here in, I think the Illinois EPA one is in Collinsville and the Missouri Department of Natural Resources office is right here in St. Louis. And they are in charge of inspecting these facilities and they can give you exact information on each one of them and what they can handle. In addition, Mr. Robertson and several of his staff are here at the meeting, if you want to discuss any of the landfills. There's about a dozen in this area that I can name right off the top of my head.

Starting in the east, there's Bob's Home Service; down south in Jefferson County there's at least two of them, one down near Festus, Crystal City; another one in northern Jefferson County; there's south St. Louis County site; there's three quarries in St. Louis County that are operating, they're permitted sanitary landfills; across the river there is the city of Alton landfill; Milan; Chouteau Island. There is an

abundance of landfills in this area. For anyone desiring information, please contact your state department.

MS. SHAFFER: I have a question that I had answered on Wednesday, but I will answer it again.

Under Section 3001, what is the rationale for annual testing of listed waste if shown to be non hazardous? And it refers to Section 250.10(d)(1)(4). It goes on to say Part 3 seems to be adequate protection. What they're talking about is that we require annual testing generators who have tested off the list.

Our rationale is to, for the annual testing is to ensure that that waste remains non hazardous and it's the assurance of testing results that the annual testing is required.

There is a second part of the question and I'll give this to Jack to answer.

MR. MC LAUGHLIN: I would like to also, on the question about the flood insurance maps, the people that you need to contact are the Department of Housing and Urban Development. They have a regional office here in St. Louis. If you live outside of this area or outside of a major metropolitan area, just look up in your phone book the Federal Information Assistance Center that's closest to you and call them and ask them where the nearest HUD regional office is and then talk to them and get maps that you desire.

MR. FIELDS: One question here regarding Section 250.43-2, security. It says, I'd like to know your interpretation of the phrase "in operation". Does it mean 24 hours per day, 365 days per year, any time from the first day of operation until closure? Does it mean any time the facility is open and waste is being accepted for disposal? The comment says the cost implications are significantly different.

I guess the commenter is referring to a statement in (b) which says, "Each gate or other access shall be secured to prevent ingress whenever the facility is not in operation." We're talking about the second part there, your question that is, we're talking about that period of time. In operation means when the facility, when the gate is open and the guy is actually receiving waste for disposal. When you close up or go home for the night, that's what we mean by not in operation.

The next comment says, how does 250.40(c)(2), which are the interim status standards for facilities which have interim status, interface with the special waste standards in 250.46?

There is no real interface there because the interim status standards in 250.40 only apply to those facilities that are non special waste handling, that are these people who are a part of the hazardous waste control system, and who apply for permits, we will be granting them interim status when they

submit Part A of their permit application.

In the case of special waste facilities, we will be granting those persons who, a permit by rule as long as we believe they are complying with Section 3004, special waste standards, they'll automatically be given a permit by rule and they won't have to send in a permit application and, therefore, get interim status. So the interim status does not come into play in the case of special waste facilities.

Regarding the 500-year flood, number one, it says, we understand that the use of 500-year flood levels relates back to Executive Order 11988 and yet we find no reference to 500-year flood in this order. Is there a supplemental reference?

Yes, there is. We have copies back in Washington, if the questioner wants to call me, I'll be happy to send him one. But there is a guidance document or a supplement to the Executive Order which interprets that Executive Order. In that interpretation of the Executive Order it talks about 500-year flood plans, the 500-year flood plan applicability to hazardous waste facilities, et cetera, and how to apply it. It has maps, it tells you where you can get copies of maps that Chet indicated earlier and so forth. So we will be happy to send you a copy of the supplemental reference.

The second part of the comment says, we have had no opportunity to read the background document relating to

500-year flood plan. Can you please explain how it is defined, where it is defined and why it is better than a 100-year flood level?

In terms of how it is defined and where it is defined, like I said earlier, there are maps. The guidance to this Executive Order provides some detail on how you arrive at a 500-year flood plan. Basically the difference between a 500-year flood plan and a 100-year flood plan is that the 500-year flood plan covers a larger area and thus provides greater protection. This guidance document, which I mentioned that goes along with the Executive Order, specifically says that hazardous waste facilities are to be protected against the 500-year flood plan. That's the reasoning behind us and 3004 adopting a 500-year flood plan requirement as opposed to a 100-year flood plan requirement.

We've had meetings with people who wrote this document from the Water Resources Council and that's how they indicated we should interpret it.

Is the EPA aware of the difficulty of measuring with certainty the permeability of clay soils when permeability is as low as t e n m i n u s s e v e n centimeters per second?

Yes, we are. We are aware of the problem of measuring permeabilities of ten into minus seven, ten into minus eight. We have a facility operating a design manual

contractor who is going to be developing a landfill manual. In that manual will be specified procedures for measuring permeability of soil and various procedures that are available and how we recommend it should be done. That manual should be available around the time these regulations are promulgated. So it will be available in sufficient time before these regulations take affect and provide some additional guidance in the area of permeability measurement.

The second part of this question says if you had one site with a natural in place clay liner of sufficient thickness soil permeability tests are greater than ten minus seven centimeters per second but the average for all permeability tests at the facility is less than ten minus seven centimeters per second, would this be considered not in compliance with the regulations?

Again you're getting into the permitting area now. The Regional Administrator and his staff are going to have to make that decision as to whether your site meets the 3004 requirement of having a permeability of at least, of no less than ten minus seven. The data would be reviewed by the permitting official and he would make a determination as to whether your site qualified. So I really wouldn't want to make a judgment in this case as to whether that data that you specify here would satisfy the Regional Administrator in that case.

Section 250.44-2(h) says all containers received at

hazardouswaste facilities shall be in compliance with Section 250.25, that is containers of Sub part B, DOT specification containers. Is this necessary for on-site facilities and why?

No, that requirement, in our regulations, may be is not clear. I guess we need to indicate that we're talking about containers received from off site. Those requirements do not apply, that standard does not apply to on-site facilities. We're talking about the case of off-site facilities which receive hazardous waste from generators. Those containers should be DOT specification containers. So the standard only applies to a disposal facility which is receiving waste from off site.

I guess the question here is regarding landfill standards. It says why must containerized liquid waste be surrounded by solvent inert material while both liquid sludges can be mixed with municipal refuse? Is municipal refuse inert?

I guess we might have been using bad terminology here in terms of using the word inert. We think that the two standards are consistent. When you put a liquid in a container into a landfill, we want to make sure that it's surrounded with solvent material that will adequately contain that waste if the drum does break open for some reason. We basically want a material that will not adversely react with the waste.

Maybe using the term inert is a bad one. The same case with municipal refuse. You'd only want to mix it with a solvent material for bulk liquid hazardous waste in the case where it was not going to have any adverse reaction on that waste. But we want something that's going to be a good solvent material.

The next question says please give your impression and comment on the following. What if you build a facility using only the notes? These are quite subjective. Who decides what criteria? Would a person using notes be at a disadvantage as opposed to a person using the rules to design a facility? Since the notes are notes, are the rules more legally binding in court? P.S. I think that the regulations would be better if you use only the notes and left out the regulations.

Well, regarding your statement, we would encourage the questioner or commenter here to please submit your comment on the regulations and the notes as a comment to the record if that's your feeling.

Regarding your question, of course, it would be more difficult to design a facility based on the notes as opposed to designing that facility based on the standards themselves. We agree that there are some subjectivity in the notes and that's the reason the notes are there. Our feeling is that most facilities that are there now are not going to be built exactly as specified in our regulations, that is in Section

250.5 or the 3004 regulations. Most facilities are not going to be designed exactly like our regulations. Therefore, some flexibility is provided in the notes and most facilities will probably be coming in with permit applications where the notes will have to be utilized.

As to whether the notes are legally binding in court, I talked to our general counsel here and Dot has indicated to me that the notes have all the legal status of the standards. The notes will become part of the permit conditions when a permit is written under Section 3005, which I know hasn't been proposed yet, but it should be proposed fairly shortly. Those regulations will specify these notes when incorporated into a permit condition have all the legal status of standards. They're legally enforceable and so they have all the legal status of standards in court.

Can you comment on the reasoning behind selecting the 20 inches for differentiating between landfills which require leachy collection systems and liners and those which require clay only? I'm referring to the statement on Page 58989, which states that where the evaporation rate exceeds precipitation by at least 20 inches per year. In other words, how was the figure 20 inches arrived at?

Well, I would refer you for details to the landfill background document. However, we believe that we have to have some evaporation rate that would exceed the rainfall level in

that area in addition to the natural containment site. We don't believe the natural design alone is adequate enough. We believe that there is a need for some level of evaporation in excess of precipitation to be in a particular area in addition to the natural design requirement for the use of the first design, that is what we call the natural design, in our landfill regulations. Our landfill expert, I wish he were here, he's not, could tell you basically how we picked 20 as opposed to any other number. But the landfill background document does address the rationale for 20 and I would refer you to that for more detail about 20, how 20 was chosen. Basically we feel both factors are important. That is natural conditions at a site, hydrogeologic conditions and the climatic conditions that might exist in that area, in choosing between a natural site and a site that requires leachy collection.

Does sampling of waste received at an off-site facility, disposal facility mean that a truck load of 80 drums will require an operator to sample all 80 drums?

That is not our intent. It would depend on what's in the drums received at that site. If the wastes are homogeneous and the material in all 80 drums is the same, of course, only one sampling would, only one spot sampling would be required when a waste is received from a facility off site. However, if there were maybe two categories of waste in those drums, we would probably require sampling of one waste type from maybe two different drums.

The nextquestion says why are no specific test methods such as standard methods or EPA test methods for industrial waste water analysis required in 3004 to ensure accuracy and uniformity of test results? Section 3001 specifically sets forth test standards for identification and classification of waste.

You're right, there are none currently available in 3004. We've gotten comment internally in EPA regarding the same thing. We are working with the Office of Research and Development within EPA to try to determine test protocols and methods for analyses of ground water, surface water, air and other things in this area. However, I would like to indicate that we are preparing a ground water and leachy monitoring manual. We're also going to be preparing an air monitoring manual which will specify some procedures that we think are good and will allow compliance with our regulations for analyses of ground water, surface water and air around hazardous waste facilities. So I think that will provide some guidance in this area for which I agree that none right now exists in our regulations.

MR. LINDSEY: The last time I answered questions, I gave a bad answer and I'll rectify that so there is no misunderstanding.

The question was if a person owns an incinerator with a heat recovery boiler and burns primarily plant wood and

paper trash, would a permit be required if some oily rags got burned occasionally?

I think the answer I gave was that I didn't expect that would be a problem since they would probably be under the 100 kilogram exclusion. The point is that the 100 kilogram exclusion only applies if the waste is sent to a Subtitle D landfill, that is to a sanitary landfill that has a state permit. So I guess, in retrospect, the answer would be, after more thinking, that was a wrong answer. The answer would be, yes, such a facility would have to have a permit, at least as they're written now.

In the case where a company wants to build a new grass roots plant in an NPDS permitted state at this time, how would you advise them to proceed in getting a permit for waste water effluent possible treatment facilities as will be required by the Clean Water Act or RCRA?

Well, at the moment, the RCRA regulations are only proposed. They are not promulgated so one would use the same procedures for getting NPDS permit as are in place within the state that's been authorized here. As far as the design goes in such a case, when new regulations are coming down the pike, people who want to build new facilities before they're promulgated always have these kinds of problems, you know, what will the final RCRA regulation look like and if I want to build it ahead of time and I go ahead and do that, am I in

jeopardy of ending up with a facility that won't meet the standards. I sympathize. That's a problem and the only way that could be gotten around, I suppose, would be for Congress to put together all the regulations when they put out an act and then it would be available immediately. Unfortunately, that's not the way it works.

I guess just as a suggestion, I think I would proceed to design, now we're talking about effluent treatment train facilities, apparently, I would tend to design any earthen lagoons or leaching ponds in accordance with the guidelines or in accordance with these proposed regulations so that, in all probably, you wouldn't be caught short later. Of course as far as that's concerned, we're only talking about RCRA being involved. If the effluent treatment ponds or lagoons, earthen lagoons, leach, or have the potential to leach, and if they contain hazardous waste.

Why have you placed so much more emphasis on the base of landfills and liners, leachy collection systems and so on, than on closure?

I guess the answer to that is we weren't aware that we had, but I think what's happened here is probably the questioner has gotten confused because there is a section, or has not seen all the regulations here, there is a section in here which is called closure and post closure requirements, that's under 250.43. But those are largely non-technical

regulations, O.K. And they refer to all facilities, not only landfills. However, if you take a look at the landfill section under 250.45-2(c), you'll see the technical regulations for closure which we think are sufficient to do the job.

As an alternative to insurance by insurance companies. has EPA considered forming a national insurance program with premiums paid by disposal companies to EPA, sort of a pool effect, and perhaps a pool effort and perhaps underwritten by the federal government? After all, EPA established the design criteria, why should they not stand behind their decisions?

Well, the answer to that is we don't have any authority and the answer to that is, well, it's additional answers. Philosophically, we don't really want to get the government into doing things which private industry can do in the particular case of the site life insurance, that is during the operation of the site. We feel that private industry can and is ready to provide the coverage for this particular situation. We've heard some comments today that some people feel that's not so.

Further, we feel that if the private companies are in this business providing this insurance, their inspectors will be assistance to us in maintaining control over those facilities. As you know, boiler inspectors from insurance companies are the ones who seem to provide much of the in-

spection that goes on in that industry and in the case of private insurance companies are tied up in insuring hazardous waste facilities, their inspectors will also be making inspections to protect their company's best interest and also, of course, at the same time helping to make sure the companies do what we think is right or what the regulations require.

I should point out that on Page 59007 under 250.43-B(2), there's a reserve section and that reserve section refers to a problem which we had, that is really an inability which we came across. There are really four parts to financial responsibility. One is ensuring that there is money available for closure. Another is ensuring that there's enough money avilable to conduct the monitoring and maintenance operations for after the site closes down. A third has to do with providing site life liability insurance. And those three are all addressed. But then there's this reserve section and that refers to providing funds for post closure liability and remedial action, namely if there is a problem later on, we feel that Congress was interested in us providing a mechanism where monies could be available for satisfying liability claims or for cleaning up a problem which might occur if things go wrong. Unfortunately, we haven't been able to identify mechanism for doing that and that's why that reserve section is there. In fact, if you'll look on Page 58987, you will see a discussion of that whole problem area there. As

a matter of fact, the suggestion which this particular person had is, in effect, what we will probably be doing. We are at the present time considering a legislative initiative to go back to Congress to modify RCRA to an extent which would allow a pool setup or something similar to that to address post-closure liability.

MR. LEHMAN: I have several questions here on financial responsibility.

If you store hazardous waste in excess of 90 days, are you subject to the financial responsibility requirements?

The answer in general is yes. But financial responsibility requirements generally apply to, if you'll read the language, owners and operators of hazardous waste facilities. If you read the definition of facility, you'll see that it includes treatment, storage and disposal. However, post closure, monitoring and maintenance requirements do not apply to storage nor do they apply to treatment facility. They only apply to disposal facilities. This is building up this fund for 20 year monitoring and maintenance after the closure. That does not apply to storage.

Please give an example of how the Regional Administrator would write a written agreement with an owner-operator under Section 250.40(8)(d) on Page 58995, if the financial requirements would render the owner-operator insolvent.

These are the standards that apply during the period

of interim status. And we have made provisions for the RA to consider the financial status of a facility to be an indicating factor only during that period, during this transition period.

Now, I would anticipate that if the owner-operator is able to show that meeting the closure and/or post-closure requirement would render that facility owner or operator insolvent, that's the first stage, that the type of written agreement that might be entered in to would limit those requirements to less than what would normally be required on a temporary basis but would include a plan of how that facility owner is going to meet those requirements at some future date. In other words, if it appears that the owner-operator is never going to be able to meet these requirements, I doubt that such a written agreement would be entered into.

Another one on financial responsibility. EPA's regulations seem to be written to accommodate all types of hazardous waste at a permitted site. I think it's more likely that many disposal sites will be designed and operated on a specific waste basis. The notes related to the standards make some provisions for varying standards to meet these conditions. My question, was similar consideration given to allowing variances on financial responsibility?

Well, yes and no. The way the financial requirements are written, it basically automatically takes into

account the same types of specific waste, waste specific and site specific situation. Let me explain that a little bit. Both the closure and post-closure funds, for example, are part of, that is the amounts that are set aside for closure and post closure are determined at the time the permit is issued and are based upon this particular waste that's going to be handled at that facility, the type of facility it is and so on. All of these factors get into these financial requirements. The same thing goes for the insurance premiums. The insurance coverage remains the same but the premium, of course, will vary depending on the amount of waste, the type of waste, the type of facility and so on. So these variances, in effect, are built right into the whole situation.

CHAIRPERSON DARRAH: No more questions, please. We'll try and answer the ones we have up here.

MR. LEHMAN: Well, I was going to get the one question here that says, please discuss the rationale for continuing these questions and answers beyond 3 p.m. We'll answer the ones we have here.

This one is a recommendation. Please submit to the Oil and Gas Journal a rebuttal to the faulty article written by Mr. Stilwell, I think it is. I'm concerned that the misinformation in that article will mislead many people who will not have the benefit of clarification discussed in these hearings.

Well, let me just say that that is our intention to do that. We will submit a letter to the editor and try and correct some of those little misinformations.

Another question says, please detail the processing of your comments presented at this meeting. Does the Chief of Section receive those questions and comments concerning his area? What weight, if any, is given to comments?

I don't know if that is a cynical question or whether that's a--first of all, let's make it clear. The comments that were presented before the public hearing are part of the public record and we certainly seriously consider those comments, and we give them the same weight as are given to written submissions. So you can be assured that we will, in fact, take those comments very seriously. I make a distinction about the questions. I just remind you that the questions we've all been answering here are off the record. These were for the purpose of clarifying the regulations for this audience and they are not necessarily part of the record. They're really for the benefit here,of you folks here so that you can better comment on the regulations in writing at a later time or during hearings.

As to the mechanism of how the comments are actually given to the people involved in actually writing the regulations, we do have a mechanism set up where all of the comments, either oral or in writing, will be logged into our docket

and appropriately sorted out and each will go to the proper person within our office. So you can be assured that these comments will, in fact, get to the people who need to use them.

MR. LINDSEY: How does one get his hazardous waste considered for treatment as special waste?

Well, if one wants to argue that point, they can do that in comment. They would have to make a case, for example, that the waste is very large in volume, that it's very low in hazard, if it's hazardous at all. There is essentially no data available that 3004 standards are not amenable to handling that waste in any sense. And simply make a case that, for one reason or another, the 3004 standards cannot be applied. If one wants to try that, we will consider it.

The second part of the question, if a waste is added to a special waste list, when would industry find out that the waste is going to be considered a special waste? If we had to wait until promulgation of 3001, we would have to start moving toward compliance with 3001 now which would involve large amounts of dollars when such efforts may not be required if consideration is given as a special waste.

I sympathize with your problem here. Unfortunately, when the comment period closes, we will not be discussing from that point on until promulgation, because of the rules, any changes in things which we may or may not make. I don't have

an answer to that.

Regarding 250.43-5(a)(4) which requires determining the quantity of hazardous waste received at a disposal site, does this mean each disposal site needs a truck weight station? Does this apply to off-site generator owned facilities?

No, it depends on the way in which the waste is manifested and is optional. You don't have to produce it in tons or pounds or something like that. You can use gallons or other ways of determining measurement. So a weighing station is not absolutely essential.

Given the hazardous waste designation of the listed wastes, given that hazardous waste designation of the listed wastes is detrimental, no, is determined to a particular disposal method, how does one remove such a waste from the listing prior to publication if, in fact, the waste can be demonstrated to be non hazardous?

I would not discourage anyone from going ahead and testing their waste at the present time to determine whether or not it can be either delisted or whether or not it doesn't fail the 250.13 requirements. But I don't think we're going to be in the determination phase of who's in and who's out of the system for a while. At any rate, if anyone wants to do that testing, we would love to have the results as soon as we can because we're trying to build up additional information on what passes and fails.

Concerning daily inspections, does this mean during working hours or each day of the week during working hours?

MR. FIELDS: Please explain the need for requiring routine minimum analyses in 250.43-8(c)(5). Explain why each analyses is needed specifically specific conductivity.

We believe once the background level for various parameters in the ground water has been established that there should be some requirement for routine marking of that water to make sure the quality is maintained. That's why we have the minimum analysis requirement specified. Some of these requirements like, for example, specific conductivity is a quick indicator of contamination or water quality as is other items we have listed there. These are items which are typically required in existing CETA regulations and we feel these parameters should be routinely examined to see whether their ground water or leachy is being contaminated.

The next question says, where do we get copies of your air monitoring and measurement procedures and your leachy measurement manuals when they become available?

First of all, those manuals will be for the benefit of both the permitting official, that is the Regional Administrators and state agencies and facility owner and operators. We haven't really decided yet the mechanism for distributing these manuals but most likely they will probably be available in each of the EPA regional office libraries.

Right now we aren't able to work that out, but I know each regional office would have some supply of these manuals which could be supplied to people who could be affected by these regulations.

MR. DEXTER: Can you comment, please, on the rationale for Section 250.43-9(a)(2)? This section appears to give an excessive degree of power to the Regional Administrator to designate or approve a trust banker.

This is the section that requires a permit application to establish a trust fund for closure. But the answer to this question is, no, it really doesn't give the Regional Administrator a lot of power because most trust fund arrangements are very similar and most banks, especially large ones, do offer a trust fund service. However, I would say that in the future we will be developing guidance for the EPA to evaluate trust agreements. But generally they're all pretty much the same.

CHAIRPERSON DARRAH: I want to make one brief comment on Jack's answer to the question of how we handle our comments, and that is these hearings for the information received during the hearings become part of the rule-making record. What's also in that record are the data we have collected to support the regulations already. And we base our final regulations on the rule-making record.

That leads me to one other thing I think Jack men-

tioned yesterday which all of you stalwart folks here ought to know is that if you like anything we've done, you should also tell us that because we need that for the rule-making record just as well. If we have a provision in the regs that we receive 200 negative comments on it and there may be 2,000 people out there who think it's a great idea, the world isn't going to know that. Those 2,000 people haven't spoken. So we need both positive and negative comments with as much supporting data as you can provide to us.

(End of separate transcript.)

CHAIRPERSON DARRAH: I want to thank you again for coming and taking the time to work on the regulations and offer us all of your comments.

(Whereupon, at 3:10 the hearing was closed.)

C E R T I F I C A T E

This is to certify that the attached proceedings before: Environmental Protection Agency

In the Matter of:

Public Meeting on Improving Environmental Regulations

Place: St. Louis, Missouri

Date: February 16, 1979

were held as herein appears, and that this is the Original Transcript thereof for the files of the Department.

Jennifer Rickhoff

Bernice M. Jackson Reporting Co.
1139 Olive Street Suite 310
St. Louis, Missouri 63101

Thanks you Mrs. Christy

These comments ~~regarding~~ SCT 3004 ~~respectfully~~ submitted will also be ~~submitted~~ in writing prior to the March 16th deadline.

I would like to address these remarks to several, primarily technical, aspects of 3004.

The first one is "Site Selection" ~~Away & pay~~ I am sure most people are ~~at the onset~~ that I ~~am~~ in complete agreement with Agency's desire to see waste disposal sites located in areas where they are unlikely to affect the environment, or conversely, be affected by the environment. However much as I may search my memory I am hard put to locate any area within the ~~continental~~ United States that would be suitable in all respects.

Let me cite a few examples:

On a recent trip south I was confronted by a dust storm at an altitude of 5000 ft. The dust, according to the weather service, originated in Kansas and I was over eastern Georgia and the Carolinas.

Some years ago Sweden experienced a red snowfall, that is to say, the snow had a reddish tint to it. And the cause of it — — was from the Sahara desert, 2000 miles distant on the other side of the Alps.

Granted, these are extreme cases of material transfer but I am using them to illustrate extreme possibilities. If a disposal facility is operated improperly — OR —

OR — if it is not equipped with pipe safeguards against the escape of hazardous materials, — then a 200 foot boundary or buffer zone will be of no help. I can easily make the same arguments for subterranean transfer or movement of materials through groundwater.

Therefore the answer is not the establishment of an arbitrary buffer zone but the construction and operation of ~~landfills~~ disposal pits in a fashion that prevents migration in all three dimensions. If such rules are followed and monitoring equipment is properly installed then there is no need for a buffer zone or the ~~same~~ zone

can be reduced substantially to perhaps 20 feet or less. — OR — if a buffer zone is desirable, despite all precautions, then its dimension should be the same as the distance to the bottom seal of the facility.

Explosion

The second comment is addressed to the question of site surveillance and monitoring after closure and decommissioning. More specifically, the recommended 20 year ~~span of~~ post-closure span should be ammended and in some way related to the content of the site.

Let me address this question from the

The hazard from explosions and fires is mostly questions of quantity and quality. or what is burning or exploding and how much of it. A 50 ft boundary is scant protection against an explosion of any significance (ones generating over 3 psi compression of air). About six months ago an explosion in Cook county claimed seven (3) lives and coincidentally almost the life of one of our employee who happened to be driving by on his way to work. The explosive force demolished a concrete building and among other things tore out a utility pole that destroyed

our employee's car at a distance of approximately 200 feet. In another dike in a slightly different direction was completely stripped of vegetation but quite safely shielded anything beyond it. Had the employee in question been ~~I~~ personal later he would also have been shielded by this dike. From the above actual example it would appear that a protective structure such as a dike would ~~be~~ serve far more positively than a specified buffer zone. Therefore it is strongly recommended that the agency considers optionally permitting structural protection as an alternate to a zone.

point of view of two different times of years. The first being radioactive wastes. Let me consider the 20 year time span in terms of radioactive half lives. Lets say the site has received radioactive materials containing iodine isotopes. The half life of iodine (31) is eight days that is in eight days time half of the deposited contents have lost their activity.

So it would seem that the 20 year span is more than adequate. However let me try a different element say plutonium. Strontium's ~~half life is 77 years~~ would mean that the site would have to be ~~maintained for that amount~~

of time or ~~[illegible]~~ let say a century. A century is a ~~[illegible]~~ amount of time. But the argument goes ~~further~~. (Let me take radium. The half life of radium is 1620 years. That is to say if the Roman legions had watches with luminous dials they would be turning to bear right about now.) ~~If this is not sufficient I can stretch the example even further to platonium.~~ ~~And~~ To the best of my According to a ~~[illegible]~~ press release ~~[illegible]~~ there is some plutonium buried in Shelby Co. near Louisville Kentucky. The half life of Pu is 24,000 years. ~~[illegible]~~ Irradiated using fire

about 24,000 years ago and the pyramids were built about 4,000 years ago.

If 20 lbs of PU was buried in Sheffield among the thousands of tons of radioactive waste there after 4 half lives or about 100,000 years from now there will still be slightly more than a pound of it ~~will~~ be left. This may not sound much but if distributed properly its enough to kill everyone in this hotel and more.

I am asking if we are ready to make the commitment for monitoring of this magnitude or do we still deem 20 years as sufficient or do we try an alternate method?

Before I answer any more questions, let me reach for more common examples in the nonradioactive realm. A convenient example is the much publicized class of PCB's, but I could, with equal ease, refer to cyclic azine compounds, substituted phenols, or various halogenated organics. These compounds do not lend themselves to the same mathematical reasoning as radioactive compounds do because they do not have a half life. Their degradation follows more complex but predictable chemical routes. Kept under safely isolated conditions they may remain stable for decades. But

if they are exposed to other compounds or in some instances even sunlight or air they will begin to decompose. The decomposition may take any of dozens of chemical paths and more dangerously the decomposition products in many instances are several orders of magnitude more toxic than the parent compound. While in a laboratory the decomposition process can be predicted and controlled such is not the case in a landfill where the reaction occurs in an unpredictable pattern and at varying rates due to the complex mixture of other components present. Lets say a

very well designed and carefully operated landfill is closed down due to exhaustion. Lets further assume that 25 years of monitoring failed to uncover evidence of offsite pollution and now the site is considered secure in as much as some developer may decide to build housing on the property. The altered land use which now utilizes different chemicals, more water, new or different foliage may just be the trigger that starts a disaster. Therefore the setting of a definite time period maybe either impossible or in some cases impractical. Instead of committing

ourselves to a definite time let us accept the fact that certain types of hazardous wastes simply can not be disposed of in landfills. These must be disposed ~~of by~~ ~~and~~ some other method, like say incineration. — or - alternatively they must be rendered safe and/or nonpolluting prior to burial. - and there are some methods available for that also. So if we must insist on burial then there is no alternative to the monitoring of the site for the lifetime of the longest lasting or most toxic component. Since the recordkeeping requirements are fairly stringent, as alternative of the monitoring

period should and can be made at the time of closing. Or if the 20 year period is upheld as the law then any hazardous waste whose life span could exceed that period of time must be excluded from burial.

The agency has addressed the landfill dispersibility question in 250.45 but I don't think it has gone far enough to simply rule out certain hazardous wastes from land disposal. The installation of synthetic liners is not a solution since many of the compounds will simply dissolve such a containment. Chemical fixation, being primarily an inorganic process, does

not apply to organic compounds as a rule, furthermore I am not aware of any fixation process that would survive the agency's extraction procedures. Exceptions being perhaps the potassium glass fusion method which is so costly as to leave it outside of any possible considerations.

At least in the question of organic wastes incineration appears to be the most practical answer, but I question the necessity of 1000 °C for 2 seconds as the established standard. The laboratory procedures utilized 860 °C for 1 second to achieve proper destruction. The difference of 1 second does not sound significant in

time but it tripled the cost of the incinerator.

It is therefore strongly urged, ~~that~~, in light of the regulations requiring certain stack monitoring equipment and knowledge of the feedstocks, that the agency establish 99.99% efficiency as the definitive criteria for operation. Having the required instrumentation allows this efficiency to be continuously and adequately monitored and by utilization of readily available hardware the same systems would be quite capable of performing the requirements necessary to maintain proper operation.

Lest I be accused of being an unappreciative audience, may I compliment the agency on the thoroughness and careful preparation invested in the ~~preparation of the~~ proposed regulations and thank you for your kind indulgence.

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[redacted] FEB. 16-79

Statement for the record on proposed guidelines/regulations pursuant to Subtitle C - Resource Conservation and Recovery Act of 1976 - Public Law (94-580)

PL

WASTE OIL

Oil today is one of our most vital resources and should be conserved in every way possible. The recycling of oil in the U.S. for over fifty years has proved the practicality and potentiality of this used product. Through the recycling and reuse of oil, several benefits are achieved:

1. Conserving a vital resource.
2. Protecting the environment from pollution.
3. Lessening our dependency on foreign oil.
4. Providing a substantial savings to the consumer.

If you wish to recycle any used product, several objectives must be met:

1. Education of the public to the fact that the product is recycleable.
2. Sociological encouragement of its reuse.
3. Economic incentive to the generator of the used product to save it for storage collection.
4. Profit for the collector and recycler providing return on investment and capital for growth.
5. Savings to the consumer to encourage its reuse.
6. Protection of the environment by reuse instead of dumping and discarding, which will be substantially reduced, if not eliminated. This may possibly have to be the lessor of two evils; extensive pollution by no reuse versus reduced pollution by reuse.
7. Market potential for the recovered product.

It is my opinion that most of these objectives and all incentives will be removed if used oil is classified a Hazardous Waste because the word "hazardous" creates a negative attitude toward storage, transportation, processing and resale. I recommend that used oil and other recycleable used products that could present a health or environmental hazard, if not handled properly, be classified as a Special Waste or better yet, called a Recycleable Product. These used products could then be regulated by a modified set of guidelines and regulations to insure a positive attitude toward reuse. If oil is classified a Hazardous Waste, many problems will have to be solved, some of which are listed on the following page.

1. Due to the added cost of complying with the regulations, the generator will not be paid for the used oil but rather charged for hauling it which will encourage dumping waste oil rather than recycling it. IN SEWERS ON DRIVEWAYS & ETC.

2. There will be added cost to the collectors and transporters to upgrading all tank truck equipment to comply with Department of Transportation regulations governing Hazardous Waste. Insurance for spill and transportation of Hazardous Waste is next to impossible to get, and the cost is out of reach for small businesses. STORAGE

3. Finding a site for a new oil recycling plant could be as difficult as finding one for a Hazardous Waste dump. The public will not want it in their area. Cost of construction will increase, making it difficult to attract new investors or working capital.

4. Today in the U.S. there is approximately 1 billion gallons of used oil collected each year for reuse. It is used for road oil, re-refined into lube and burned as industrial fuel. Road oiling and re-refining into lube use less than two hundred million gallons, leaving approximately eight hundred million gallons to be used as industrial fuel. If the re-refining industry started expanding today, it would take ten years or more to reach the 1 billion gallon per year level. When you produce lube from used oil, approximately 15 to 20% OR MORE is lost as a by-product. This by-product consists of still bottoms or pre-treat sludges which should be dumped into Hazardous WASTE Dumps because of extremely high concentrations of toxic heavy metals, etc. The cost today to dump this type of hazardous material in the St. Louis area will be 50¢ per gallon of waste or more depending on which hazardous waste dump is available to be used and in what state.

5. There exists a problem in burning used oil as a fuel and still protect[redacted] the consumer and the environment. Under the EPA proposed regulations and guidelines, burning would be greatly reduced and cause a back-up at the point of generation. It is my opinion that used oil can be burned as a fuel and reach these goals if minimum standards are followed:

A. Prohibit open burning of oil pits, ponds, lagoons, etc.
B. Prohibit the blending of used oil with home heating oil.
C. Prohibit the use of used oil as industrial fuel, unless it is blended with 90% or more virgin #5 or #6 fuel oil.
D. Used oil should meet the following specificications before sale to blender or wholesaler for industrial fuel:
    1. Remove water to less than 1/4 of 1% to prevent freeze ups.
    2. Flash point of 200 degrees F. minimum.
    3. Screened to 30 mesh or finer to prevent clogging of fuel line filters, etc.

I do not recommend the removal of the suspended contaminants in used oil for fuel purposes because it is cost prohibitive and will kill the only incentives to recycle any used product - Profit. If I removed all the toxic contaminants from used oil, I could not compete in the open market because I would lose 20% or more in recovery, plus the cost of disposing of the 20% waste at 50¢ per gallon or more.

6. What if 800 million gallons of re-refined lube oil hit the lube oil market? It could cause in one year a big impact. However, if the same thing happened to the industrial fuel market, 1 billion gallons would only be a drop in the bucket, causing very little impact.

7. If all the contaminants were removed from 800 million gallons per year of used oil, we would not have enough Class I dumps to put it in, so I recommend leaving it to be burned with oil as a means of disposal. It is the lessor of the two evils. By burning at a 10% or less ratio, the harmful effects in any one area will be held to a minimum. ↓ WITH NEW FUEL

I feel that the proposed Hazardous Waste Management Guidelines and Regulations, pursuant to Subtitle C, will drastically hamper the used oil, re-refining and recycling industry and thus defeat the purpose of the Resource Conservation and Recovery Act of 1976 (Public Law 94-580).

Glen Gettinger
Midwest Oil Refining Co.
St. Louis, Missouri

My name is John Klingner, and I am here today representing the City of Quincy, Illinois, a community of 50,000 population located in west central Illinois on the Mississippi River about 100 miles north of St. Louis. I am Chairman of the City of Quincy - Adams County Landfill Commission and as such help direct the activities of a solid waste landfill disposal site that serves our heavily industrialized community. Besides handling all municipal refuse, we currently operate under the State of Illinois' Environmental Protection Agency special waste permit system and handle these wastes for ten to twelve Quincy industries. We appreciate the opportunity to comment on the proposed regulations for hazardous waste management and the affect of these regulations upon our community and local industries.

We are submitting, in addition to this oral presentation, written comments that will address specific sections of the regulations and the agency comments in the preamble. But I would like to stress today in my testimony one or two facets of the proposed regulations that are of critical importance to the City of Quincy, its industries, and to other municipalities in the Midwest.

From an engineering viewpoint the proposed regulations under Sections 3001, 3002 and 3004 are not overly stringent and will do the necessary and desirable job of protecting the environment. But from an economic standpoint the proposed regulations as they are now written will probably prove unworkable for years. More specifically, the rules under Section 3004 on twenty year site monitoring, insurance, financial responsibility, closing costs, daily inspections, manifests, record-keeping, required reports, and site design requirements for either landfills, incinerators, basins, or surface impoundments can be done but will be costly. For a smaller disposal site like ourselves, or numerous others, to establish a hazardous waste disposal site for the smaller amounts of hazardous waste we might now be handling and allocate these high costs over these few users would be prohibitive. Only large disposal sites operating on a big volume basis could hope to keep the unit cost of disposal low enough for its user industries to continue competing with foreign business. Smaller sites are just not feasible, especially when the recycling efforts the act is encouraging are slowly accomplished and the hazardous site costs must be picked up by the remaining users. This is one area where the real economic impact of the regulations will

be felt. It is wishfull thinking to expect most current landfills to upgrade themselves to hazardous waste disposal sites. Thus, the net effect of the rules will be to try and force all hazardous waste into the few true sites currently in operation.

I am sure that many other speakers today will address themselves to this idea of lack of suitable sites and the difficulty of trying to locate others in the face of severe local opposition, and I don't want to belabor this point. What I would like to stress is the idea not covered at all in the regulations, but one I feel is of paramount importance: Federal and State participation in locating hazardous waste disposal sites. We are not requesting that these two levels of government assume the complete task; the primary responsibility is and should remain with the local industries, disposal company, municipality, or other agency. But for either the Federal or State agencies to say that it is our problem is just ignoring what we feel is an obligation to help.

Not many cities are as directly involved in the disposal of either special or general solid waste as Quincy is, yet I can assure you that all will be vitally interested once the regulations do go into effect since we will be directly influenced by plant closings, layoffs, etc.. Cities with one or two industries that generate hazardous waste could suffer severely if these plants relocate to areas where disposal sites are available.

We feel that Federal and State help in establishing disposal sites, constructing incinerators and recycling centers, developing treatment processes, and funding research in improved technologies for hazardous waste management is essential to the heavily populated midwest and northwest. Here land is at a premium in both price and availability, and the disposal sites will be especially hard to locate given the heavier population concentration. To not help us means giving industry one more reason to relocate west and south where sites might be more readily available. I feel it is important to say that not many plant closings could occur but that many might relocate, not affecting the national statistics but definitely harming local communities. Any future economic growth in the Midwest where there is a lack of suitable disposal sites could be stopped for many years, aggravating an already distressing problem.

In closing, I would hope that the Federal government reviews these

regulations with an eye towards what I have stated. We now express a willingness to work with these regulations, not against them. However, we will need all the help we can get during these first few years. For you to expect private corporations alone to help us solve this problem is wrong, as their main priority is and must be profit and not municipal economics. The interrelation of a strong economy and a clean environment can be a successful one if common sense in enforcement and future regulations are exercised now.

Thank you for the opportunity to express my communities concerns on these matters. I will be glad to answer any questions you may have.

Sincerely,

John Klingner, P.E.
Registered Professional Engineer
State of Illinois and Chairman of
the Quincy-Adams County Landfill Commission

CITY OF QUINCY

"Building for the Future"

ENGINEERING DEPARTMENT
CHARLES A JONES
CITY ENGINEER

CITY HALL • 507 VERMONT STREET
QUINCY, ILLINOIS 62301

February 13, 1979

Written comments on Sections 3001, 3002, and 3004 proposed regulations for the USEPA Hearing in St. Louis, Missouri, in February, 1979, under the Resource Conservation and Recovery Act - Subtitle C.

TO WHOM IT MAY CONCERN

The City of Quincy - Adams County Landfill Commission of Quincy, Illinois, appreciates the chance to make written comments on the proposed Subtitle C regulations on hazardous waste management. I am a registered Professional Engineer of Illinois employed by the City of Quincy in its Engineering Division of the Department of Public Works. One of my duties is to provide the Quincy Landfill with engineering management, advice and to supervise the disposal at this Landfill of solid and special waste generated within Adams County. Quincy is a community of 50,000 population located in West Central Illinois, on the Mississippi River about 100 miles North of St. Louis, Missouri. The City of Quincy Landfill currently handles all municipal refuse generated within the area, as well as operating under the State of Illinois' Environmental Protection Agency special waste permit system that covers liquid and other "hazardous" waste now generated by ten (10) to twelve (12) area industries. The comments given below expresses my concerns and questions about the regulations as well as those expressed by representatives of the industries that will be affected. We hope that our requests for clarifications, deletions, additions, and suggestions will be considered by your agency when the final regulations are drafted.

The page numbers and sections I will be referring to will be those in the December 18, 1979, copy of the Federal Register, including the preambles. I will divide my letter into three (3) Sections and separate comments by the Section that is indicated.

SECTION 3001

A number of local industries have raised questions in regards to the criteria listed under the toxicity characteristics of hazardous waste; more specifically the decision of using ten (10) times drinking water standards as the limit of extract level for determining whether a waste is hazardous. We understand the concept of the EXTRACTION PROCEDURE in trying to "model improper management by stimulating the leaching action of rain and groundwater in the acidic environment present in landfills or open dumps." (Page 58952). We support this idea of using a leach test to determine toxicity but feel the "10-fold dilution factor" is not reasonable. To draw a single line to define whether a substance is hazardous or not just doesn't allow the degree of hazardousness to be taken into account. To do so seems to state that a stable paint sludge or oil is to receive the same consideration as highly concentrated mecuric compounds, pesticides, etc.

We agree that you should seriously consider incorporating the Water Quality Criteria under the Clean Water Act to set extract levels as suggested on page 58956 of the regulations. Then, a variable dilution factor should be chosen for each specific site, determined and approved by the USEPA when either design is proceeding or when landfills are evaluated under Subtitle D - Section 4004, and this factor could be multiplied times these clean water standards to get the definition of hazardous waste for that specific site. All waste under this system classified as hazardous would then be required to follow all the regulations as proposed. Anything containing amounts of certain key elements or compounds the agency feels should be very strictly controlled can also be determined. Thus, any waste that exhibits an extract level exceeding a second higher set of limits would then be considered extremely hazardous, with special handling and disposal procedures at the hazardous waste site.

To accomplish this all at once might not be possible, but as additional contaminant levels are set, others made more stringent, and as information is gathered and better measurement techniques developed, the system would gradually fall into place.

To adopt this method would allow a waste to be declared hazardous based upon its ultimate disposal site. This method would allow the disposal industry "a great deal of built in flexibility to allow variations from the standards, so long as equivalent control can be demonstrated, for specific waste in specific management situations" (Page 58953). This way the amount, type, and quality of groundwaters, its proximity to the disposal area, and the amounts and location of public users of that aquifer can all be determined and the effect of each specific waste evaluated. A site located over an aquifer used by many people close to the site boundary might have a dilution factor less than ten (10) for any waste it proposes to accept. And other sites with highly impervious clay with a very large distance to groundwater could safely accept wastes much higher than the straight "10-fold" factor without being declared a hazardous waste disposal site. And as hazardous waste disposal sites do become available in an area, rules for the landfills in the vicinity could be significantly tightened.

On page 58952, the agency states that "only waste designated as hazardous is subject to transport controls as well as disposal controls. While non-hazardous waste may be managed properly at facilities subject to Subtitle D controls, there is no guarantee that such waste will, in fact, be delivered to such facilities." If this statement was true, the regulations as proposed are correct and need no changing, and the ideas we have proposed would not work. But the State of Illinois currently has a proposed program to monitor by manifest all "special wastes" that does insure that any "semi-hazardous" waste would go where intended. Thus, any state seeking authority from your agency can adopt a manifest system for these wastes to insure transport controls, and the RCRA act need not be amended. Without this flexibility, the lack of disposal sites will insure one thing: that illegal dumping becomes much more common.

These wastes being disposed of in a landfill is a much better alternative than a roadside ditch. Ditches yes, but the assumption of a ten fold dilution factor for properly run landfill disposal sites is just too conservative. And Page 58948 states "EPA must take into account the need for more hazardous waste management capacity as it develops this regulatory program because public health and the environmental will not be well protected if one of the results of the program is to shut down most of the facilities currently available." Unless we choose to upgrade ourselves at considerable expense for the small amounts of "hazardous" waste we are now handling, then this quote is a prime example of how to write an understatement.

Another point of clarification I think needed is the method of adding additional Hazardous Waste, Sources and Processes in the future. The proposed regulations will have been before the public for comments and suggestions for at least a year, and this time allows industry to plan recycling or treatment processes. Once the regulations are in affect, any additions to them should give a compliance period, as well as a chance to comment. This should also apply if the extract levels under Extraction Procedure are added or changed.

On Page 58951 in the discussion of the upper limit flash point 140°F was chosen. I agree that the 100°F Department of Transportation "flammable liquid" limit is too low, but feel that a flash point of around 130°F should be chosen. The State of Illinois has a general rule of 110°F in its current special waste permit system that I feel is reasonable, with the Quincy Landfill experiencing no problems on liquids having flash points higher than this 110°F figure.

SECTION 3002

I have only one or two comments to make on this Section since the regulations as proposed are not overly stringent and will not cause that much of an economic impact on industries involved in the disposal of hazardous waste.

On pages 58969 and 58970 the agency is soliciting comments on whether the 100 kg/month exemption should be lowered or raised for

small amounts of hazardous waste. Without taking the degree of toxicity, corrositivity, or reactivity into account in some way, this ruling seems meaningless. A 100-kg load of waste oil is certainly easily handled at an approved Subtitle D Landfill site. But it would be very questionable in my opinion to dispose of, in any amount, less than 100-kg of a concentrated mercuric precipitate from a nitrogen analysis test other than in a hazardous waste disposal site. But as stated in the preamble, I agree that the agency would have a difficult time in "distinguishing among the degrees of hazard or various waste on the basis of its potential to cause health or environmental harm." Thus, alternate #3 on Page 58970 would probably prove unworkable.

The City of Quincy supports a combination of alternates #2 and #4. For those states that are willing to undertake the regulation of less than 1000 kg/per month of hazardous wastes as part of their program authority under either Subtitle C or D, then the agency should agree. For those states not willing to do so, the limit should be left at 100 kg/per month, with your agency having the right to list specific wastes or extract levels that must strictly be controlled no matter what amount is being disposed. This would help eliminate a problem the Quincy Landfill feels will occur: instead of recycling or neutralizing wastes, a generator will concentrate them just to meet the 100 or 1000 kg limit cutoff limit. This would have the exact opposite affect on the environment that the regulations on trying to accomplish, and the Quincy Landfill is definitely opposed to handling these concentrated wastes.

Some clarification should be given to the storage of waste that a generator falsely claims he is storing for recycling and thus is not subject to controls.

Again, I think that the manifest system will not be too costly, but only if one manifest is agreed to by all the state and federal agencies that are becoming involved in hazardous waste and hazardous materials management. This also applies to all labeling requirements and container specifications. I feel that this multi-agency agreement is going to be harder to accomplish than the USEPA realizes.

SECTION 3004

The regulations for hazardous waste disposal as now proposed are again not overly stringent from an engineering viewpoint. If disposal sites are truly available the regulations will definitely correct an environmental hazard now present. However, these are some finer points that should be clarified by your agency in order to give local Quincy industry a better idea of compliance requirements.

On page 59015, the agency has set-up a "special waste" category for utility "flue-gas desulfurization waste, bottom ash waste, and fly ash waste which is generated soley from the use of fossil fuels". But since utility has not been defined, it is unclear if this section refers only to public or private power plants engaged in the commercial sale of electricity. More specifically, do these regulations also apply to private industries with coal fired boilers used to generate steam for on-site use? And does the use of bottom ash waste by many municipalities in salting and cindering streets during winter months constitute an illegal disposal method? There should also be some limit set exempting the limited numbers of smaller generators of this material, and the recent use of this material in road construction activities should also be addressed by the proposed regulations.

I would also like to question the specified 5 million dollar amount of non-sudden occurance insurance required by the regulations for each disposal site. I believe this factor alone will tend to eliminate smaller disposal sites since costs must be spread among as many users as possible when economics are considered. There should be some thought to a sliding scale amount of insurance needed based upon the volume and degree of hazardousness of wastes entering a specific site. Recent lawsuits against sites with "highly toxic waste" problems make the five million dollar figure seem minute.

Referring again to recent lawsuits, serious consideration should be given to limiting the liability of each site permitted under this program. Ridiculous lawsuits similar to the 2.5 billion dollar plus class action suit filed in Memphis, Tennessee, against one site will do nothing but drive up legal costs and jeopardize the siting and operation of any hazardous waste disposal site.

I would definitely support the creation of a perpetual care fund as discussed in the preamble. There should be strict rules on the application of these funds, with publicity and political influence not the governing criteria when using them.

In closing, I would like to say that the enforcement of these regulations under all three (3) sections, as well as the willingness of the agency to advise and help when possible, will be the key to a successful program. The City of Quincy is willing to observe these rules but only if all others must do so. Otherwise, we have no choice but to oppose them as much as we legally can, no matter what the worthwhile goals might be. Thank you for the opportunity to present these viewpoints.

Very truly yours,

Donald J. Kulek

Donald J. Kulek, P.E.
Assistant City Engineer, Quincy, Ill.
Registered Professional Engineer
State of Illinois

RESIDUALS MANAGEMENT TECHNOLOGY, INC.
PRESENTATION ON TITLE 40, CFR, PART 250
HAZARDOUS WASTE GUIDELINES AND REGULATIONS

St. Louis, MO, February 14, 1979

My name is Brooks Becker. I am President of Residuals Management Technology, Inc. and I hold a Ph.D. in Chemistry. Residuals Management Technology is an engineering consulting firm specializing in industrial and hazardous waste management. We work with industry to help them understand and comply with state and federal regulations such as those being discussed today. We have experience with many types of wastes and are familiar with the problems associated with them. In fact, John Reinhardt, and Tom Gunn, the other two Principals of the firm, are probably known to many of you.

From 1970 up until 1978, when Residuals Management Technology was started, was Director of the Air and Solid Waste Management Programs for the State of Wisconsin. As the State's chief regulator in waste management, I had the job of not only developing regulations but implementing them in the field. I learned that if you want a regulatory program to accomplish its goals, you must pay close attention to how it works in practice, a lesson that we should consider seriously in these proposed rules.

As consultants, we have had a good deal of practical experience addressing industrial hazardous waste problems and working with leach tests in the past year. would like to share some of our experiences with you.

I will focus on only two points. First, EPA should seriously consider an alternate approach to their single acid leach test for defining toxicity and thus hazard. We believe an alternate approach is needed, not just a different test.

Second, the definition of "waste stream" needs considerably more thought in order to avoid much expensive but useless testing by affected industries.

We believe EPA should consider an alternate leach testing protocol with more steps which begins which a neutral leach test. There are several reasons. Clearly a single acid leach test as proposed will define many low risk wastes as hazardous primarily because of heavy metal ions. These low risk wastes do not justify the strict controls called for under Subtitle C.

In their introduction discussion EPA points out that these are mechanisms for getting material for disposal of these low risk wastes, under Subtitle D regulations. The only new requirement because of their hazard would be the transportation manifest system. While in theory this is the case, although the mechanism is cumbersom, in practice will not submit that once a waste has been labeled hazardous further assurances will change that

in the public's mind. Thus, the public will demand at least full Subtitle C disposal if they will even allow disposal at all, regardless of the degree of hazard. Remember, we are talking about low risk wastes here. One case that we had in Wisconsin a few years ago illustrates the point. A landfill site near a state border began taking low level concrete radioactive waste from the outside building walls of an old experimental power reactor. The radioactivity was barely above background and not dangerous in any technical reuse. But, because it had been labeled radioactive, the local people reacted violently and the waste had to be moved to an AEC site for high level radioactive material, simply because of the emotional stigma attached to the label. Our experience shows over and over again that exactly the same will happen when a waste is labeled hazardous. Many of the people here know that from their own experience and I am sure most of the people in EPA do too. Remember Wilsonville?

As a result of defining almost everything hazardous through a primary acid leach test, the central purpose of controlling disposal of the major hazardous wastes which create environmental or health problems will be lost. Instead, much effort and money will be dissipated by both industry and government in trying to solve a problem we have created, but which has nothing to do with protecting environment or health - The problem of how to dispose of low risk, often high volume waste....defined as HAZARDOUS.

Fortunately, a different protocol may solve the problem. If one begins with a neutral leach test, some waste will still be classified as hazardous and it will still come under Subtitle C control. Those wastes producing no hazardous leachate from the neutral test would then be addressed by the disposal techniques to be used. If the waste were destined for a municipal site, then an acid leach test would be applied. If the waste passed the test, disposal in the municipal site would be okay. If not, a Subtitle C controlled site would have to be used. On the other hand, if the waste were destined for a segregated site for that waste only, approval would proceed as required under Subtitle D and the waste would not be designated as hazardous. This approach solves the problem of disposal of high volume, low risk wastes in an environmentally safe manor while avoiding most of the problems cited earlier. We think this is a practical alternative based on our experience. It appears to be the next best thing to defining levels of hazard.

One subsidary question should be dealt with. EPA states that since they have no way of knowing if a waste actually goes to an approved facility without bringing it under the manifest system, low risk wastes must be defined as hazardous. On the other hand, the proposed rules exclude wastes going to reprocessors. Since there is no way of knowing whether a waste actually gets to a reprocessor or if it is in fact reprocessed, this position seems inconsistent. Low risk wastes going to a dedicated site need less control than hazardous solvents going to a reprocessor.

Turning to the needs for defining the term "waste stream" and clarifying the sampling procedure, I want to raise some questions. Where wastes from several collection systems feed into the same hopper

does one sample each collection system, the hopper, or the mixed load as it goes to disposal? In most industries, small amounts of many wastes are put into containers of one sort or another. By the time they get out of the plant, the mixture is heterogeneous. What is the waste stream here and how is it to be sampled?

Is the waste stream defined within a plant or is it what comes out of it? These questions and more need to be answered. Practical experience dictates that the place to start sampling is where the waste leaves the property or enters the on-site disposal area.

Thank you for the opportunity to comment. We will be submitting more complete and detailed comments in writing later.

THE INDUSTRIAL ASSOCIATION OF QUINCY, INC.
WCU BUILDING - P. O. BOX 347 - QUINCY, ILLINOIS 62301 - PHONE 217-222-0670
KENNETH H SMELCER - EXECUTIVE VICE PRESIDENT

February 14, 1979

This is to register with you the concern of the Quincy Industrial Association regarding the problem of disposal of industrial wastes in Illinois. It is also to impress upon you the importance of this matter to the Quincy, and Illinois, business climate.

We have reviewed the proposed Hazardous Waste Guidelines that were published in the Monday, December 18, 1978 Federal Register. The Industrial Association of Quincy, like the E.P.A., recognizes its responsibility to ensure a clean and safe environment while providing for the economic security of the local community. The basic concept of handling hazardous wastes properly is GOOD! However, most facilities do not have the expertise available to make the determination of whether or not their waste is hazardous under the definition of the proposal.

The guidelines, if promulgated as published, will label an extremely large amount of material as hazardous, while dramatically reducing the number of permitted disposal sites available. The net result of this action will not be to close the circle of environmental control but to cause chaos with all those involved in land-filling what Section 3001 defines as hazardous waste. If these guidelines are to work, the Industrial Association feels that the Agency must ensure that there are adequate sites available for all waste disposal. It is felt that this can only become possible if the Agency modifies Section 3001 so that it recognizes the differences between the various wastes it categorizes as hazardous.

The Federal Guidelines makes no distinction between mildly hazardous and extremely hazardous waste. The guideline proposes both be disposed of in Subtitle C landfills. A distinction of degree should be made, so that mildly hazardous waste can be disposed of in suitable Subtitle D landfills. The mildly hazardous waste should bear a more descriptive name, such as: industrial sludge, special waste, or other wording indicative of the lesser degree of hazardness.

The State of Illinois uses a supplemental permit system to ascertain that the proposed landfill site is suitable for the waste being handled.

Most of the landfills that now safely handle small volumes of mildly hazardous waste with large volumes of municipal waste will not attempt to meet the requirements of the Subtitle C programs. This will eliminate many convenient sites that are now safely handling mildly hazardous industrial sludges.

Quincy industries generate 200,000 gallons per year of industrial sludges (classified as hazardous under the proposed guidelines) which are disposed of with 200,000 cubic yards per year of municipal and/or domestic solid waste. This is only one gallon of industrial sludge per cubic yard of fill. The proposed guidelines, if adopted, will leave the Quincy industry with no place to go with these industrial sludges.

The Industrial Association of Quincy would like to suggest that as a possible solution, the Agency model Section 3001 off of the Illinois Pollution Control Board Rules & Regulations, Capter 7: Solid Waste Management. This chapter concerns itself with three categories of special waste: Industrial Process Waste, Pollution Control Residual and Hazardous Waste. The Hazardous Waste category would be reserved for those "most dangerous" materials that the Federal E.P.A. refers to when it discussed phasing in the regulations or exempting small quantitites of waste.

This action would allow the Agency to maintain strict control over the disposal of the Hazardous Waste while allowing other less dangerous waste to be disposed of with less restrictions and without the use of the fear-inducing term "harardous". This Assocation believes that only a program where dangerous waste is differentiated from problem waste, will ensure that adequate safe waste disposal facilities will be available.

Allowing the generator the option to declare his waste hazardous without evaluation might result in undue and unnecessary costs because the waste may, in fact, not be hazardous. This is perhaps the choice most will make because they will not have the facilities available for testing themselves, and the lab services will be expensive.

The landfill personnel will not be adequately trained to recognize or evaluate the waste they receive. Therefore, some companies may choose to ignore the proposal's requirements when enacted.

The toxic waste classification at ten times the drinking water standards is too stringent. Many wastes not considered hazardous and therefore, not checked for chemical analysis, would exceed that level of toxicity. Simply evaporating 90% of a sample of drinking water could result in a residue classified as hazardous, yet adding ten volumes of distilled water would return it to drinking water standards. The blowdown water from boilers is commonly ten to twenty concentrations of drinking water. Surely, this would not be considered a hazardous waste, requiring disposal in a Class C landfill.

The Agency did recognize differences in other aspects of the guidelines. The E.P.A. noted these differences when it addressed itself to the possible phasing in of the regulations. On page 58949 of the Federal Register, it was stated that the Agency might implement the guidelines by first issuing regulations for only the most dangerous hazardous waste. The Agency again recognizes the differences in what Section 3001 describes as hazardous waste when it discusses exempting small quantities of hazardous waste. On page 58970, the Federal Register states that different quantities of hazardous waste might be exempted. This quantity would depend on the degree of hazard the waste presents. For this Act to work, the Industrial Association feels that the Agency will have to review and rewrite Section 3001 so that it also recognizes the differences in what is presently considered hazardous waste. It is unfortunate that as Section 3001 is currently written, a spoiled batch of orange juice (pH less than 3) must receive the same degree of attention accorded to DDT or Kepone.

The agency requested comments on the requirements for generators of small amounts of hazardous waste and in particular, on whehter the 100 Kg/month exemption should be lowered or raised. We believe this limit depends on many factors not addressed, such as, the degree of hazardness of the waste, and the capability of the individual landfills to safely handle the proposed waste. We believe a supplemental permit system, similar to that operated by the State of Illinois could effectively allow the disposal of most of the waste that would be classified as hazardous under the proposed guideline in well-operated Subtitle D landfills. Those companies generating relatively small amounts of hazardous wastes should not be burdened with unnecessary paper work. The exemption should be raised tQ 1000 Kg/month, or more for the less hazardous waste delivered to accepted Subtitle D landfills.

One of the most important questions is will adequate landfill facilities be available so generators can move their waste before 90 days? If not, they are subject to the storage facility requirements. Also, will an adequate number of haulers be available to fill the needs of all generators of waste?

In the middle of page 58948 in the Introduction to the Guidelines, it is correctly stated that, "public health and the environment will not be well protected if one of the results of the programs is to shut down most of the facilities currently available." It appears that the proposed guidelines, if adopted, will do just that. The public reaction to hazardous waste landfills will make sites very difficult, and in most localities, impossible to find.

Through conversations with landfill authorities, the Industrial Association believes that many landfills capable of handling hazardous waste will not seek a hazardous landfill classification. Landfill authorities are not willing to assume this responsibility for two reasons. First, the enormous financial obligations placed on these sites make this option extremely unattractive. These sites are not willing to assume the responsibility of 20 years of leachate monitoring, high insurance premiums, and the possibility of large lawsuits which are not covered by insurance. The second and more important reason is that THE PUBLIC WILL NOT ALLOW THE ESTABLISHMENT OF HAZARDOUS MATERIAL LANDFILLS. A case in point would be the closing of the Wilsonville facility in the State of Illinois. Even though E.P.A. experts declared this site to be a secure landfill, public pressure prompted the Attorney General, with the Governor's blessing, to initiate legal proceedings to close this landfill. It is our understanding that this has not only happened in Wilsonville, but that it has happened in six of the only fifteen hazardous material landfills in the United States. A public attitude such as this underscores the need for a special waste classification in which only the most dangerous materials would be declared hazardous, and problem waste can be disposed of without the term "hazardous".

In conclusion, it must be said that the problem facing the industries of Quincy, along with every other industrial community in the United States, would either be eliminated or greatly reduced if the Agency would modify Section 3001 so that it would define hazardous waste as one

of only three special waste categories. This action would mandate that hazardous materials be disposed of in only sites that are approved for this type of waste. At the same time, it would enable many landfills to accept the minor industrial waste that they were designed for. The net result would be that the E.P.A. could assure that adequate waste disposal facilities would be available while ensuring the safe landfilling of special waste.

Following are some comments made to the Quincy Industrial Association by our member companies regarding the hazardous waste guidelines.

> Our Company feels that the following events will happen to the Company if the proposed regulations are promulgated as published. Currently, a large quantity of paint sludge is being legally landfilled in a local facility. If the guidelines are promulgated as published, this waste will be considered hazardous. Our local landfill which the IEPA, using EPA guidelines, has listed as secure for our waste and leachate, will not seek a hazardous material classification. The landfill management has indicated that even though it is capable of becoming a hazardous material landfill, it is unwilling to assume the financial obligation the EPA must place on these sites. Even if this landfill would seek the necessary classification, there is serious doubts that the public would allow it. Therefore, if the proposed regulations are promulgated unchanged, our Company will not be able to use this well-designed, secure, local landfill. This will necessitate that the company ship its waste to one of the only two hazardous material landfills in the State of Illinois. This would result in disposal costs increasing by as much as 500%, and this 500% does not include the increase in transportation cost. The company, if required to do so, will also incur this cost, if we can find a suitable landfill. The two Illinois hazardous material landfills mentioned are Wilsonville and Sheffield. Wilsonville, because of public outcry, is presently closed and it is expected that the people of Sheffield will soon initiate a suit that will at least temporarily close this site. Thus leaving the Company no site in the State of Illinois to dispose of its waste.
>
> ---

> Based on the December 18, 1978, Environmental Protection Agency proposed guidelines and regulations for hazardous waste, our company will be unable to continue to dispose certain industrial wastes at the Adams County Landfill after January, 1980. Also, no known approved alternatives for disposing these wastes exist at this time.
>
> The industrial wastes of our company that will become classified hazardous consist primarily of flammable liquid wastes and wastewater treatment sludge containing metallic hydroxides. The monthly volume of this waste is approximately ten to twelve fifty-five gallon drums of liquid waste and twenty cubic yards

of wastewater treatment sludge. These wastes are generated in the metal cleaning, painting, and printed circuit board processes. These processes are crucial to our overall manufacturing operation, and it is not feasible to eliminate these wastes.

These wastes are presently being disposed at the Adams County Landfill in a manner approved by the E.P.A., and we do not feel the nature of these wastes warrant the additional procedures required by the proposed regulations. We have installed extensive wastewater treatment equipment to meet current E.P.A. pretreatment standards, but in another year will be unable ti dispose of this waste.

If the current proposed guidelines and regulations are adopted by the Federal EPA, it will cost our company a small fortune to convert our paint to acceptable levels and disposal. The first thing is we must have our vendors supply us with a non-lead chromate paint which will cost approximately 40% more (or $4.00 per gallon) which we would pass on to our customers.

Since we use 80-100 gallons per day, the dollar figure is substantial. If we must transport our sludge to Sheffield, it will amount to $450.00 per truck load, and if we must transport to Alabama, the figure would be $850.00 to $900.00.

Our major problem in our sludge is the chromium; we have 120 mg/L and the EPA proposed guidelines call for a maximum of 5.0 mg/L, which calls for a totally different formulation.

Briefly our problem is that we have been trying to dispose of our paint sludge since November, 1977, and have accumulated 50 barrels of it, and we cannot get a permit to dump them. We believe that the proposed regulations will compound this problem.

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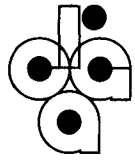

Statement of the

ST. LOUIS REGIONAL COMMERCE & GROWTH ASSOCIATION

before the

U. S. ENVIRONMENTAL PROTECTION AGENCY

PUBLIC HEARING ON PROPOSED HAZARDOUS WASTE REGULATIONS

December 18, 1978 Federal Register

Breckenridge Pavilion Hotel
St. Louis, Mo.
February 14, 1979

I am Roland C. Marquart, Manager of Transportation Services and Secretary of the Environmental Committee of the St. Louis Regional Commerce & Growth Association.

The St. Louis Regional Commerce & Growth Association is an organization of over 3,000 members, representing business and labor, in an area having a population over 2-½ million on both sides of the Mississippi and Missouri Rivers. Our organization, also known as RCGA, has its focus on the bi-state, metropolitan St. Louis region. Our primary emphasis is the economic development of that entire area.

Ever since F. Wohler discovered in the year 1828 that the organic compound urea could be synthesized from inorganic material, man has been artificially creating chemical molecules of every conceivable shape and size. It is because of this chemistry, that we have the many products and services enjoyed in our modern daily life and also the reason we are here today evaluating regulations proposed to control the disposition of hazardous waste resulting from the synthesis and use of chemical compounds.

The many tragic incidences associated with the improper handling and disposal of hazardous wastes have emphasized the need to develop control measures. Hopefully, the Resource Conservation and Recovery Act, Hazardous Waste Regulations coupled with the Toxic Substances Control Act and the Clean Water Act Pretreatment Regulations will enable our society to preserve human health and the environment for ourselves and our descendants.

The St. Louis Regional Commerce & Growth Association does not take issue with the intent of the proposed Hazardous Waste Regulations. We do, however, wish to emphasize the need for moderation

during development of such regulations to insure against over-regulation. So often we are witness to growth stagnation from policies that jeopardize the very existence of businesses which have been the building blocks of our great nation, providing our people with the products and services we demand, and are the life-blood of our free enterprise system. We are particularly concerned with the impact of hazardous waste and other sister regulations on small and medium sized businesses. Large corporations have been forced to develop staffs specifically assigned to handle increased administrative burdens, but the smaller company has been pushed to the limit of motivation and lacks the resources necessary to handle the numerous and voluminous Federal Regulations promulgated within the past ten years.

We are concerned also that portions of the proposed hazardous waste regulations relating to intrastate controls on transportation, handling, and storing may be unconstitutionally intruding on State sovereign functions. We trust that adequate importance will be given to this possibility and that the implication of such deviation from the basic rights of local and state governments will be thoroughly evaluated.

As time allows, we wish to address specific provisions and requirements presented in the proposed hazardous waste regulations as follows:

1. Section 250.13 (d): We consider the definition of a toxic waste as related to the Extraction Procedure to be arbitrary and a fantastic notion. The EPA has taken an extremely ultraconservative position in considering

a waste hazardous if its EP extract shows more than ten times the levels of contaminants allowed by the National Interim Primary Drinking Water Standards. Using such criteria, everything but drinking water will be considered hazardous. The main purpose of hazardous waste regulations is to control the entry of truly hazardous substances into the environment and thereby protect the public health. The leaching of hazardous wastes into ground water should be prevented. The assumption therefore that hazardous wastes will enter the ground water and receive a ten-fold dilution does not appear valid and certainly should not be used as the basis for establishing the toxicity of all hazardous waste components.

2. Section 250.14 (b) (iii): We do not understand the reasoning underlying the separation of publicly-owned and privately-owned treatment works which would, if treating domestic sewage, produce essentially identical sludges. If the purpose of such a provision is to control industrial treatment plant sludges. the intent could be better stated so as not to place an undue burden upon those private companies producing and treating municipal sludge under contract as a business venture. The intent and expanse of this provision is unclear.

3. Section 250.15 (f): Authority is given to the Administrator to approve or disapprove a demonstration, and also the power to grant or not grant a public hearing

if he solely considers there are or are not genuine and relevant factual issues to be resolved by such a hearing. We consider a provision such as this gives too much power and authority to one individual who may or may not be qualified to make such decisions and rulings.

4. Section 250.22: We agree wholeheartedly with the concept of the manifest system as long as sufficient care is taken in defining hazardous waste and the administrative burden is minimized. The manifest system if adhered to will enable tracking of hazardous waste from its conception to disposal and insure adequate protection for the public and the environment. We recommend, however, that each load of hazardous waste, meaning each economically transportable quantity, have a separate manifest accompanying it on its journey. If several separate shipments are covered under one manifest, the potential for the probability of error exists, and keeping track of each shipment becomes more difficult.
5. Section 250.29 (a): We do not consider a waste, if truly hazardous and the degree of hazard being adequately defined, should be allowed to be discharged into a facility not specifically designed and operated to handle and contain hazardous waste no matter what the weight or volume. Numerous generators of small quantities of hazardous wastes using the same facility for disposal, can, by their aggregate contributions, create

the potential for a public health or environmental hazard. More emphasis should be placed on defining what is actually hazardous rather than arbitrarily selecting a 100-kilogram-per-month or even a 1000-kilogram-per-month exemption. The degree of toxicity is the most important consideration and should be specified.

6. Section 250.43-9: We are cognizant of the financial problems associated with assuring proper closure and post-closure of hazardous waste facilities and ascribe to the need for such procedures. Monies earmarked for closure and post-closure operations deposited initially in a trust fund is one way of providing future funds for proper closure and post-closure of existing hazardous facilities. Such a requirement may, however, place a burden on the smaller operator who wishes to comply with hazardous waste facility regulations but does not have adequate capital. We are encouraged to see a provision included in the regulations which would allow the Regional Administrator to consider the financial status of the facility and provide for partial compliance and relief for the financial responsibility associated with closure and post-closure. For new facilities placed in operation after the effective date of the hazardous waste regulations, a schedule of charges, based on hazard category and weight or volume, could be developed which would enable the operator of a hazardous disposal facility

to allot a certain percentage of his disposal fee for closure and post-closure costs. The portion of the disposal fee allotted for such closure operations could be placed in a controlled interest-bearing fund. The administration of the fund could be similar to sales tax collections with any leftover portion after satisfactory closure assigned to the State Government for use in other environmental protection activities associated with the control and disposal of hazardous wastes or to establish a disaster fund. We are concerned that only the large companies with extensive capital reserves will be able to construct and operate hazardous waste disposal facilities if initial deposits for closure and post-closure operations are required. The potential for price fixing becomes apparent. Whatever system is ultimately chosen to insure proper closure. we trust that some means will be employed to prevent exorbitant disposal charges being assessed on those companies who must comply with hazardous waste regulations and dispose of their wastes at such facilities.

We have selected for comment today, those concepts and requirements which we consider have the greatest impact on the various commercial and industrial establishments we represent. A more detailed evaluation of the various technical aspects of the regulations by qualified individuals within our organization will be prepared and submitted at a later date.

We thank you for the opportunity to voice our concerns and comments and trust that great care will be exercised in preparing the final hazardous waste regulations which we deem to have greater impact on our nation's business community than the Clean Water Act.

Respectfully submitted by:

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February 14, 1979

FOR THE HEARING RECORD,
RCRA HEARING AT ST. LOUIS
2/16/79

MY NAME IS LEO DOMZALSKI. I WOULD LIKE TO OFFER SOME COMMENTS AS A PRIVATE CITIZEN.

I HAVE LISTENNED TO MOST OF THE COMMENTS MADE AT THE ST. LOUIS RCRA HEARINGS IN THE PAST THREE DAYS AND FEEL COMPELLED TO SPEAK MY PIECE.

BY NOW IT IS CLEAR TO EVERYONE THAT WE HAVE A PROBLEM AND EPA IS ~~APPRIATELY~~ APPROPRIATELY ADDRESSING THIS PROBLEM PRETTY THOROUGHLY. ~~A~~ HOWEVER THERE IS OBVIOUSLY A LOT OF EMOTION, AS MIGHT BE EXPECTED, WHEN IT COMES TO HAZARDOUS WASTE. TOO MANY PEOPLE THINK THAT INDUSTRY IS BAD — ALL BAD. I DON'T THINK SO.

IT IS UNFORTUNATE THAT WE, AS A PEOPLE, ~~A~~ SOMETIMES ALLOW PROBLEMS TO DEVELOP RATHER THAN TAKE STEPS TO PREVENT THEM. BUT THAT IS THE WAY WE ARE. PEOPLE USUALLY DON'T REPAIR THE ROOF UNTIL IT LEAKS; THEY DON'T GO ON A DIET UNTIL THEY'RE OVERWEIGHT --- AND THEY DON'T SET UP SOLID WASTE REGULATIONS (WHICH ARE COSTLY) UNTIL THEY SEE THERE IS A PROBLEM.

INDUSTRY IS FAULTED FOR NOT PREVENTING THE PROBLEM AND TO SOME EXTENT THIS IS JUSTIFIED. BUT HOW MANY ENVIRONMENTALLY CONCERNED PEOPLE ARE THERE, WHO WILL PAY ONE COMPANY 10% - OR 5% - MORE FOR THEIR PRODUCT BECAUSE THAT COMPANY DOES ALL THE RIGHT THINGS TO PROTECT THE AIR, WATER AND LAND WHILE OTHER COMPANIES DO NOT?

- THERE ~~WON'T~~ WOULDN'T BE ENOUGH ENVIRONMENTALLY CONCERNED CUSTOMERS TO KEEP THAT COMPANY IN BUSINESS.

I BELIEVE THAT INDUSTRY WILL COOPERATE AND COMPLY WITH ANY WORKABLE REGULATORY PROGRAM. IT WOULD BE BETTER IF THAT PROGRAM MAKES SENSE ECONOMICALLY — BUT AT LEAST IT HAS GOT TO BE WORKABLE, POSSIBLE.

FROM ALL THAT I HAVE HEARD AND FROM MY OWN ~~READING~~ STUDY OF THE REGULATIONS AS PROPOSED DECEMBER 18, 1978, THE EPA CRITERIA FOR DESIGNATING A WASTE AS "HAZARDOUS" ARE TOO BROAD. THESE CRITERIA WILL RESULT IN SO MUCH WASTE FALLING INTO THE HAZARDOUS CATEGORY THAT THERE IS <u>NO WAY</u> IT CAN ALL <u>EVER</u> GO TO WASTE DISPOSAL FACILITIES THAT WILL COMPLY WITH THE REGULATIONS. WE HAVE HEARD AGAIN AND AGAIN OF THE PEOPLE'S CONCERN AND ALARM OVER "HAZARDOUS WASTE" AND HOW THEY DON'T WANT

DISPOSAL FACILITIES ANYWHERE NEAR THEM, WELL, WASTE HAS TO GO SOMEWHERE. EVEN IF YOU INCINERATE, ASH MUST GO SOMEWHERE — AND I HAPPEN TO THINK THAT INCINERATION IS OFTEN NOT THE BEST SOLUTION ENVIRONMENTALLY.

I THINK THAT PART OF THE ANSWER — GRANTED MAYBE A SMALL PART — LIES IN RECOGNIZING THAT NOT ALL WASTES ARE EQUALLY HAZARDOUS BEFORE WE EVEN BRAND THEM WITH THE HAZARDOUS DESIGNATION. I THINK EPA SHOULD SERIOUSLY CONSIDER RESERVING THE DESIGNATION "HAZARDOUS" FOR THOSE WASTES THAT ARE TRULY HAZARDOUS IN THE USUAL USE OF THE WORD — MORE IN LINE WITH THE DOT CRITERIA FOR HAZARDOUS MATERIALS. OTHER WASTE THAT NEEDS TO BE CONTROLLED AND DISPOSED OF PROPERLY MIGHT SIMPLY BE CALLED "REGULATED WASTE" OR "CONTROLLED WASTE". ACTUALLY, YOUR NAME "SPECIAL WASTE" SOUNDS EVEN BETTER, BUT I SHARE THE CONCERN THAT ONCE A WASTE HAS BEEN BRANDED AS "HAZARDOUS" IT IS GOING TO BE MUCH TOUGHER TO FIND A PLACE TO DISPOSE OF IT — WHETHER JUSTIFIED OR NOT.

I HAVE A NUMBER OF DETAILED COMMENTS PERTAINING TO THE SPECIFICS OF THE PROPOSED REGULATIONS BUT WILL

SUBMIT THEM IN WRITING, SEPARATELY IN ORDER TO AVOID DILUTING THESE GENERAL COMMENTS,

ONE OTHER COMMENT, THOUGH. IF EPA RECOGNIZES AND AGREES THAT THERE IS GOING TO BE A SERIOUS PROBLEM ESTABLISHING ENOUGH ACCEPTABLE DISPOSAL SITES, IT OUGHT TO BE TRYING HARDER TO DO SOMETHING ABOUT IT— AT LEAST SPEAK UP LOUD AND CLEAR THAT THESE (OR ANY) REGULATIONS IT PROPOSES CANNOT WORK UNLESS GOVERNMENT AND THE PUBLIC COOPERATE IN MAKING SITES AVAILABLE.

THANK YOU.

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