PUBLIC HEARING

before

SENATE SPECIAL COMMITTEE TO STUDY COASTAL AND OCEAN POLLUTION

The pretreatment of industrial waste waters prior to discharge into publicly owned treatment works

September 15, 1987
Room 334
State House Annex
Trenton, New Jersey

MEMBERS OF COMMITTEE PRESENT:

Senator Frank Pallone, Jr., Chairman

ALSO PRESENT:

Patricia Cane
Office of Legislative Services
Aide, Senate Special Committee to Study
Coastal and Ocean Pollution

* * * * * * * * *

Hearing Recorded and Transcribed by
Office of Legislative Services
Public Information Office
Hearing Unit
State House Annex
CN 068
Trenton, New Jersey 08625

RANK PALLONE, JR.
CHAIRMAN
ICHARD VAN WAGNER
AURENCE S. WEISS
HOMAS GAGLIANO
AMES R. HURLEY

New Jersey State Legislature

SENATE SPECIAL COMMITTEE
TO STUDY COASTAL AND OCEAN POLLUTION
STATE HOUSE ANNEX, CN-068
TRENTON, NEW JERSEY 08625
TELEPHONE: (609) 292-7676

September 2, 1987

NOTICE OF A PUBLIC HEARING

The Senate Special Committee to study Coastal and Ocean Pollution will hold a public hearing at 10:00 A.M. on Tuesday, September 15, 1987, in room 334 of the State House Annex in Trenton.

The Committee will be taking testimony concerning the pretreatment of industrial waste waters prior to discharge into publicly owned treatment works. Pretreatment decreases the amount of hazardous substances entering a sewage treatment plant and ultimately contaminating its sludge. Contaminated sludges are ocean dumped. This is a rescheduling of the August hearing on this topic which was postponed.

Anyone wishing to testify should contact Patricia Cane, the Committee Aide, at (609) 292-7676.

TABLE OF CONTENTS

APPENDIX:

* * * * * * * * *

akv: 1-112

SENATOR FRANK PALLONE, JR. (Chairman): Okay, we're going to start the hearing. I am expecting Senator Van Wagner and Senator Gagliano to be here, and if they do come in, we'll of course ask them to make some remarks after they arrive.

As many of you know, this is actually the eighth in a series of hearings that have been held by the Senate Special Committee to Study Coastal and Ocean Pollution. This hearing however is a little different. We did, as you know, promise to have a hearing on the subject of pretreatment a couple of months ago, and it had been delayed because of the tremendous problems we had this summer with ocean dumping. Unlike some of the other hearings, this is a little more specific. Prior hearings have brought out a lot of information, enabling us to hold this and future hearings on the more technical aspects of pollution control.

Today of course the subject is pretreatment. I'm sure most of the people here are aware of what pretreatment is. I'd like to say briefly what it is. Because sewage plants are unable to adequately treat all the wastes they receive, and some of these potent discharges to their systems damage the treatment process, regulations calling for treatment of the wastes to make them less potent before they are discharged to the sewers were issued by the United States Environmental Protection Agency.

However, much of what does reach the treatment plant ends up in the sludge, the by-product of the treatment process. This is of course the pass-through. Potent wastes passing through the treatment system result in highly contaminated sludges. Clean sludges can be used in farming, or to make compost, or can be incinerated. As we have heard often this summer, over 50% of this State's sludge is dumped in the ocean because it is too contaminated to be used on land. This must mean that pretreatment is not adequate or not being enforced rigorously enough, and poor quality sludge is being legally dumped in our ocean.

Logically, if pretreatment were better, then sludge quality would be better. If sludge quality were improved, then land-based alternatives for sludge disposal would be available, or at a minimum cleaner sludge would be dumped in the ocean. This might sound very simplistic, but the truth is that the problems associated with sludge management and pretreatment do not lend themselves to easy solutions. We are here today to outline some of these problems, and perhaps as a consequence of this hearing be able to offer some practical solutions.

As I mentioned, all sewage discharges are required to meet basic criteria established by the Federal government, such as not creating a fire or explosion hazard at the treatment plant, or obstructing the flow in the treatment plant. In addition to these basic standards, discharges which contaminate sludge must be pretreated. Regulations specific to particular industries exist. However, they are inadequate. For example, the pharmaceutical industry must only pretreat for cyanide. What about all the other chemicals?

Now I have introduced a bill which is going to be part of the discussion today, and it deals with requiring minimum quality standards for sludge at the State level. Basically what it calls for is that within six months of enactment of the bill, the State DEP would establish pretreatment standards for ocean dumped sludge. Although there are pretreatment standards right now for material for sludge that is being used as compost or is being incinerated on land, we do not have those standards for ocean dumped sludge. That's the reason why the worst sludge, the most highly contaminated, is dumped in the ocean. Basically what the legislation seeks to do is to require the same standards for the sludge that is now disposed of on land, those same standards to be used for sludge that is dumped in the ocean. It basically is making an effort to meet the 1991 deadline that we would like to see for all ocean dumped sludge.

In other words, basically what we're saying is that in order for us to effectuate a 1991 deadline for us to get out of the ocean, and not being dumping sludge at the new 106-mile site, that we would have to have pretreatment standards in effect by that 1991 deadline that would make the sludge that is being produced acceptable for disposal on land, either for composting or for incineration.

I know that you have heard in the last few weeks that one of our goals I think in the Legislature -- and hopefully we'll see legislation passed to require that the sludge be out of the ocean by 1991, so that that 1991 deadline set by the Federal EPA is not renewed, and the 106-mile site is not renewed as a disposal site for sewage sludge-- The bottom line is that if we do not have pretreatment standards in place, and we don't start effectuating those pretreatment standards for ocean dumped sludge very soon -- and not even wait until 1991 -- it will probably be impossible for us to get out of the ocean by that deadline. So basically that is what the legislation tries to do; juxtapose that treatment deadline with the deadline for getting out of the ocean if at all possible.

Senator Gagliano has also introduced a resolution requesting that the EPA accelerate the development of better pretreatment standards for industrial wastewater. And both that proposal and mine, and any others that deal with the pretreatment issue, are obviously open to discussion today and in the future.

I just want to start off the hearing by having Cindy Zipf, who is the Executive Director of Clean Ocean Action, come up and testify. We don't expect the hearing today to be as long as some of the other ones we've had in the past. I promise you all that. But I think that substantively this may be one of the most important hearings that we have.

C I N D Y Z I P F: Right.

SENATOR PALLONE: Cindy?

MS. ZIPF: I've asked Ken Brown to join me so that he can touch on the points that I perhaps don't touch on, and fill it in.

K E N B R O W N: And we'll be quicker that way.

MS. ZIPF: And we'll be quicker that way. For the record, I'm Cindy Zipf. I'm the Coordinator of Clean Ocean Action, which as you know, is a coalition of organizations working to fight against ocean pollution.

I have some general statements here today. As you know, Senator Pallone, we're very much opposed to ocean dumping of sewage sludge. We feel that that is an irresponsible way to deal with our waste problem. And in order to do so, we have to advocate for something. We recognize that if we're not going to dump it in the ocean, we have to do something with it. Currently it is too toxic to do anything else with it but dump it in the ocean.

If I might just quote from "The Occurrence and Fate of Toxic Substances in New Jersey Sewage Treatment Facilities," which is this book from the Office of Science and Research: "Many industries are finding it cost-effective to discharge their wastes into POTWs rather than upgrade or construct new on-site treatment systems. Under Resource Conservation Recover Act" -- RCRA -- "the domestic sewage exclusion provides that a hazardous waste mixed with domestic sewage is no longer considered a hazardous waste. The exclusion allows industries connected to the POTWs to discharge hazardous wastes into sewers." And I think that's obviously one of the major problems. In fact, a good percentage -- almost 75% -- of toxics wind up in the sludge. As we all know, sewage treatment facilities are not geared for treating toxics. They are geared for treating domestic household waste. Included in that is some toxic materials. However, I think by focusing on industry and getting at the bad actors, then we could focus on general household waste in the future.

I think it's important to note that we've been all talking about pretreatment for a long time, as a solution to dealing with our sludge management problems. In fact, in -- and I quoted from this before -- this is "Ocean Dumping of Sludge Program Through Phase-out in 1981;" it was a document that was put together by then Commissioner Bardin to EPA, and focused on getting to the 1981 deadline. He said in fact that, "The present system of ocean dumping is but one example of poor management of sewage sludge." He went on to say, "In some cases the best management of sewage sludge will probably require pretreatment of industrial effluents before they enter municipal treatment plants." Now, that was ten years ago. Currently, we still have toxic sludge, sludge that is too toxic for any other alternative but ocean dumping.

I might also add that currently some of the big six sewage treatment plants have been required to do bioassay test results on sludge, and in fact some of those sewage treatment plants have failed those bioassay test results -- which shows that there is significant impact or that there is a toxic effect from sludge.

I think it also should be stated, from the environmental community's perspective, if it's too toxic for the land, then it's too toxic for the ocean. I think that was one of the premises of your bill that you introduced.

Unfortunately, I don't see that the State of New Jersey is moving quick enough, hard enough, and fast enough, to end ocean dumping of sewage sludge and get the sewage sludge clean. In fact, in a draft statewide sludge management plan that came out last year -- or this year, rather -- they plan on using the ocean for at least the next five to ten years. We well know that there is a 1991 deadline on that dump site, and while it can be extended, I don't think the State of New Jersey should bank on that. The effort should be to get out of the ocean, not to utilize the ocean in the future, especially with the problems that the ocean has been faced with this summer

I don't think moving it out to the 106-mile site was a long-term solution. Everyone that talked about the 106-mile site felt it was a very short-term solution, and that ocean dumping should be phased-out within a five-year period of the move out there. I don't see the State moving in that direction. In fact, recent headlines in the paper, "Dewling Opposes Sludge Dumping in Sea, but Sees No Land Alternatives," "Ocean Dumping Won't End Soon," "Panel Told There's No End in Sight for Ocean Dumping." That was--

SENATOR PALLONE: That was ours? (laughter)

MS. ZIPF: That was your hearing in January, right. I also feel that the State, recently-- As a matter of fact in Sunday's Asbury Park Press, State officials were quoted as saying, even if the sludge was clean, there would be lawsuits filed against the EPA or the State to continue ocean dumping; that in fact even if the sludge was cleaned from Newark, can you imagine southern Jersey communities accepting that sludge on their land? I think comments like these perpetuate the problem and the fear that people have about sewage sludge.

Sewage sludge -- clean sewage sludge -- is nothing to be afraid of. In fact, there are many technical magazines out -- this being one of them (holds up magazine) -- that describes many different ways in which sludge can be utilized. This is "BioCycle: Journal of Waste Recycling," and it includes many articles about sludge composting, sludge utilization, and sludge management technologies. We are a very highly technical society, and we can develop ways to protect the public, to protect the environment. Pretreatment, along with waste minimization, is clearly the road to go.

You mentioned pretreatment and explained it. What it does do is generate more toxic waste at a treatment plant if it's not combined with waste minimization technologies, such as source reduction and recycling. I think that both of those have to be included in an overall toxic or hazardous waste

reduction system. I think that's the direction in which we have to move. A State effort has to be made to first end ocean dumping, and I think that is the heartfelt feeling of the people of the State of New Jersey. They want ocean dumping to end. In order to do that, as I said, we must reduce the toxicity. We do have a standard for land-based sludge, and I think that is what we should focus on. We should get all sludge to meet land-based quality standards.

"Clean" to me means something that I want on my lawn, something that I want to go down to the treatment facility and put on my lawn. I don't think that that's unreasonable. I think that's an achievable goal, if there is a very direct, very aggressive program, and a very strong commitment from the DEP. I don't feel that. I feel that the DEP perhaps feels the problem is too extensive, it's too large, it's too big, it's too complicated. But I think with direction from the Senate and from the Assembly, that they will find that road if they're forced to.

SENATOR PALLONE: Cindy, can I just interrupt?

MS. ZIPF: Sure.

SENATOR PALLONE: I think the problem is-- I mean, we're talking about legislation that would -- again, we don't legislate for New York. If we're going to talk about New York then we have to talk about Federal legislation. We're talking about New Jersey. We've got the municipal sewage authorities in the northern part of the State which are still dumping, some at 12, and will have to be moved out to 106 by the end of the year. The problem in general is that if we pass a law -- which I would like to see, and I think hopefully we will see by the end of this session or early next session -- that says that as of a certain date those authorities can no longer dump at 106. Let's say we establish a 1991 deadline, which there are several pieces of legislation that would accomplish that. The problem is that if we do not have pretreatment standards in place, and

the ability isn't there to actually utilize that sludge -- either on land through incineration, or for fertilizer, composting, whatever -- that those sewage authorities are likely to come back and say, "Well we can't meet those deadlines. We can't dump at sea." In the same way that they're going to court now to fight the Federal ban, they could go to court and say, "Look, there's no alternative."

MS. ZIPF: I recognize that.

SENATOR PALLONE: So I mean that's really what we're talking about, implementing some type of program so that those types of court actions don't occur, even if we do pass legislation, or even if the Federal government doesn't reinstitute in 1991.

MS. ZIPF: But I think getting at a base line such as the land-based standard-- I don't think we need to spend six months maybe, in determining what level of toxicity the sludge has to be. I think it's there. I think if the State is strong in its commitment to its land-based standard, and feels good about that land-based standard, then there's no reason we couldn't use that standard if they feel that it is safe for the public and safe for the land. They obviously do if they have the standard. I'm sure they would strengthen it if they felt it wasn't good enough. So the standard exists, and I think utilizing a percentage phase-out of toxics -- in other words, in one year the sewage treatment facilities have to be 25% less toxic than they were the year previously, then an additional 25%, and go 25, 50, 75 and 100 -- over the course of four years then we will achieve that goal. But if we just expect them to come up with clean sludge by 1991, we're not going to see it, and they're going to perpetuate the 1981 decision which allowed the continuation of ocean dumping.

SENATOR PALLONE: So, since we're already almost into '88, we'd have to do it on a four-year basis: 25, 50, 75, 100%.

MS. ZIPF: That's right. And I don't think it's unachievable. I think that that's realistic. And of course incentives will have to be provided on both the carrot and the stick approach. I think tax incentives could be given, and already are under certain State legislation for companies that do include waste minimization technologies in their treatment plants. I think that that has to be expanded. I also think that, in term of incentives, that increasing the cost per toxic material dumped down the drain will promote industrial use of recycling. Right now, as you know with that domestic sewer exemption under RCRA, there is no incentive whatsoever for industry to control the toxic waste going down the drain. I think what we must begin to do is start making that domestic sewer exemption non existent in the State New Jersey.

SENATOR PALLONE: Why don't you elaborate on that a little?

MS. ZIPF: The domestic sewer exemption?

SENATOR PALLONE: Yes.

MS. ZIPF: Well, as it states, a toxic waste or hazardous waste poured down into a domestic sewer exemption, is no longer considered a hazardous waste. Pretreatment standards were supposed to control the toxicity of the toxics going down the drain, but since our pretreatment standards aren't up to par the toxic waste is getting poured down the drain, and it's very difficult to enforce.

SENATOR PALLONE: Are we going to be seeing more-- I mean obviously right now -- I don't know obviously, just my impression is that certain industries are under certain requirements.

MS. ZIPF: Categorical, right.

SENATOR PALLONE: Okay, but in other words, are we going to see more and more industrial waste going into these wastewater treatment plants over the next few years? I mean is the problem in terms of the amount of material going into the

plants -- particularly those that are now dumping in the ocean -- going to increase?

MS. ZIPF: I'm not-- Maybe the State would be better to answer that question--

SENATOR PALLONE: Okay, we'll have to ask them.

MS. ZIPF: --because I think what's happening is that pretreatment standards are getting more and more strict, so it will reduce the amount of-- But with that domestic sewer exemption from RCRA in there it's not going to happen fast enough, and it's not going to meet the 25, 50, 75, and 100% deadline for toxic reduction that we would like to see. So I think if we start aggressively taxing, or charging additional monies for the toxics that are being poured down the drain from industry-- In other words, if an industry is dumping a certain percentage of toxics down the drain they'll be taxed "X" amount of dollars. That amount of dollars will be increased on an incremental basis if they don't begin reducing it. I think that that kind of carrot and stick approach will also be helpful in reducing toxics being poured down the drain, which obviously is a legal thing to do with the domestic sewer exemption.

So, if I can just touch on your bill S-3308, which I've been calling the Clean Sludge Bill. I think it's a dramatic step towards an end in ocean dumping. I think that we do need to put that phase-out in there, and then at the same time pretreatment can't be looked at as the only solution. Waste minimization has to be brought in as a companion to that, because we don't want to generate a toxic waste problem at these industries. We don't want to create another problem that we're going to have to deal with in the future. What we want to do is reduce the amount of toxics that are generated and disposed of in the State of New Jersey

SENATOR PALLONE: Would the pretreatment standards themselves, though, result in a certain amount of toxic waste

minimization? I mean, just the fact that the standards have to be met, result in kind of a ricocheting effect.

MS. ZIPF: Yes, but what they'll be doing is pretreating the wastewater exiting their plant, which means they're going to be taking those toxics and putting it somewhere.

SENATOR PALLONE: And have to put it somewhere else.

MS. ZIPF: Right. So what you're going to need to do is put source reduction and recycling efforts in as well, to reduce the amount of toxics that the plant is generating in their wastewater system. That's been shown time and time again not to be an overly expensive proposition for an industry. In fact, industries can save money over the course of years by implementing source reduction and recycling techniques. It's been proven over and over, and time and time again.

MR. BROWN: I can give you an example of why that would be necessary. For example, the pretreatment regulations that affect metal platers. Oftentimes the kind of treatment system that they would put on to prevent their metals from going into the sewer system, will create a metal hydroxide sludge, which is considered to be a hazardous waste and then has to go in a landfill. So what we're doing then is preventing the toxics from ending up in the sludge in the ocean, and ending up in the sludge that gets dumped in the landfill somewhere else. The real solution is to provide incentives, and put in place systems, that an industry will limit the overall amount of toxics that it generates.

SENATOR PALLONE: So the bottom line then is, you're always going to have it. I mean, we're hopeful of getting out of the ocean -- and hopefully even if they're in the ocean having less toxic material being dumped -- but you still have to take that stuff somewhere.

MR. BROWN: Except that there are a growing number of examples where companies don't even need to generate any toxics

at all, either by substituting less hazardous materials in their systems by developing close loop systems where they recycle and recover the metals and other toxics that they use. Those are the kinds of things that should be the highest priority, as opposed to end of the pipe treatment at an industrial facility.

SENATOR PALLONE: Okay. Ken, would it be better, perhaps to put the DEP on now, and then maybe you can talk later? Because I know a lot of the questions that Cindy raised I think maybe would be best addressed to them.

MR. BROWN: Well, how about if I give a quick summary and then--

SENATOR PALLONE: Go ahead.

MR. BROWN: --be done with. My name is Ken Brown. I'm the Director of the New Jersey Environmental Federation, which is a coalition of about 30 groups throughout the State representing community, environmental, and labor groups, that are concerned about improving protection of the environment here in New Jersey.

There has been lots of talk about ocean problems this summer, and very appropriately so. There's been a tremendous amount of focus on the fish that are dying, the beaches that are closing, and a lot of focus on garbage that's been dumped, and sewage problems. However, as Cindy mentioned, there is a tremendous long-term problem that we have that will affect us for generations to come, and we don't even begin to have a sense of how bad it could be. That's the thousands of pounds of toxics that are being dumped into the ocean through industry every year. Some of that is direct dumping of toxics into the ocean -- such as the dumping by duPont out in the ocean, and also Allied at the acid waste site. In both situations there are existing alternatives available to them to implement immediately to stop dumping in the ocean.

Then we also have the sort of hidden problem that we're talking about here today, which is the thousands of pounds of toxics that are dumped into the sewer systems.

Cindy touched on some of the history, but way back when, when the original Clean Water Act was passed, there was an understanding that there were lots of toxics that were being discharged directly into our waterways. And in the original Clean Water Act -- when that was passed -- there was an attempt to prevent that from going directly into our waterways. Then what happened was, people said, "Ah ha, we know a way to get around this regulation. What we'll do is hook up into the sewer systems." So it took several years for Congress and EPA and everybody to recognize this. That led to the creation of the pretreatment program.

I think it would be useful to read briefly the conclusion of the report that the DEP itself has done, and it's one of the more comprehensive studies of toxics in the sewer systems:

"1) Significant quantities of priority pollutants are detected in the influence of the POTWs." What that means is that there are large amounts of toxics going into the sewage systems. And effluent samples show that treatment processes are not sufficient for removing large percentages of contaminants. The point is here that the toxics go into the sewage plants. The sewage plants are not designed to treat and remove toxics. Much ends up in the sludge, as Cindy pointed out. In addition, toxics end up in the effluent coming out of sewage treatment plants, which are discharged into our waterways which end up in the ocean. There are also significant air pollution problems at sewage treatment plants.

The report found that secondary treatment plants were more effective than primary facilities at removing these primary pollutants. However, in most cases that just meant that more toxics end up in the sludge at secondary treatment

facilities. So they're not really removing it, it's just ending up getting more in the sludge and less into the effluent that's discharged directly.

Volatile organic compounds and heavy metals were the major pollutants identified in the effluents tested. Metals were detected in significant concentrations in all the sludge samples; and you're talking about toxics like lead, cadmium, chromium. Those are some of the metals. Benzine, carbon tetrachloride, are some of the organic chemicals -- many of them known or suspected carcinogens -- often cause other health problems as well. And we're also familiar with the impact in the ocean where we've seen already contamination of many species of fin fish with PCBs, metals, and other toxins. The DEP found in an earlier report that some of that could have been related to discharges from sewage treatment facilities -- related to the contamination of fish.

To give you an example of how contaminated the sludge are, in the study here they identified three classes of sludge. They called it Class A, Class B, and Class C.

Class A sludges are the highest quality, and may be used for soil application on non food chain crops, and on some food chain crops.

Class B sludges are considered medium quality sludges. They can be used in non food chain crop programs, and also horticultural uses, and reclamation projects.

Class C sludges are generally unsuitable for land disposal.

What this study found in looking at a total of 49 samples from 16 different sewage treatment facilities -- and this is the facilities that dump in the ocean and those that don't dump in the ocean -- was that there was only one sample from one facility at a Kearny plant which was not a Class C sample, which was the worst quality. So all of the sludge was considered Class C, which is unsuitable for land disposal. And

these were samples that were taken in the study done by the Office of Science and Research.

SENATOR PALLONE: Then, Ken, that includes the facilities that are disposing of the material on land?

MR. BROWN: According to this study done by the DEP, even some of the samples that they took from facilities that are landfilling sludge and doing other things with it, that it's in a quality -- according to this study -- that's unsuitable for land disposal. So it shows that it's not just a problem in the six facilities that dump in the ocean, but it's a wider statewide problem and it needs to be addressed everywhere.

SENATOR PALLONE: Whether the pretreatment standards that even exist for land-based in fact are followed through?

MR. BROWN: That's correct. Finally, what the report concludes is that the continued implementation and enforcement of strict statewide pretreatment regulations are an essential step in the reduction of discharge of toxics, pollutants to New Jersey's waterways. In addition, further reduction of the priority pollutants may be achieved through secondary treatment.

I also want to point out some of the faults in the existing system. Cindy talked about how there's no regulations for sludge dumped in the ocean. So you have a Catch-22 situation: As long as it's cheap and easy to dump sludge in the ocean, the sewage authorities have no incentive to come down hard on the facilities that are discharging into their system, and at the same time they want to just keep dumping in the ocean. So they really have no incentive to act.

There are also no criteria on toxics for effluent coming out of sewage treatment systems.

SENATOR PALLONE: That's true regardless of whether they're ocean dumping?

MR. BROWN: Right. This is the effluent. Not the sludge, but the effluent that comes-- They're regulated for

conventional pollutants but there are no criteria for toxics, whereas in industrial permits there are criteria for toxics. In addition, what the study found out is that in many cases the effluent coming out of sewage treatment facilities was in fact more toxic than effluent coming out of many industrial facilities.

And third, there are no restrictions on air pollution coming out of sewage treatment plants. So because there are no restrictions on the toxics of stuff coming out of sewage facilities, they have no incentive to restrict what comes into their facilities. So basically the only thing that gets regulated are those industries that get covered by the Federal National Categorical Standards, which you pointed out for example in the pharmaceutical industry may not even be appropriate. And anybody that doesn't come under one of those Federal categories is not being regulated at all.

In addition, on top of that, in many cases the industrial clients of sewage facilities are oftentimes the greatest contributors of revenue to those facilities. So again, oftentimes they are reluctant to be tough on the guys sending stuff into their system.

Finally, we've seen very weak implementation and enforcement of the whole pretreatment program that does exist, both by EPA and the State of New Jersey. EPA has been very slow to come out with the Federal standards, and those are just beginning to come into effect right now. As a result, even though they were required to happen by the 1977 Clean Water Act, here we are 10 years later and just beginning to implement the Federal pretreatment program. The State has had an opportunity to go beyond that. They have chosen not to do that.

Secondly, what you have is a system here in New Jersey where the State has delegated the authority for the major sewage treatment systems directive for implementation and enforcement of the pretreatment program directly to the sewage

systems. So, they've passed that on to the sewer systems who, as I've said, have very little incentive to move forward and the State has not moved in.

Finally, the State is supposed to come up with programs for the minor sewage authorities in the State. I've been on an advisory committee that's supposed to oversee that. We haven't met in about two years. I have no idea as to what the status of that program is. Maybe the DEP could shed some light on that. But those are facilities that are considered minor sewage authorities, and the State is helping them implement their pretreatment programs. To my knowledge, very little has happened on that.

SENATOR PALLONE: But they, theoretically, have to meet the same standards?

MR. BROWN: They still have to meet the same standards.

SENATOR PALLONE: The question is, whether or not they're meeting them, and what kind of enforcement exists?

MR. BROWN: Exactly. And finally as an example of enforcement-- One of the facilities on our terrible 14 list -- which is a list of some of the worst polluters in the State -- is a company called Harvard Industries. They're in Union, New Jersey, and they discharge into the joint meetings of Essex and Union County Sewage Authority -- one of the large sewage authorities. We have uncovered several thousand violations committed by this company, which should be regulated under the metal plating standard. We have entered into a citizens' suit against the facility to try to get them to stop. We have passed this information both onto the State DEP and to the Attorney General's office, and we have seen no action. We've been talking to them about this facility for over a year-and-a-half now. In addition to getting better regulations in place we need to see aggressive enforcement, and the State has got to take some responsibility for that.

SENATOR PALLONE: Ken, can I ask you one thing? Some of the budget initiatives that the Environmental Federation had to beef up enforcement -- some of which I know the Governor signed and approved and others of which were conditionally vetoed -- was there any enforcement involved in these types of programs for pretreatment?

MR. BROWN: Yes. Some of it was related to the emergency response 24-hour sampling system, which could be used to better monitor facilities.

SENATOR PALLONE: Was that money left in the budget, or was that removed, or we don't know?

MR. BROWN: I can't remember, to tell you the truth.

SENATOR PALLONE: Okay. But then do you perceive as part of the problem the need for more staff, or the need for more money, or what?

MR. BROWN: Yeah. I think that--

SENATOR PALLONE: I mean, in terms of the existing programs that maybe are not being enforced properly.

MR. BROWN: I think the problem is fourfold: One is we need restrictions on the sludge, that your bill will help with. We also need to take another look at the land-based sludge. We need restrictions on the effluent that's coming out of sewage treatment facilities. We need air pollution controls for sewage treatment facilities. All of those which would in turn provide a much greater incentive for both the sewage systems and the State to put more restrictions on the industries discharging into the sewer systems.

In addition, we need some language in there which says that to meet these restrictions of discharges -- these are for industries that discharge into the sewer systems -- we need some language in there which says the preferred alternative is to implement waste reduction and recycling, not end of the pipe treatment and disposal. These are industries that discharge into sewer systems. That will prevent the problem which I

mentioned earlier of electroplaters, where we're taking the sludge out of the sewer systems and then dumping it in a landfill, because then we're just continuing to play the shell game where we take the toxics and move them around. What we really want to do is implement reduction at the source.

Finally, as part of this we need aggressive enforcement. That means making it easier to have jail sentences for polluters. We need higher fines for those that are violating the law. We need additional staff at the DEP to do more inspections and monitoring and enforcement. But we also need a will and a real commitment from the people at the top of the agency that enforcement is going to be a very high priority.

SENATOR PALLONE: When you mentioned the air pollution controls, I'm not sure I understood. This is emissions that are coming from the treatment plant?

MR. BROWN: For the air pollution-- You have toxics going into the sewer systems, right? Then you have oftentimes where they end up is in an aeration basin.

SENATOR PALLONE: Right.

MR. BROWN: Then you get volatile organics that are volatilizing out of the aeration basins. Or oftentimes there are air stripping devices, which basically send the toxics out into the air. So you end up with air pollution problems from sewer systems.

Another thing you have is potential problems for worker health and safety, because the people in areas where workers work near the toxics in the sewer systems, they can be exposed to air pollution. We've even see workers killed in sewer systems. There was an example in Woodbury where industrial discharge into a sewer system killed a sewer worker.

SENATOR PALLONE: But, Ken-- Not that I'm terribly familiar, but I mean-- I've seen some sewer plants that have the devices that seem to be actually open air. I don't know if

they're doing the aeration, or whatever. Others have enclosed facilities. I mean, do some plants have better control over these air emissions than others?

MR. BROWN: I think some that have the enclosed facilities, obviously you're going to get better control over the toxics.

SENATOR PALLONE: Yeah.

MR. BROWN: I think the key is to not have the toxics go in there in the first place--

SENATOR PALLONE: Yeah, okay.

MR. BROWN: The bottom line is that there are air pollution problems related to sewage treatment facilities. There are some minimal things that a facility can do to remove toxics, treat them, help prevent pollution from the sewage treatment facility; but the real key is not to deal with it at the sewage treatment facility level, but to deal with it upstream and stop the toxins from getting into the sewer system in the first place.

SENATOR PALLONE: I would imagine that some of the smaller plants might have more problems in terms of air emissions than the larger ones, because the smaller ones are the ones that probably don't have the enclosed facilities.

MR. BROWN: Yeah. I don't know which ones have better facilities. I think the real key is to deal with it not at the sewage treatment plant level, but to deal with it upstream and prevent the toxics from getting in there in the first place.

SENATOR PALLONE: Okay. Thanks a lot.

MR. BROWN: Thank you.

SENATOR PALLONE: Are you going to stay around then?

MR. BROWN: Yes. We'll stay around for a little bit.

SENATOR PALLONE: All right.

MR. BROWN: I would just like to compliment you, Senator Pallone, for the leadership you've provided on this issue; and also from your Committee. I think the whole

Committee and the members of the Committee are addressing issues that heretofore -- some of which are complicated, some less complicated, but -- have not received a lot of attention, and are very important to developing real long-term solutions to these problems.

SENATOR PALLONE: Thank you. I always accept compliments. (laughter)

MS. ZIPF: Who doesn't?

SENATOR PALLONE: Okay. We'd like the representatives from the DEP-- I have Mr. Schiffman here, Arnold Schiffman. Are the rest of the-- You're Helen Chase, I've met you before. Bill Boehle, and Mary Jo Aiello? We have so many questions now as a result of their testimony.

A R N O L D S C H I F F M A N: Hopefully we'll be able to answer any and all questions. I'm going to discuss our pretreatment program briefly.

As you probably know, in New Jersey most wastewater goes to municipal wastewater treatment plants, or so-called "Publicly Owned Treatment--

SENATOR PALLONE: Could you give us your title, just for the record?

MR. SCHIFFMAN: Arnold Schiffman, Administrator of Water Quality Management, Division of Water Resources, Department of Environmental Protection.

SENATOR PALLONE: Thank you.

MR. SCHIFFMAN: Most wastewater in New Jersey goes to municipal wastewater treatment plants, so called "Publicly Owned Treatment Works" or POTWs. We only have about a million plus population on 400,000 on-site septic systems in this State. The residues of the municipal treatment process -- the sludges -- are used or disposed of by a variety of options, including composting, land application, incineration, and ocean disposal.

The wastewater discharged by industries into these treatment plants is often contaminated by a variety of toxic or other harmful substances, that are not compatible with typical municipal treatment processes. Several serious problems can occur when incompatible industrial wastewaters are discharged into sewage systems. There are three categories of problems:

One of them is called "Pass-through." The toxic pollutants can pass-through the treatment plan, into the effluent, out into the receiving water without being adequately treated.

The toxic waste may interfere with the operation of the treatment plant. That can cause other waste that is supposed to be treated, to be treated less effectively.

And we can have industrial waste that contains high levels of toxic metals or other organic compounds, that can end up in the sludge and contaminate the sludge, making disposal options more expensive and more limited.

These undesirable effects resulting from the discharge of incompatible industrial wastewater into municipal sewers can be prevented. Industrial plants, using proven pollution control technologies, can remove pollutants from their wastewaters before discharging them into the municipal sewage treatment system. This is what we call pretreatment.

Industry is already pretreating its wastewater in many communities across the State. The pretreatment program is a cooperative effort of Federal, State, and local officials to reduce the levels of pollutants discharged by industry into municipal sewage systems.

These restrictions have existed in some localities for many years. Such regulations are the predecessors of modern pretreatment programs which now include both national standards and local programs to control industry pollutants.

The State of New Jersey was delegated authority for implementation of the National Pretreatment Program in 1981

under our New Jersey Water Pollution Control Act, also known as the New Jersey Pollutant Discharge Elimination System. Since that time, the Department has approved the pretreatment programs of 22 Publicly Owned Treatment Works who encompass most of the heavily industrialized sectors of the State. We estimate that 80% to 90% of the industrial indirect discharges are located within these 22 POTW service districts. Indirect discharge is the term that the State will use to describe a discharge into a treatment plant, as against a discharge directly into a stream. The pretreatment program requirements in the remainder of the State are administered by the Department.

The Department provided oversight of the 22 POTWs with local pretreatment programs. Our oversight program, consisting of on-site audits, annual report reviews, local limit evaluation, and individualized technical assistance, is designed to ensure a uniform degree of consistency and stringency on a statewide basis.

The POTWs have traditionally thought of themselves as service agencies. Many have been slow to adapt to their greater regulatory responsibilities under the pretreatment program. Recognizing this problem, it has been necessary to follow a learning curve in program implementation. Initial Department efforts were directed at proper implementation of program basics such as establishment of control mechanism -- usually permits issued by the POTW -- performance of required samplings and inspections, and improvements in the documentation of observations and activities necessary to support enforcement actions. Our recent efforts have been directed at increasing industrial compliance through enforcement activities.

Is the pretreatment program working? Of the six POTWs disposing of their sludge by ocean dumping, only one received a rating of "unacceptable" on their recent audit of their program implementation.

SENATOR PALLONE: Do you want to tell us who that is?

MR. SCHIFFMAN: Bergen County Utilities Authority.

SENATOR PALLONE: Okay. Just so I understand though, what you're saying is that there is a pretreatment program in place, even for those authorities that do ocean dump their sludge?

MR. SCHIFFMAN: The authorities that ocean dump their sludge happen to be of the 22 with local pretreatment programs.

SENATOR PALLONE: Okay.

MR. SCHIFFMAN: They're part of the 22.

SENATOR PALLONE: All right, but I'm a little confused. Maybe I shouldn't be interrupting you at this time--

MR. SCHIFFMAN: No. Sure, go ahead.

SENATOR PALLONE: --but I'm a little confused over the fact that Ken and Cindy seemed to be suggesting -- or I was under the impression that I guess not only that the standards were different where you were ocean dumping versus disposal on land, but also that maybe there weren't any standards at all where you were ocean dumping. You seem to be indicating there is a pretreatment program?

MR. SCHIFFMAN: You're talking about the sludge now, all right?

SENATOR PALLONE: Okay.

MR. SCHIFFMAN: The pretreatment program puts requirements on industries to do things to their wastewater before discharging.

SENATOR PALLONE: Before they get to the plant, okay.

MR. SCHIFFMAN: Then when you look at the sludge there are different standards for the sludge.

SENATOR PALLONE: So what you're--

MR. SCHIFFMAN: It so happens that the ocean disposal standards for the sludge itself are not there, as compared to land disposal criteria which are there.

SENATOR PALLONE: So what you're talking about now are the standards for the industries that dispose into all plants.

MR. SCHIFFMAN: That's right. And the standards for the treatment plants who operate the program. That's what the pretreatment program is that we're operating.

SENATOR PALLONE: All right, but what I'm saying--

MR. SCHIFFMAN: So there's a whole series of rules and regulations for the treatment plants.

SENATOR PALLONE: That apply to the industries that are in fact depositing their wastes into the treatment plants.

MR. SCHIFFMAN: That's right, and to the conduct of the program by the municipalities.

SENATOR PALLONE: All right, but just so that I don't get confused, at what point then do we make this distinction between land-based and ocean dumped sludge, land disposed and ocean dumped sludge?

MR. SCHIFFMAN: When we look at the sludge itself. When we're looking at the sludge itself then we're looking at criteria for use and management of the sludge.

SENATOR PALLONE: Well I don't understand. I would assume that--

W I L L I A M B O E H L E: (from audience) You're confusing terms. Pretreatment standards apply to industries, sludge disposal criteria apply to the sludge the POTWs want to put in the ocean, or wherever they are going to dispose of it. Pretreatment standards don't apply to sludge.

SENATOR PALLONE: Okay, but what I'm saying is if we were to implement -- as my bill does -- a program that says that those authorities that-- When you ocean dump sludge that it has to achieve the same quality standards as sludge that is going to be disposed of on land. What would that mean in terms of your pretreatment program?

MR. SCHIFFMAN: I understand your problem. Let me give you a little background on the standards and the regulatory program, and this is generic to surface water discharges. I think it will help explain this a little

better. I was going to explain this a little later. Let me do it right now.

If you look at the surface water program, the way it was founded-- In 1972 the Federal government passed the Clean Water Act. That was a major departure from past programs. In past programs you needed to show harm to the environment before you could regulate.

SENATOR PALLONE: Right.

MR. SCHIFFMAN: When they passed this other act they set up different type of criteria. One of them was technology based standards. You treated to a certain level whether you needed it or not. All right? Then you had water quality based standards, which actually looked at the harm.

If you look at the pretreatment program of sludge there is an analogy there. The standards that are being imposed now by the Federal government are called "Categorical Standards." Those are analogous to technology based. It's kind of the minimum standard. You do it whether you need it or not. The relation of that to the environmental impact is not that clear, as any technology standard would be. So when you start looking at that other end of it, you have to look at the effluent of the treatment plant. What are the standards there? We've only recently imposed toxicity limits. As those come into play, you start backing up through the treatment plant looking to see if the technology based requirements are sufficient. All right?

There are different ways of imposing those types of standards. One, you can put limits not only on the effluents, you can say the sludge quality has to be a certain minimum standard.

SENATOR PALLONE: Which you do with the material that's disposed of on land?

MR. SCHIFFMAN: That's right, and when you do that for land-- Let's assume we have a sludge that's to be land

disposed, and, in a typical case, we had one facility where the cadmium was too high. We had to go back through the treatment plant and find out why.

SENATOR PALLONE: Okay.

MR. SCHIFFMAN: And I think in that particular case it was one metal plater offender -- McLouster (phonetic spelling) -- and it took how long to figure that out? (unidentified member of Mr. Schiffman's staff in audience responds) It took about two years to do that. That's the application of kind of a water quality type standard, that backs through back to the treatment plant to control it -- which was more than technology based. That's what those types of standards would do. Right now at the present level of the program, we're just getting into those issues. Most of the controls up to now with the so-called categorical standards -- and this is what's being enforced--

SENATOR PALLONE: And those are the ones imposed by the Federal government?

MR. SCHIFFMAN: That's right.

SENATOR PALLONE: But you have the authority. You've been delegated to deal with those?

MR. SCHIFFMAN: That's right, the technology based type standard.

SENATOR PALLONE: So in other words, if I have a plant that -- I guess I don't have to mention towns -- but I mean there are plants for example in Monmouth County that dispose of their sludge through composting, and it's ultimately used for fertilizer. Because of that, they have to meet certain land-based quality standards that you have imposed. You therefore back up through the whole system in terms of pretreatment for what's coming in and how it's being treated in the plant, and the whole ramifications?

MR. SCHIFFMAN: That's right. This is relatively recent in doing that.

SENATOR PALLONE: But you don't do that for some of the larger plants in North Jersey -- I don't mean to just say North Jersey because I know that North Jersey plants, I assume do composting, etc., too.

MR. SCHIFFMAN: That's right. There's all kinds.

SENATOR PALLONE: But I mean those plants that are ocean dumped, they're not meeting any of these criteria at this point--

MR. SCHIFFMAN: Well, I'll get into that.

SENATOR PALLONE: --other than the categorical?

MR. SCHIFFMAN: It so happens that the pretreatment program is beginning to do certain things, but--

SENATOR PALLONE: Okay. But what you're discussing now -- I don't mean to interrupt you -- but what you're discussing now are the categorical standards, the standards that are imposed regardless of whether or not you're ocean dumping or land disposing?

MR. SCHIFFMAN: That's right. I'm discussing the pretreatment program itself; the fact that we delegated it to local governments, just like the EPA delegated the program to the states. Those types of things. In the same way that not all of the state took the Federal Water Pollution Control Program, not all of the treatment plants have the pretreatment program.

SENATOR PALLONE: Okay.

MR. SCHIFFMAN: We have 22. All right? Now, looking at what's the effect of the program so far-- If we look at the six POTWs that are disposing of their sludge by ocean dumping, all six have demonstrated reductions in most of the heavy metals. Reductions reported in annual reports range from 32% to 91% reductions that they're getting. These reductions are attributed to the implementation of the Federal categorical standards -- those technology based limits -- as well as local limitations, also kind of technology based. In a minimum

number everybody has to do this regardless. So that much has been done, and we're seeing significant results from that.

Now, the Federal categorical standards, as I mentioned, provide technology based limits for specific industrial process wastewaters nationwide. There are several problems that have become apparent with this approach:

These individual standards are developed and issued independently by EPA, and do not provide for equitable levels of treatment from one industry standard to the next; in other words, the technology specific to this industry, a different one for that industry, and they're not necessarily equitable between them.

SENATOR PALLONE: In other words, just so I understand that--

MR. SCHIFFMAN: Specific to the industry -- one for organics, one for metal platers -- and there may not be any relationship between the equity of the standard for the metal platers versus the standard for the organics.

SENATOR PALLONE: So in other words, it could be that one particular industry is allowed to -- the byproduct of the industry could be a lot more toxic than it would be for another?

MR. SCHIFFMAN: It's variable. It's based on-- This is a crude example, but any technology based standard is like this. Some of the surface water ones are based on, you make so many wigits you're allowed so many pounds, based on production.

SENATOR PALLONE: You have of course, an economic factor probably calculated into that.

MR. SCHIFFMAN: Yes. That's fairly heavily considered. That's absolutely correct.

SENATOR PALLONE: Okay. Go ahead.

MR. SCHIFFMAN: That's one problem. Another problem is many manufacturing processes which produce identical wastewater to other regulated waste streams were exempt from regulation. So you may have something internal to the plant

that goes to another waste stream that's not covered, because the major waste stream isn't subject to the categorical standards. It's a very complex program.

And the third factor is that EPA has been not timely on issuance of several critical standards. Two major examples are organic chemicals and pesticides.

SENATOR PALLONE: Well, Cindy asked a question before: What is to stop New Jersey from filling in some of these gaps?

MR. SCHIFFMAN: Nothing. That's the whole purpose of the pretreatment program. It was recognized from the beginning that the Federal categorical standards would not solve all of the problems with the industrial discharges. As a matter of fact, even EPA's position has been that the development and implementation of local standards is to supplement the Federal standards and to fill in those gaps. Now, these local limits are supposed to be based on the POTW permit limit attainment, plant protection, and sludge disposal/management criteria. Now conceptually, based upon evaluation of these factors, determine which one would be the most limiting on a pollutant by pollutant basis. For example, is the effluent limit the most critical? Is the sludge limit the most critical? Is destroying the treatment plant from some of these wastes the most critical? You then calculate an allowable loading of each pollutant. You develop an allocation system to set actual limitations. This is a very very complex process, and it can only be effective when the information it's based on is very complete. This is extremely difficult to do and may not be possible in all cases.

POTW permits generally now do not contain specific toxic limits, because there are literally thousands of compounds. At the present time, POTWs are required to test for acute toxicity -- a so-called bioassay. Acute toxicity relates to toxic effect that are apparent over a short time period. Acute effects are measured by the death of the test organism.

Now that's not going to be enough. We're also getting at the chronic toxicity testing, which relates to effects that are more subtle, such as changes in growth or reproductive ability.

SENATOR PALLONE: All right, just so I understand, what you're talking about now is how the State generates higher categorical standards.

MR. SCHIFFMAN: That's right, higher standards other than technology based -- how we start looking at some of these other impacts. Now we're doing toxicity testing even to the direct discharges to streams. This will then back up through the system as we start getting results. We're at a stage where we have only acute standards right now which means the test organisms are killed, and there's a certain standard of how many are allowed to be killed. We're getting into chronic testing, only the protocols and scientific basis for that are currently being developed, and are not standards right now. This is nationwide. The Federal government is doing that.

Now, in September of 1985, we issued permit modifications to permittees with significant industrial contributions requiring acute toxicity testing of the effluent. The State has a standard for that. Similar requirements are included in all other permits as the permits are renewed. This is a major effort on the Department. When we get the protocols for chronic toxicity testing we're going to phase them in as the rules are developed. All facilities which use ocean disposal as a sludge disposal mechanism are required to perform this acute toxicity analysis -- this so-called bioassay test. This is the toxicity standard that we're using, and beginning to use. That provides a way to back up through the plant. This is just being implemented now. I gave you the date of September '85. This is a recent type of activity.

SENATOR PALLONE: All right, just so I understand again. We went back to what you called the categorical standards--

MR. SCHIFFMAN: Right.

SENATOR PALLONE: --okay, which are the based on the technology.

MR. SCHIFFMAN: That's right.

SENATOR PALLONE: This toxicity testing of the effluent again is going to be dependent on the technology -- it's a form of dealing with the categorical standards at a higher level, or this is something new?

MR. SCHIFFMAN: No. The bioassay test looks at the effluent.

SENATOR PALLONE: Okay.

MR. SCHIFFMAN: And then if the categorical or technology based standards are not adequate to meet that effluent limit -- that effluent toxicity standards -- you're going to have to back up through the system and find out why.

SENATOR PALLONE: So the Federal government now doesn't have any limits based on the effluents?

MR. SCHIFFMAN: That's correct.

SENATOR PALLONE: Just the State does?

MR. SCHIFFMAN: Yes. The best analogy I can give you that when we see a discharger to a stream, and the technology based standard such as secondary wastewater treatment are not enough, you apply the water quality standards at a greater level of treatment.

SENATOR PALLONE: But then there are restrictions on the effluent then?

MR. SCHIFFMAN: They're being put on now. I would not want to say that they're well, and everything is all taken care of, and all of the information is in. This just started in September of 1985.

SENATOR PALLONE: Yeah, but that's two years ago. I mean, I'm sorry. (laughter)

MR. SCHIFFMAN: To get the evaluations of those results are very complicated.

SENATOR PALLONE: In other words, you're just doing tests now, or you do have permit requirements for the toxicity in the effluent?

MR. SCHIFFMAN: We're testing now, and we're beginning to get the results in. The tests are complicated. The permit requirements were only imposed in '85. The tests have only been ongoing for a year or two -- actually less than two years.

SENATOR PALLONE: Well, I'm sorry. Again, I'm confused. I mean, on the one hand you tell me that there are restrictions that are in the permits as of '85 for the effluent, but you're doing tests to determine what those standards should be.

MR. SCHIFFMAN: The tests measure whether the facilities are meeting the acute toxicity requirements.

SENATOR PALLONE: Okay.

MR. SCHIFFMAN: We're in the process of doing that now. The next step is to start backing up through the system to look at what's causing that toxicity.

SENATOR PALLONE: All right. So, in other words, there were standards put in place in '85?

MR. SCHIFFMAN: That's right.

SENATOR PALLONE: And what you're doing now is testing to see if those plants meet those standards?

MR. SCHIFFMAN: That's correct. All right? Then as a result of that you'll start backing up through the system. That's a complex process.

SENATOR PALLONE: If they don't meet it, then you may have to back up through the system and come up with other categorical or technological standards.

MR. SCHIFFMAN: Since you'll have this from the treatment plants, I'll tell you right now that the nature of the tests are controversial. One of the things that the tests hinge upon is the test species. The State of New Jersey uses a very very sensitive species called mysid shrimp. It's a very

very strict standard, and that is under dispute as being too strict, but that's the standard we're using. That's the critter we're using. That particular organism is very sensitive to many causes. It dies easily. We've applied these standards to industry. That's the standard for the ocean, for salt water.

SENATOR PALLONE: But these standards apply regardless of whether the ultimate disposal is ocean or land?

MR. SCHIFFMAN: That's correct. This is the standard on the effluent, and that's one of the analogies to water quality limits.

SENATOR PALLONE: Okay.

MR. SCHIFFMAN: All right. Let's go on to see what happens when we do that. When a facility is identified as a result of the toxicity testing as an apparent toxic discharger, they are required to develop and implement a toxicity reduction plan. The plan proposes the mechanism that will be used by that permittee to identify the potential source of toxicity and to reduce the toxicity in the effluent.

SENATOR PALLONE: Has that been implemented in any case?

MR. SCHIFFMAN: It's only just started.

SENATOR PALLONE: Okay.

MR. SCHIFFMAN: This is a very complex process. The most difficult step is to identify the toxic components of the effluent. This can be done in a number of ways, including the identification of specific toxic contributors, the identification of toxic areas of the service district, or identification of the specific chemical toxic fractions of the effluent. Due to the complexity of most collection and treatment systems -- lots of different people discharge to them as well as the complex matrix of the waste stream -- this procedure may require several years to complete after it's started, and it's just getting started.

SENATOR PALLONE: So how many years are we talking about?

MR. SCHIFFMAN: I gave you an example to another question. One treatment plant -- not one of these six -- land application, cadmium problem, it took them two years to track down one guy. A very difficult problem. I don't want to underestimate that; a very difficult problem.

Most permittees will work through their pretreatment program and regulations requiring toxics to be reduced before the waste is discharged to the collection system. However, for some types of toxics, it may be cost-effective to modify the treatment train at the POTW to remove these toxics prior to discharge. One of the complex question is: Do you stop it at the industry source, or is it in some cases possible to add treatment at the treatment plant itself -- stop discharge? This is a very tough and difficult problem because if you look at the numbers in New Jersey, we have a thousand industries that discharge directly to streams, and we must have 15,000 to 20,000 -- the numbers are only an approximation -- discharging to the Publicly Owned Treatment Works. So it is a very very complex problem.

SENATOR PALLONE: The more you describe it to me, the more I realize how much manpower you have to have in order to implement all these things. Is that a problem within the Division?

MR. SCHIFFMAN: You're dealing with substantial resource requirements. That's one of the reasons the program was delegated. It's just like the Federal government couldn't do everything, the State is using the manpower of the treatment plants. Now, this is regulatory role is a little new to a lot of the treatment plants.

SENATOR PALLONE: But then, in other words that goes back to what the environmentalists were saying, that a lot of this testing and the whole program development has to be done by the plant itself rather than the by the DEP?

MR. SCHIFFMAN: This is one of the foundations of the program. This is a controversial issue. We think it's working. It's the same issue of the EPA delegating the program to the State. How can you trust the State, because it has its parochial interests? And delegating the program to the treatment plants, how can you trust the treatment plants? They have parochial interests. All I can say is that in my judgment, within reason, the approach is working. The resources required are indeed immense, even at the treatment plant level. I think you'll hear some of the testimony from them in terms of the level of effort that's involved. You're talking very big efforts.

SENATOR PALLONE: But it primarily relies on the treatment plant, then, to give you the data and to do the testing and evaluate what's going on.

MR. SCHIFFMAN: They're actually running a regulatory program, and as I said, this was new to a lot of them. A very big issue. As we go into this problem it's going to be a sequential thing. You're going to try to figure out what your problem is, then you go back and try to figure out what's causing it. It's going to be a tremendous effort.

In terms of assessing the impact of the ocean dumped sludge quality, on their potential to move to land-based sludge management alternatives-- I think I've already made the point that that's complex. Thorough evaluation of the suitability of the ocean dumpers' sludge for land application, that's what's going to be required. Such an evaluation includes a study of the industrial discharges to determine if pollutants other than those routinely tested pursuant to our sludge quality assurance reporting regulations are discharged into the system. In other words, our requirements have certain things that are tested. You may even need to do more, and you have to evaluate the types of industries that goes into the system that do that.

SENATOR PALLONE: What do you evaluate now though, as far as the sludge itself?

MR. SCHIFFMAN: We have various lists of parameters.

SENATOR PALLONE: Well I don't know-- (inaudible)

MR. SCHIFFMAN: I can go through them or we can give them to you if you want a list.

SENATOR PALLONE: All right, but what I'm saying is-- All right. Go on a little, and then I'm going to ask you the question.

MR. SCHIFFMAN: All I'm saying is that that may not be adequate in all cases.

SENATOR PALLONE: I guess what I'm saying is, now you're at the point where you're actually evaluating the sludge, the by-product. I'm under the impression that there are different standards, depending upon whether the sludge -- or there are no standards if it's going to be ocean dumped at that state.

MR. SCHIFFMAN: There are two issues here. All right. The parameters required for the different modes of disposal in terms of what's significant, are different for the different sludge management options; a little different for ocean disposal than for land disposal, and then for incineration. So the numbers of parameters are different. In addition, the requirements are different. Now, there are no requirements that have been developed for ocean disposal. EPA is supposed to do that. They haven't done it yet. As a matter of fact, the Federal law was only changed in January of this year to require EPA to set criteria for all methods of sludge management.

SENATOR PALLONE: Yes, but wasn't that partially because New Jersey and New York are the only states that do ocean dispose, right?

MR. SCHIFFMAN: Well it wasn't just for ocean disposal. The law was changed for all methods of sludge management, including incineration, land disposal, and whatever.

SENATOR PALLONE: Yes, but what I'm saying is that the Federal government wouldn't have been under any incentive to do that if only two states are involved.

MR. SCHIFFMAN: You're right. They were supposed to do it, maybe that's the reason they didn't do it yet.

SENATOR PALLONE: So I mean it's kind of incumbent upon us to do it.

MR. SCHIFFMAN: Now the law was changed to have them do it now. That was only done in January of this year. The schedule for them to do that probably may not be suitable to yourself, for example.

SENATOR PALLONE: What is the schedule?

MR. SCHIFFMAN: Helen, what's the schedule for coming out with these standards from EPA -- three years, four years?

H E L E N P E T T I T - C H A S E: (from audience) No. Their standards are supposed to be out in August.

MR. SCHIFFMAN: They were supposed to promulgate--

MS. PETTIT-CHASE: They were supposed to be in August of this year, but they were delayed, and now they're delayed until December it looks like.

SENATOR PALLONE: Okay. Why don't you repeat that for the record, because I don't know that they're picking up what Helen said.

MR. SCHIFFMAN: They were supposed to come out with the standards in August, and they'll likely be delayed until December or later.

SENATOR PALLONE: Of this year.

MR. SCHIFFMAN: That's for all methods of disposal.

SENATOR PALLONE: Okay. Just so I understand, when you say in your statement, "the study of the industrial discharge to determine if pollutants other than those routinely tested pursuant to our sludge quality reporting regulations are discharged into the system." I mean, right now you don't have quality standards for the ocean dumped sludge. Is that true?

MR. SCHIFFMAN: We have standards for land application. That's what I'm discussing there.

SENATOR PALLONE: Okay. Go ahead. But not for the other?

MR. SCHIFFMAN: That's right. And I'm saying those may not be sufficient.

SENATOR PALLONE: For the land ones either?

MR. SCHIFFMAN: Yes, that's right. We have to look at what types of industries are going into these treatment plants. We may want to look at other parameters. Not only that, EPA is coming out with these standards. Assuming they do it, we'll then have more to work with.

SENATOR PALLONE: So you think that the standards that EPA comes out with will hopefully improve, not only the quality of what is going to be dumped in the ocean, but also the quality of what's being dumped on land.

MR. SCHIFFMAN: There's likely to be significant changes. That's correct. EPA is tentatively-- Now, again I haven't promulgated the rules or proposed them. We know what they're looking at. They're tentatively looking at a human health risk based technique -- all right? -- to set the requirements. That may not be too helpful to dealing with the ocean disposal problem, because those risk based techniques, as I'm sure you know, would show that the least risk would be the ocean disposal. There are other issues in my mind that have to go into that decision making, other than that one narrow activity. So you should know that if they do come out with those standards, it may show that type of a risk based analysis. That's my best information as to what they're looking at.

SENATOR PALLONE: The only thing that's bothering -- I mean, there are a lot of things that are bothering me-- But one of the things that are bothering me right now is that my legislation calls for standards for ocean disposal that meet

the land disposal standards, but we may have a problem with the land disposal standards as well, is what you're saying.

MR. SCHIFFMAN: That's correct. They may be changed by the Federal standards that are coming out.

SENATOR PALLONE: More stringent than what New Jersey has?

MS. PETTIT-CHASE: (from audience) It's a very complex methodology that EPA has established. It involves three tiers of analyses. The first tier is to establish criteria that are limits on sludge quality, and they were--

SENATOR PALLONE: Why don't you come and sit up here, Helen?

MR. SCHIFFMAN: Why don't you come up here, Helen, because he has just asked a fairly sophisticated question. It's a complicated question.

MS. PETTIT-CHASE: I'm Helen Pettit-Chase. I'm Chief of Residuals Management. I have been working with EPA, and meeting with them, on the standards as they are under development. As they've explained them to me thus far, the standards provide for three tiers of quality evaluation.

The first tier is to merely look at a set of sludge quality criteria limits for various parameters. The parameters that are evaluated are different for each management mode for sludge, and that is because the pathways to health and environmental impact are different from each management mode. The analogy I generally use to explain that to people is that orange juice, for example, is not a toxic material if you drink it, but it can be very harmful if you put it in your eyes. And it can be very harmful if you try to put it in your aquarium. Your fish will all die. So how you manage a substance affects the parameters you want to look at. So the first tier of review is to establish the parameters of concern for each disposal mode, and the quality limits for each parameter.

The next tier of review is to say, if the treatment plant sludge cannot achieve those criteria that the standards can be reevaluated if discharge control are placed on the sludge management method. For example, let's imagine that a treatment plant could not meet the land application criteria, the Federal criteria would provide for a slower rate, or a lesser reduced rate of application of a worse quality sludge. Another example, in an incinerator if you could not meet your incineration criteria, you could feed your sludge at a slower rate through the incinerator therefore producing fewer emissions at your stack. That would be level two.

Your third tier would be at that incinerator to say, we're going to change this incinerator. We're going to upgrade the emission controls, plus feed this poor quality sludge more slowly through the incinerator, and then we'll be able to achieve the environmental and health standards which are necessary to make our risk base analysis acceptable.

SENATOR PALLONE: All right, but now let me just understand again. You're at the stage now, Mr. Schiffman, where you're talking about the analysis of the quality standards for the sludge itself.

MR. SCHIFFMAN: That's right.

SENATOR PALLONE: What is done now for the land-- We don't have the quality standards for the ocean dumping. What do we have for the land-based. What kind of standards are being--

MR. SCHIFFMAN: We have a sequence of parameters that we look at, compare them to standards, and make a determination as to suitability of the sludge for land application.

SENATOR PALLONE: Okay, and what is that based on right now?

MR. SCHIFFMAN: That's based on many -- impacts on the plants, food chain impacts, certain assumptions of how crops are taken care of. Do you want it more detailed than that?

SENATOR PALLONE: All right. What if we passed a law today that said that those same standards have to be applied to ocean dumped sludge? What's going to happen? Is it possible to implement?

MR. SCHIFFMAN: What you'd be doing would be setting a technology type limit on the sludge as related to ocean disposal. All right? There are two issues here: One, what is the nature of the sludge now? Does it meet those standards? A lot of the ocean dumped sludge -- based on recent evaluation -- meets many of those parameters, but not all. Those parameter that aren't met -- and there are only a few of them based on our current standards -- you'd have to go back and try to find what's causing it and eliminate it one way or another. Otherwise you wouldn't meet the standard.

SENATOR PALLONE: So in other words, right now the standards that you're using for land disposal require you to back up -- as you described before -- in the individual plant.

MR. SCHIFFMAN: If the sludge doesn't meet it.

SENATOR PALLONE: And you'd have to do that same analysis with the plants that are performing ocean disposal?

MR. SCHIFFMAN: Yeah, and we have a lot of that data now. And as I said, the pretreatment program has had some impact over the years, and a lot of these sludges we believe have improved significantly.

SENATOR PALLONE: Okay.

MR. SCHIFFMAN: And we have data that shows that a lot of the parameters are being met for land disposal for a lot of these facilities.

SENATOR PALLONE: All right, but, is it-- The bill says that those standards would be applied to ocean disposal within six months of enactment. And you heard Cindy Zipf say, "Well, okay, once those standards are applicable we're going to let--" She mentioned 25% reduction the first year, 50, 75, 100. Can we meet that deadline? Is it feasible technologically? Can it be speeded up?

MR. SCHIFFMAN: For some of these parameters I think it would be very difficult for the treatment plants to eliminate the causes that easily. You'd have to ask some of them what they would think, because we have some of the plants that are over on some of the numbers, like cadmium and mercury, and that would take a considerable effort on their part. I think I'd let them speak for themselves.

SENATOR PALLONE: Well, what percentage of the plants in New Jersey-- There are what six authorities that ocean dump?

MR. SCHIFFMAN: That's right.

SENATOR PALLONE: Okay. What percentage do they make up of the total of sludge produced, if that's the way to--

MR. SCHIFFMAN: Just over a half.

MS. PETTIT-CHASE: Fifty two percent.

MR. SCHIFFMAN: A little over a half.

SENATOR PALLONE: And these land-based standards that you've had in place for the other 50%, how long have they been in place? I mean, I guess what I'm saying is--

MS. PETTIT-CHASE: Two years.

SENATOR PALLONE: Well, how is it that in two years you've been able to accomplish that with the other plants, but it's going to take so much longer for the ocean?

MR. SCHIFFMAN: To make sure there's not anything misleading. Only a percentage of the remaining -- roughly 50% -- is land application now.

SENATOR PALLONE: The rest is what, incinerated?

MR. SCHIFFMAN: Incinerated, out of state-- Incineration out of state.

SENATOR PALLONE: Oh, okay. Let me understand. In other words, even though we have these standards, a lot of the ones that are not ocean dumping don't have to meet them because they take the sludge out of state for incineration?

MR. SCHIFFMAN: Or for other disposal, landfill--

SENATOR PALLONE: So what percentage are meeting the standards then? (laughter)

MR. SCHIFFMAN: No, no. What percentage is being land applied, which means meeting standards?

SENATOR PALLONE: Yeah.

MR. SCHIFFMAN: Of the total what do we have? Why don't you give them the exact number from the sludge plant?

SENATOR PALLONE: Everybody's laughing. I feel like -- I know--

MR. SCHIFFMAN: We've published this information. I didn't realize that this was an issue.

MS. PETTIT-CHASE: Yes. You guys have this.

MR. SCHIFFMAN: Okay, we'll look at the numbers.

MS. PETTIT-CHASE: There is currently 17% in incinerators in the State, and only 11% land applied. Now, of that 11% that is land applied, a large portion of that is being hauled to Philadelphia first for composting.

SENATOR PALLONE: Okay, but in other words, that 11% that are land applied, and the 17% incinerated in the State, do have to meet these standards for land application?

MR. SCHIFFMAN: The incinerators have to meet incineration standards.

SENATOR PALLONE: So you have different standards for the incinerators as well?

MR. SCHIFFMAN: They have to meet air quality standards. The land application meets land application standards.

MS. PETTIT-CHASE: For example, for our ten parameters that EPA is looking at for ocean disposal, some of them are the same as the parameters for land application.

SENATOR PALLONE: Okay.

MS. PETTIT-CHASE: But two of them are not. There are 22 parameters that are evaluated for land application under the EPA risk study, and obviously a good many of them have no bearing on health and environmental impacts associated with ocean disposal. This same problem occurs with incineration.

SENATOR PALLONE: But what I'm saying, Helen, is that if I figure 17% incinerated in State, 11% land applied either in state or in Philadelphia or in Pennsylvania, this 28% -- if I add those two -- that are basically meeting some kind of standard set by the Department?

MR. SCHIFFMAN: Some type of reasonable sludge management.

SENATOR PALLONE: Set by the Department?

MS. PETTIT-CHASE: In fact, if you evaluate the sludge quality assurance reporting, and again that doesn't take into consideration industries discharging exotic substances which are not routinely reported, but just the normal parameters, we see 61% of our treatment plants -- and we have about 500 domestic treatment plants -- 61% of them achieve the land application criteria. Some of those may very well fall out when we look at industrial parameters that they don't analyze.

SENATOR PALLONE: But if we impose the same standards that this 28% now meet on all sludge, the majority of that is going to be the ones that are now disposing in the ocean?

MR. SCHIFFMAN: That's the majority. That's correct.

SENATOR PALLONE: Why is it that-- I mean, we're talking now about 1991, which a lot of people out there, believe me, find totally unacceptable. If I go down to the shore and I say, "We're phasing in this pretreatment program, and the Legislature is going to set a 1991 deadline," the usual reaction at the shore is, "How outrageous. We want this to stop tomorrow." But at the same time, you're telling me that if we did this, four years isn't even enough.

MR. SCHIFFMAN: Very ambitious. There's another piece of data I was going to mention later. I'll mention it now. At about that time, the volume of sludge being generated in the State will increase 60 to 70% in 1990, 1991.

SENATOR PALLONE: Okay.

MS. PETTIT-CHASE: No, 60 to 70%. (clarifying figure to unidentified member of audience)

SENATOR PALLONE: What is the reason why we're going to have so much--

MR. SCHIFFMAN: Two reasons.

SENATOR PALLONE: Oh, okay.

MR. SCHIFFMAN: The minor reason is, population growth.

SENATOR PALLONE: Right.

MR. SCHIFFMAN: The major reason is we've been doing a very good job on increasing the treatment.

SENATOR PALLONE: Upgrading?

MR. SCHIFFMAN: Upgrading treatment, which generates a lot more sludge.

SENATOR PALLONE: Okay.

MR. SCHIFFMAN: Several hundred million dollars have recently, this year, for upgraded wastewater treatment, been allocated. I think the total capital cost -- local, State, and Federal dollars -- will be somewhere over $400 million for improved wastewater treatment. That means a lot more sludge.

SENATOR PALLONE: But, Mr. Schiffman, just so I understand. You can continue with the categorical standards and upgrade them or whatever, but the bottom line is in terms of what would be most effective for dealing with this problem, probably would be a good idea-- I mean I'm just trying to get some sort of parameters of what you think is good, you know, and focus in on it. Approaching this from the point of view of saying we want these sewage treatment plants to meet these standards, is probably the way to go at this point.

MR. SCHIFFMAN: Yeah. Just to help understand it a little bit, if you look at a technology based standard -- and this applies to any type of technology based standard -- it can do one of three things, if you look at environmental impact, or quality based impact: Quality standards like surface water quality standards? If you had a technology based standard you can do one of three things. It can meet that water quality standard exactly. It could not be adequate to meet it, or it

could exceed it. Now if you think about that, the probability of the technology based standard just meeting the water quality based number, is very low. Generally, technology based standards do more than the environmental requirements if you just looked at the harm issue, or do less. They do one or the other. However, they're implementable from a regulatory standpoint. That's why they were imposed. If you looked at these so-called categorical standards: Somebody did studies, and if you look at the local limits, they set a number. Local limit, you could have so many pounds of BOD, that's it. Readily enforceable, very valuable to do, implementable.

When you start looking at these other issues-- When EPA proposes those standards for the various sludge disposal methodologies, tremendous impact because now we're looking at the quality standards so to speak. So when you start looking at that sludge, you have to back up through the treatment plant to look at things other than technology based requirements. When we imposed the bioassay requirements, as you start looking at that, that's the effluent side. You start backing up through the treatment system. You're talking about a very very complex process to implement.

SENATOR PALLONE: But a more effective process because it's peculiar to that plant. Right?

MR. SCHIFFMAN: Yeah. It's just a tremendous amount of effort when you start doing that. It's much easier to impose a categorical type limit.

SENATOR PALLONE: But they're not going to be as effective?

MR. SCHIFFMAN: They can either be inadequate, or more than enough.

SENATOR PALLONE: Or you can do both, which is what you're doing?

MR. SCHIFFMAN: The program is designed to do both. The surface water program for discharges to streams started off

with technology based, and we're doing a lot more on water quality impacts. That's why we have advanced wastewater treatment requirements. It took a long time.

SENATOR PALLONE: Well, let's put it in front of you. I mean, you know what the legislation says because you were involved in it to some extent. I mean, we talked about it before. We're talking about four years. You just don't think we can meet that. Could we meet it if we had a lot of money and we had a lot of manpower?

MR. SCHIFFMAN: I think it's a tough job. Helen put together a more recent analysis of what some of the treatment plants are doing in terms of meeting the limits.

SENATOR PALLONE: I mean, right now is any effort being-- Well I'll go back to my first question which was, can we meet it by 1991 if we start now? And what would it take in terms of manpower and costs, etc?

MR. SCHIFFMAN: I'd like to just limit it to just looking at the ocean dumpers since we have such a large--

SENATOR PALLONE: Yeah. No that's all right. Because otherwise we're just playing games and we're saying, "Oh yeah, we're going to have 1991." And it's going to be here, and nothing is going to happen.

MR. SCHIFFMAN: Let's look at this question. Are any of the ocean dumpers-- Are they meeting all other land application parameters? Is there any one of the six? Based on the most recent analysis, the answer is there's one.

MS. PETTIT-CHASE: Two.

MR. SCHIFFMAN: Two? No no.

MS. PETTIT-CHASE: Excuse me. I lied.

MR. SCHIFFMAN: It looks like there's one.

SENATOR PALLONE: And who's that?

MR. SCHIFFMAN: Rahway Valley. This information is surprising. I mean, things are doing a lot better than I thought we were doing.

SENATOR PALLONE: So theoretically, Rahway could now incinerate rather than take the material out--

MR. SCHIFFMAN: Land apply it.

SENATOR PALLONE: Land apply?

MR. SCHIFFMAN: Land apply, theoretically.

SENATOR PALLONE: Rather than take the material out to the ocean. Why aren't they doing it? Are they here today?

MR. SCHIFFMAN: That's today.

SENATOR PALLONE: Oh okay. (laughter)

MR. SCHIFFMAN: That's today.

SENATOR PALLONE: All right, we're going to get them up. Why aren't they doing it then? I mean, isn't it more costly to--

MS. PETTIT-CHASE: Well, I think you were with us through the waters at Northeast Monmouth. You know what happens with siting facilities.

SENATOR PALLONE: Okay, so it's the siting of it.

MR. SCHIFFMAN: It's a tremendous problem. And also there's no question on-- We looked at relative costs. Is there any question on what's the least expensive now, in terms of incineration and land application?

MS. PETTIT-CHASE: The least expensive is ocean disposal.

MR. SCHIFFMAN: Ocean disposal? Even at 106?

MS. PETTIT-CHASE: Dramatically.

MR. SCHIFFMAN: It's dramatically less.

SENATOR PALLONE: So, Helen, even if you meet the land-based requirements, it's still cheaper to dispose of in he ocean?

MR. SCHIFFMAN: Our information shows significantly, much cheaper.

MS. PETTIT-CHASE: Half as expensive.

SENATOR PALLONE: Interesting. Half as expensive you said?

MS. PETTIT-CHASE: (affirmative response)

MR. SCHIFFMAN: Now, if we were to look at the other--

SENATOR PALLONE: And that's interesting because it means that even if we establish a pretreatment, we may still have people that want to dump in the ocean.

MS. PETTIT-CHASE: Indeed.

SENATOR PALLONE: But it would still be less damaging? The material won't be as damaging?

MR. SCHIFFMAN: Well, conceptually you would be establishing technology based limits, and I would assume there would be two reasons for that. One reason is that if you're going to look at alternatives you want to know that they're implementable, at least theoretically.

SENATOR PALLONE: That would be nice. (laughter)

MR. SCHIFFMAN: Two, it's an existing standard that one can impose that's implementable from a regulatory standpoint. Those are two reasons to look at a technology based requirement. Whether those standards are more than you need from an environmental effect to go the ocean, or less, I'm not sure either way right this second. We don't know. The probability of it being exactly what you need is very remote. It will either be more stringent or less stringent. But the secondary effect would be that you would be able to say that you could have a program to get out of the ocean. At least there would be an alternative available, even though it might be substantially more expensive.

SENATOR PALLONE: Well, the bottom line is-- As I've said previously, I think that the Legislature would pass, hopefully this session, a bill that says 1991 is it. So we don't really have to evaluate whether or not it's more or less -- I mean it's important -- but whether or not it's costly isn't as much the issue as whether or not it's possible. The key question is whether you could have your pretreatment guidelines met, so it's for health and environmental reasons

possible to dump -- because I think we could pass a law that says you have to be out of there. And the only real question for me is not the cost so much, but whether or not the courts or somebody is going to step in and say, "Well we can't let you dump in the ocean because the material is too contaminated" or "--let you dispose of on land because it's too contaminated."

MR. SCHIFFMAN: Here's what it amounts to. If you were to ask any of us several weeks ago-- When did we do this? This is fairly recent, isn't it?

MS. PETTIT-CHASE: Three weeks ago.

MR. SCHIFFMAN: The fact that some of these facilities are doing much better makes me a little more optimistic than I would have been several weeks ago. If you would have asked me several weeks ago would any of these six facilities meet application criteria, I probably would have said, "I doubt it." I'm surprised, quite frankly, that one does.

SENATOR PALLONE: Well that's optimistic then.

MR. SCHIFFMAN: That's optimistic.

SENATOR PALLONE: All right.

MS. PETTIT-CHASE: We may have to look at that more closely.

MR. SCHIFFMAN: That's right. (laughter) We were so pleasantly surprised, we're going to go back and look at that one. Okay?

SENATOR PALLONE: Well, I'm asking you your opinion because I'd like to have it. My own impression is that when you establish standards and put them into law, then the bureaucracy has to meet them. So even though I'm asking you if you can, I frankly feel that if we establish them as a matter of law that you probably will, regardless of whether you think you can or you can't now. But I would like your opinion, because that's what you're here for. I mean, what are we doing?

MR. SCHIFFMAN: All right. In terms of meeting it, I believe that the pretreatment program can cause standards to be

met. As a matter of fact, that's what the law requires. Now the question is, what are the standards? If they're established I believe the program can cause them to be met. It may be extremely difficult. It may be very expensive in certain areas. It may be very aggravating and contentious. I think it can be done. I couldn't tell you what the time frame would be right now.

SENATOR PALLONE: Okay.

MR. SCHIFFMAN: You may want to ask some of the same type of questions to the sewage authorities.

SENATOR PALLONE: Well, that's optimistic. I don't want to keep dragging it on. Go ahead.

MR. SCHIFFMAN: I don't want to get too optimistic. Let me get on the pessimistic side.

SENATOR PALLONE: Okay.

MR. SCHIFFMAN: Even if it could meet the standards, implementing the land use-- If you were to have asked me that question several years ago I would have been very optimistic in terms of the land application. You asked me that right now, I've got to be frank with you, we're getting our brains beaten out on the siting issue. I've got to be very frank with you. I'll give you the, kind of a homily in a way. I go to public meetings, and we talk about the good quality sludge being applied directly for its fertilizer value. And when I go to those meetings the public stands up and says, "We don't want this hazardous waste being disposed of here." And I say, "Wait a minute. Pardon me. This is not hazardous waste. This is sludge that meets criteria." The hearing goes on a little bit, and everybody says, "Yeah, yeah," raise their hand again and say, "We don't want this hazardous waste disposed here." All right?

We have compost, which is the sludge further treated. And compost is a nice name. It's a nice word. It's one of the reasons we're doing that. I go to these meetings on compost,

where we're going to use it for land application. Somebody raises their hand and says, "We don't want the sludge dumped here." I say, "Pardon me. This is not sludge. This is compost." A few minutes pass, and somebody raises their hand again and says, "We don't want the sludge dumped here." I'm looking for a way to get to that next stage.

By the way, we've done that to a degree. We're putting some of that stuff in bags and people are selling it. So that gets me to that next stage where I don't get those questions asked. But implementing that on a large scale would be extremely difficult based on our current knowledge.

Technically? I don't have much of a question technically. The material has value. It can be safely applied. These criteria we measure things against are extremely rigorous and stringent. They're very very conservative. We make assumptions that somebody eats the crop for their total lifetime. We look at 20-year and 40-year accumulation levels. Things that would never occur. They're very conservative. When I try to convince people of that I have a great difficulty in doing so. It's been called the NIMBY syndrome, and every other of the various words that we have. We're having great difficulty with that. Technically I think we're doing much better than I would have believed possible on the pretreatment program, the improvement in the sludge quality, the better job that a lot of these municipalities are doing in their programs. I'm not saying they are perfect by any means. I'm not saying they are great either, but we've come a long way. Only the other issue appears to be a major stumbling block.

Now if it's not land application, why don't we talk about incineration for a little bit? Incineration was looked at a number of years ago by the ocean dumpers. It was evaluated in the mid '70s. In the mid to the late '70s it was evaluated. The type of evaluation they did, the air emission

control technology was not as good as we have today. There was a rush evaluation made. There were conclusions of that. The conclusion was that unacceptable health risks would be imposed on the exposed population from incineration of sludge.

There were a number of reasons for that:

- It was the northeastern part of the State that's a nonattainment area.

- There's a lot of people there. It's the most densely populated part of the State.

- Those sludges at the time contained much higher concentrations of materials then we have now. Mercury is one of the things you can't control by air emission technology right away. It kind of vaporizes. You can't really trap it.

- And also, the emission control was kind of a routine type of emission control devices, not the same as we have.

But those issues are still valid today. I mean, the northeastern part of the State is still nonattainment; there's still a lot of people there -- there's actually more people; we have more sludge because we're improving the effluent quality. the treatment plants are doing a much better job in treatment; and if you look at the acceptable emission control technology it looks like something could be done. It would be very very expensive, but the state-of-the-art has improved so that can be looked at again.

If you want to look at the major issues on the land disposal, it's the siting, and tremendous increase in the volume of sludge that will be generated by 1990 and 1991. A large chunk of that is from Camden, which is slated for land application. A large chunk of that increase in sludge generation is slated to land application now, so it's going to be a big challenge as it is.

I think the pretreatment program can eventually assure compliance -- and I think that's what you wanted to know -- with whatever standard one wants to establish. Whether it's

established by the Legislature, it's going to be established by EPA. We're establishing standards on the effluent as well as the sludge and we can start backing it up through the treatment plants. The effort involved in that is going to be immense, and very very complicated.

I remember years ago there was a crude estimate made for the cost of the pretreatment program in New Jersey. This was seven, eight, ten years ago. Nobody really knew what the numbers were, but at that time it was estimated at several billion dollars to really do this job. This is the kind of program that's hidden away for a while, and it's now coming into the forefront.

If you want to go further and look at things that are going to have to be done-- As was mentioned before, the increased removes of the toxic pollutants by industry prior to discharge to the POTWs, as was mentioned before, will result in more hazardous waste residuals being generated by those systems that pretreat. You can have piles of stuff all over the place which is going to be a disposal problem. We're kind of moving it around by pretreatment, not really eliminating it. What needs to be done in addition to pretreatment is to reduce the amount generated in the first place, and that's a popular issue. That's starting to be done in various ways.

We've had requirements on some of the, so-called, NJPDES permits. Just remember what the acronym stands for, and that's the law too. It's the New Jersey Pollutant Discharge Elimination System. So the goal is to eliminate the discharge of pollutants. And we're putting requirements on permittees now -- industrial facilities -- to eliminate or reduce waste. We're just getting into that, and that requires the permitted industry to study and evaluate their entire production and treatment process to identify ways to reduce the waste generated, because that's really what the law says. Although it's not as specific as other laws that are pending now, it's a

part of it. What that does is, that starts looking at cost. People are finding out that the waste reduction makes good economic sense. You're going to see a lot of economic forces at work here.

So, that's about it. I'm happy that you asked the questions that you asked. I think a lot of these issues have to be better known. I don't think it's well-known, for example, that the amount of sludge that's going to be generated is going to increase a tremendous amount. I don't think it's well-known that although land disposal has been successful in New Jersey, it's a relatively small part of the total waste sludge stream. I don't think it's been well-known that we've received substantial public resistance to the land application, even though it's been recognized by law and by the Department as a very very good environmentally sound alternative.

SENATOR PALLONE: I knew that you obviously had a lot of opposition to incinerator siting, but I didn't realize that there was that much to the land application.

MR. SCHIFFMAN: It's relatively recent. As we started doing more and more of it, there was more and more opposition to it. We think it's ill-informed.

SENATOR PALLONE: And that's primarily in rural areas, or you also have it in like in parks and urban-- Well you can't. How much park space is there?

MR. SCHIFFMAN: That's right. We have had it no matter where it is. I think it was a function of the sensitivity of the public to the various types of problems that the State has: Our high density population. There's no such thing as nowhere in New Jersey. And we've been shocked by some of it. We were not really prepared to deal with it. We're technical people who believed that what we were doing was correct. We had the law tell us it was correct; we knew technically as correct. And we didn't expect people to have the great difficulties they've had with it. We were somewhat

taken aback in the last year. To make it worse, every legal challenge that's posed against it, we win.

SENATOR PALLONE: You have won?

MR. SCHIFFMAN: We win them all. There's no question what we're doing is technically correct and environmentally sound. And by the way, us winning all of these challenges has not helped the perception issue at all.

SENATOR PALLONE: The only thing you didn't touch on was the-- Well, I mean we can't get into everything because we just don't have the time. But I just did want to ask about the air pollution controls for the sewage treatment facilities because Ken did mention that.

MR. SCHIFFMAN: The Department has recognized -- our air quality people have recognized -- that air emissions from the treatment plants represent one of the largest uncontrolled sources of air emissions in the State. Another one was the gasoline stations.

SENATOR PALLONE: Right.

MR. SCHIFFMAN: The Department is moving to controlling that. It's a real tough problem. Our air quality people have moved onto the treatment plants to start looking at these issues. I think the treatment plants will tell you that that's also a troublesome issue, because a lot of treatment plants do volatilize a lot of organic-- By the way, not just municipal, but the industrial treatment facilities too. The Department's air quality program is moving aggressively into that area.

We've done things already with them. The New Jersey DEP has integrated programs. You may not know that, but a lot of states don't. You have air quality in different departments. I know and work with the person, my colleague on the air quality side. We had, through the pretreatment program, reduced the levels of volatile organics going into the sewer lines to meet air quality concerns. So we integrate our

regulatory program. I wouldn't say it's anywhere near enough, I just mention it because you're not likely to find any other place in the United States where a state is doing it. So we are beginning to do things, and it is a major issue for the Department has that been recognized, and the air quality people have come right out and said that. We're certainly moving on it.

SENATOR PALLONE: All right. Thank you very much. And thank you, Helen, and the rest of you for coming. Are you going to stay also and listen to some of the treatment plants?

MS. PETTIT-CHASE: A little bit, until I get a ticket out front.

SENATOR PALLONE: Okay. We're going to ask the representatives from Passaic Valley to come up next. Sheldon Lipke, Superintendent of Plants, and Frank D'Ascensio, who is the Manager, Industrial and Pollution Control. We have Rahway also? Is that Middlesex County Utility Authorities? (negative response from unidentified member of audience) Oh, okay.

I remember when you came to our hearing in Long Branch. Right? Didn't you--

S H E L D O N L I P K E: That's correct.

SENATOR PALLONE: That was about six months ago, maybe more, now.

MR. LIPKE: That's correct. And I was fortunate to have the only thing that I said quoted in the headline of the newspaper that, "We'll never be out of the ocean by 1991."

SENATOR PALLONE: Oh, is that what you said? (laughter)

MR. LIPKE: Now, unfortunately I'll probably say, being it's six months since the last hearing -- or nine months -- so we won't be out of the ocean past 1991 and nine months.

SENATOR PALLONE: Okay. Go ahead.

MR. LIPKE: I'm here. I'm Sheldon Lipke. I'm Superintendent of Plant Operations for Passaic Valley Sewage

Commissioners. With me is Frank D'Ascensio, who is Superintendent of Industrial Waste. I'd like to read a short statement. I'm going to talk about the nuts and bolts of implementing any sort of program that you may legislate. Frank will talk more about the industrial waste program.

I have a little statement here. Just to let the people in the audience know who we are-- The Passaic Valley Sewage Commissioners operate a secondary treatment plant which serves 1.5 million people in Bergen, Essex, Hudson, and Passaic Counties. We are currently expanding our service district to cover Jersey City and Bayonne, in an effort to clean up the region's waterways in the most cost-effective manner possible. That's about a 25% increase in our service area.

Every time a pollution incident occurs at the shore, the ocean dumping of sewage sludge is always somehow at fault. All the scientific evidence gathered by the sewage agencies and EPA indicates that sewage sludge has yet to wash ashore from the 12-mile dump site. In spite of this evidence, we have moved over 50% of our sludge to the 106-mile site this summer.

SENATOR PALLONE: Mr. Lipke, though, If you remember the May incident, the Memorial Day incident--

MR. LIPKE: Yes.

SENATOR PALLONE: --which closed some of the beaches in Monmouth and Ocean Counties.

MR. LIPKE: That's correct.

SENATOR PALLONE: We had not only the DEP representative, but also the Coast Guard and different officials from the other agencies that testified -- both in May, and the Coast Guard again within the last month -- that stated although they could not definitely say so, felt very strongly those incidents were caused as a result of an illegal dumping of sludge. I mean, they pinpointed it to that without specifically saying who did it. They felt very strongly that it was an illegal dumping of sludge in that particular instance

that caused the problem. So, I don't know. I mean, I know you're saying that there's no indication that sewage sludge is washed ashore. That's directly contrary to what we were told by the Department and by the Coast Guard at that hearing.

MR. LIPKE: Senator Pallone, we haven't seen any evidence whatsoever, that it was an illegal dump. Certainly it would not benefit the sewage authorities. We pay--

SENATOR PALLONE: I'm not suggesting it's you. Don't get me wrong. I'm just saying that we had testimony from both the DEP and the Coast Guard specifically -- and others -- that they felt that that Memorial Day incident was the result of sludge material, not garbage, not some of the other possibilities.

MR. LIPKE: We spoke to the Commissioner at the time that that incident happened, and we spoke to people on the staff; and the evidence was some tampon applicators that he had in his hand. And he showed us jars and such things.

SENATOR PALLONE: Well, that's not what they told us. I mean I don't want to contradict you because I don't have the scientific evidence. That is what they told us in that particular case it was from. Now, I'm suggesting that the incidents in August -- which we know were from garbage debris related to sludge -- but the other incidents in the early summer the Committee was told did relate to the sludge. But, go ahead.

MR. LIPKE: Just one last thing.

SENATOR PALLONE: Okay.

MR. LIPKE: As I said, we haven't been shown any evidence. Had we been shown evidence, we would have gone after those sludge dumpers. The barge--

SENATOR PALLONE: Well, they haven't been able to find out who did it, and that's why nothing has happened yet. Although hopefully something will. I mean, it's one thing to say that we don't know exactly what authority, or what barge,

or what hauler did it, but indications were that it was sewage sludge in that case.

MR. LIPKE: Okay. I can't speak to that. The DEP hasn't said anything of that sort to us.

SENATOR PALLONE: Okay.

MR. LIPKE: And as I said, if we knew who to go after, we would certainly be on the side of the DEP, and on your side too.

SENATOR PALLONE: Oh I understand that. I understand that. Okay.

MR. LIPKE: Okay. We think that the 12-mile disposal site will be closed on December 31, of this year, and all of our sludge will be disposed of at the 106-mile site. Yet this summer there were more beach incidents than ever. Where is the pollution coming from? Is it nutrients like nitrogen or phosphorus that are causing the algal blooms which wash up as the brown tide? Is it storm sewers and combined sewers? Is it from sources outside New Jersey like New York City, Nassau, or Westchester? We don't think anyone knows how much of the problems are caused by each of these various sources.

Sewage sludge is only one of the many waste sources entering the ocean. The near shore ocean is the recipient of pollution from primary and secondary treatment plant effluents, and non point sources such as combined sewer overflows, storm sewers, and agricultural runoff. These sources result in the discharge of conventional pollutants such as, biochemical oxygen demand which removes oxygen from the waters; nutrients such as nitrogen and phosphorus which cause algae blooms; floatables such as plastics -- tampon applicators, soda straws, etc. -- and heavy metals and toxic substances.

We believe that we make the easiest target. And so there is a new urgency towards ending ocean disposal of sewage sludge. Legislation is pending to tax us, or to ban ocean dumping completely as a method of forcing us out of the ocean.

But we want to incinerate our sludge. The sludge is a resource in that it contains the same energy content as in soft coal. Our sludge incinerator will provide us with a source of emergency electrical power, and we believe it will produce tremendous positive public relations for our Commissioners.

Now, I must digress. We're speaking for Passaic Valley Sewage Commissioners, not all six agencies. We happen to have the type of sludge treatment Zimpro high temperature oxidation, which sterilizes all of the sludge, and makes it very amenable to de-water into sludge cake -- which looks like card board -- at almost no cost increment to the Commissioners. It's very inexpensive. We have built a building to do that, one of those white elephants. We have the facilities in place. It costs us almost nothing to operate that. We could be producing sludge cake within a matter of months.

Now some of the other authorities don't have any of the equipment in place. They would need chemical treatment which is extremely expensive, and all sorts of other types of equipment. We don't need that. We can be producing the cake, stuff that you can incinerate, or put on land, or whatever.

SENATOR PALLONE: How long have you had that technological ability?

MR. LIPKE: Since-- We were ready to meet the 1981 halt for ocean disposal of sewage sludge. We built the filter press facility. We had something called a temporary storage facility. And we had put together a package of air pollution permits for the EPA and DEP. Actually it was EPA at the time. We were ready to go build an incinerator for our sludge. The air pollution permits went down to Trenton, and basically -- and this has taken us a number of years to find out what happened because we've never heard back from them -- basically they didn't know what to do with them. There were no criteria for emissions from a sludge incinerator. The EPA was extremely

concerned, not with the heavy metals, not with toxic organics, they were concerned with things like sulfur dioxide, particulate emissions -- the things that would come out of any sort of garbage incinerator. This is basically what stopped the incinerator at that time. They had no criteria for the impact of heavy metals on people.

SENATOR PALLONE: All right. Then is the criterion that we discussed today -- in terms of making the ocean disposal quality the same as the standards that now apply to land-based disposal--

MR. LIPKE: It has nothing to do with incineration.

SENATOR PALLONE: Okay.

MR. LIPKE: Each alternative has its own criteria, because as you heard before, the criteria are derived from some environmental impact.

SENATOR PALLONE: Right.

MR. LIPKE: Okay?

SENATOR PALLONE: But what I'm trying to find out is, is pretreatment the answer?

MR. LIPKE: Well let me go on. I'll finish this real quickly--

SENATOR PALLONE: Okay.

MR. LIPKE: --and then we can talk a little bit, because I have a whole page full of notes.

SENATOR PALLONE: All right. I want to speed it up a little if I can, because that's what we're here for today.

MR. LIPKE: We have seen over 15 different vendors of sludge treatments processes during the past three years, and none of them could provide a process which would meet the State emission limits -- both for conventional air pollutants and for heavy metals. We have met with manufacturers from the U.S., Europe, Japan, in search of a viable alternative to the ocean; all without any success whatsoever. And believe me we have met with the strangest group of people you can imagine. They had

every process under the sun. Some of them wanted us to burn sludge with tires, some with coal, some with wood chips, at very high temperatures to turn it into glass beads. Everything. Unbelievable.

SENATOR PALLONE: All right. I'm trying to speed up the process here because we have two other sewage authorities.

MR. LIPKE: Okay. If a land application option is available to us, we would also consider it. This type of alternative does not exist within the borders of New Jersey. We seek the help of the U.S. EPA and N.J. DEP in the search for another state willing to accept a vast quantity of sludge produced by the sewerage agencies in New York and New Jersey.

In summary, we believe that ocean disposal of sludge has not been proven to be the source of the shore pollution. We have been, and will continue to seek, a land-based alternative to ocean disposal of sewage sludge. However, we have yet to find a technology which will satisfy the air pollution control agencies. When and if we do, we will embark on such a program to move our sludge out of the ocean. And as I said, we speak for ourselves.

SENATOR PALLONE: No, I understand. I mean, I understand that you're basically saying that you feel that ocean disposal isn't that damaging, and there is no link between ocean disposal and the pollution problems in general.

I don't agree with you at all. I mean, not only that incident that occurred in May, but also in general in seems to me that the problems that we've had in terms of build up of heavy metals, different PCBs, the different things that we've found in fish, a lot of the problems that exist in terms of ocean bathing and health problems, and even dolphins and all that; I mean, we may not be able to pinpoint it, but I think it's very likely, or there's certainly reason to believe that it may in some way be linked to ocean dumping, and that part of that problem is the sewage sludge. I mean, I don't have the

scientists here today that are going to confirm that it's definitely from the sludge as opposed to the dredge materials; or the dredge spoils as opposed to duPont's dumping, or the garbage debris, or whatever. But I think it all contributes to an overall problem, and not only myself but I think the Legislature as a whole, is determined to put an end to ocean disposal of sludge.

You may say, "Well it's not feasible." But I think, by the end of this year, or certainly by the next summer, that we're going to see legislation passed that's going to require that we get out of the ocean as of a certain date, and hopefully pretreatment will be required to go along with that. I guess my only question to you is, how does the existing pretreatment program and the suggestions that have been made today, fit into your scheme of things? If we were to say that 1991 is the deadline: You can't dump in the ocean any more, and within six months we're going to set up pretreatment standards that require that your sludge meets the same quality for land disposal right now. Could you meet the deadline? What would you have to do? How much would it cost you?

MR. LIPKE: Okay. Now, we'd like to take you one step beyond, assuming we met the criteria.

SENATOR PALLONE: Right.

MR. LIPKE: Okay? We then would like to embark on a land application process.

SENATOR PALLONE: Okay.

MR. LIPKE: Now, Passaic Valley produces roughly, I guess about half the sludge of New Jersey, New York City probably produces half again as much as we do. I made some quick calculations. If we compost it, we think we'd make about 2000 cubic yards of compost everyday, seven days a week. That's something like 50 tractor trailers.

SENATOR PALLONE: Okay, so the land disposal composting is not likely.

MR. LIPKE: Okay. If we just filter press our sludge cake, that is, just took it without incineration -- composting bulks things up, gives it a greater volume -- we'd wind up with 1200 cubic yards a day.

SENATOR PALLONE: Right.

MR. LIPKE: Okay. That's about, at 40 yards a trailer truck, about 30 trailer truckloads a day of sludge cake to either landfill or--

SENATOR PALLONE: Or incinerate?

MR. LIPKE: Well, yeah, we would incinerate then. If we incinerate it, we would wind up with about 200 tons of ash per day. Okay? Two hundred tons of ash is roughly about 600 yards, or 30 dump trucks of ash to dispose of. We have no final disposal sites.

SENATOR PALLONE: All right. I understand that problem, and we've dealt with it in terms of finding disposal sites, finding the incinerator -- siting incinerator -- whatever. Let's assume that those problems can be met. We can site the incinerator.

MR. LIPKE: Senator, that's what we're trying to say.

SENATOR PALLONE: You can't?

MR. LIPKE: Where do we put this stuff? That's our problem. So far we have a problem that's ongoing right now. Our landfill that's taking our grit and screenings -- which is really the trash that people put down their sewers -- we get about 20 yards a day, one truckload. Our landfill is going to close in March. We don't have any place in the State of New Jersey to bring that to. We're right now making arrangements to find a Pennsylvania landfill for this material. If we could implement everything you say, basically what we'd do is we'd export our problem.

SENATOR PALLONE: Out of state?

MR. LIPKE: That's right. And I think the people in the DEP would say the same thing. Our problem is a monumental problem because we have so much material.

SENATOR PALLONE: What about the pretreatment standards though, to meet the same standards?

MR. LIPKE: Okay, and I must say one other thing. Everyone here has said that there were no standards for ocean dumping. That's not entirely correct either.

SENATOR PALLONE: Well, comment on that then.

MR. LIPKE: Okay. First of all, we have to meet the same categorical standards as everyone else. If you land apply, I guess the application rate -- the amount that you could put on each piece of land -- depends on how much material is in your sludge. If it's got no metals or anything, you can put a lot on it. If it's got some metals which would get into the food chain, you've got to put a less and less amount in there. We have to do exactly the same thing when we put our sludge into the ocean. If the sludge has -- and we've been doing sludge bioassays on our sludge since I think--

SENATOR PALLONE: But these are all the categorical standards.

MR. LIPKE: No, no. This is for the sludge quality itself. This is on the sludge. We have been doing bioassays with the same mysid shrimp that the State is now starting with.

SENATOR PALLONE: You're doing that on your own?

MR. LIPKE: No. That's a Federal mandate, since I think 1976. The toxicity that's exhibited by the sludge that you dump in the ocean is dependent on the characteristics of the sludge, which determines how much you have to dilute the material. It's almost like the orange juice business. If the sludge has no toxicity whatsoever, you can just throw it right in the ocean. You don't have to worry about dilution effects. It's almost the same as the orange juice. If you poured a glass of orange in a fish tank you'd kill the fish, but if you poured a quarter of an ounce or so you wouldn't get those effects because of the dilution.

SENATOR PALLONE: But you don't meet the-- I mean, Mr. Schiffman had a list there of the authorities that meet the land-based standards.

MR. LIPKE: Yes.

SENATOR PALLONE: You don't meet them right now.

MR. LIPKE: According to him we miss them on two pollutants.

SENATOR PALLONE: Which are those?

MR. LIPKE: I think he said mercury and cadmium. (consults with unidentified member of audience) Phenols? Three of whatever. I can't think of what it was.

SENATOR PALLONE: All right. Well what if you had to meet the standards?

MR. LIPKE: Let me just finish, and I'll turn you over to Frank. What we're saying is that we have to dilute our sludge more in order to meet the criterion for ocean dumping. And that's what we do. So not everybody can discharge their sludge at the same rate into the ocean as everybody else. It depends on the discharge rates. And it costs us more money to have the vessel out there for a longer periods of time. This will start January 1, of next year.

SENATOR PALLONE: Okay.

MR. LIPKE: So there is a criterion for ocean dumping. We don't just go out there and dump it.

SENATOR PALLONE: I understand what you're saying.

MR. LIPKE: We have been doing many many tests.

SENATOR PALLONE: I just want to know, basically what would have to be done cost-wise, you know, technology-wise, to meet the standards -- these land-based standards?

F R A N K P. D ' A S C E N S I O: I can answer that question at this point, Senator.

SENATOR PALLONE: Okay.

MR. D'ASCENSIO: Are you done?

MR. LIPKE: Yes, I'm done.

MR. D'ASCENSIO: May I proceed?

MR. LIPKE: Yes.

MR. D'ASCENSIO: And, I'll try to move fast. Senator Pallone, members of the Senate Special Committee, my name is Frank D'Ascensio. I also am here on behalf of the Passaic Valley Sewerage Commissioners, which is the fourth largest treatment plant in the nation. I wish to thank you for the invitation to address this Special Committee.

I am the Manager of Industrial Pollution Control at PVSC. This Department has been responsible for the State approved pretreatment program since July of 1983. The PVSC sewer district presently includes 31 municipalities in four counties. Bayonne and Jersey City will be connecting to our system soon, which will bring the total to 33. We have issued nearly 400 permits to many different types of industrial users, and our staff of trained professionals has had many years of experience in developing, implementing, and administering a pretreatment program.

Our purpose today will be to focus on hazardous waste minimization, development of stricter pretreatment standards, on the relationship between sludge quality and sludge disposal options, as well as the concern that ocean disposal allows for poor sludge quality which affects land disposal options. As a matter of fact, we could easily spend an entire day just reviewing a portion of any one of these. So I believe that additional hearings such as this one may be needed-- (laughter)

SENATOR PALLONE: No. We're not going to have another one on this.

MR. D'ASCENSIO: --as various solutions to these problems are developed. In order to limit the length of my presentation, I have attempted to generalize as much as possible. I gather there may be some specific questions. Obviously feel free to interrupt me. I have made some notes but because of the urgency of time I'll defer that until the end of my presentation if you wish me to define some--

SENATOR PALLONE: Well, the only thing is, I understand that a lot of the testimony deals with how you have upgraded--

MR. D'ASCENSIO: Right.

SENATOR PALLONE: I mean, we can put that in as part of the record. I don't think anyone here is denying that you have made some efforts to improve the quality of the sludge. And we know the Department is also making an effort in that regard to establish those requirements. I don't know. Does that eliminate some of the testimony?

MR. D'ASCENSIO: Well, I could skip right to the second page.

SENATOR PALLONE: Okay, go ahead.

MR. D'ASCENSIO: And I outline there what we did. And as I said, there are other things that you can do to reduce the levels of toxic and hazardous chemicals. By the way, as was explained earlier, the word "toxic" I think is confused by a lot of people. I've been in several court cases where people have attempted to define the word toxic. They identify a substance and say, "This substance is toxic," and that's not really true. It's toxic if it exceeds a certain concentration. There are certain heavy metals that are toxic, but yet they are essential for the human existence.

SENATOR PALLONE: I know what you're saying. We have the same problem with the dredge materials.

MR. D'ASCENSIO: Okay.

SENATOR PALLONE: Some people refer to dredge materials and dredge spoils, and get very upset when you talk about spoils. But in any case, turning to the focus of this hearing--

MR. D'ASCENSIO: Okay. Right. We can state the following: The most direct way to minimize the generation of hazardous waste is by substituting a chemical that does not generate the hazardous waste. Several companies have done this

successfully, but it is limited by the chemistry of the process. However, chemical companies can still do more to minimize the generation of hazardous waste by adjusting their processes to reduce or eliminate excess raw material usage. For instance, it is not uncommon for the chemical process to call for an excess of the least costly chemical. In this way the company can be certain that all of the more expensive chemicals will enter into the chemical reaction. This excess chemical then becomes waste. If it's toxic or hazardous, it becomes a toxic or hazardous waste. The solution would be to minimize this excess usage.

SENATOR PALLONE: Okay. That's the minimization?

MR. D'ASCENSIO: Right. Another effective way to minimize hazardous waste is by recovery. In particular, many types of toxic heavy metals can be separated on site and recovered for reuse. The process would keep them from becoming a waste and entering the environment. And I might add that the technology to do this is in place, and is in use presently in West Germany.

SENATOR PALLONE: Okay. Now, as far as the stricter pretreatment standards, though--

MR. D'ASCENSIO: Right. Stricter pretreatment standards can be a very effective means to improve the quality of the discharge from various manufacturing facilities. We all know that this will have a direct impact on the quality of the sludge produced at the treatment plant. I agree with Senator Connors when he made the statement that was in the paper recently, that if the sludge is too contaminated for disposal at the 12-mile site, it's also too contaminated for disposal at the 106-mile site. It is also too contaminated for disposal on land and probably too contaminated for incineration. However, the converse is also true I believe. If the quality of the sludge is improved so that it can be disposed of on land, then it can be disposed of at sea.

SENATOR PALLONE: We're not disagreeing with you. I mean, I would like to see us out of the ocean. But the bottom line is, if we can work towards a situation over the next few years where the material that's dumped in the ocean is no worse than the material dumped on land, then I think we've made some progress. That's not to say we shouldn't get out of the ocean because I think we should, but that may not just be dependent on legislation. It may be dependent on court battles and the whole thing, which I'm sure you gentlemen -- not you personally, but the Authority -- will be very glad to bring.

MR. D'ASCENSIO: This brings me, Senator--

SENATOR PALLONE: The question is, can we through pretreatment improve the quality of the sludge so that it can be land disposed and meet those standards; and what would you do, and how costly, or how long-term would it take for you to do that with your Authority?

MR. D'ASCENSIO: We can always institute a pretreatment requirement to reduce any pollutant discharge by any industrial source. I don't think anybody could dispute that. But there's a corollary to that issue which we're trying to address here, which I think has caused some difficulties now. It's one of the things that New Jersey is facing in a big way because of the problem with hazardous waste. That has to do with the fact that every time you cause pretreatment and clamp down on industry or whatever the source, and you require them to pretreat -- which has been testified to by other members prior to us -- you are now generating hazardous waste because you're concentrating that pollutant. In some cases it may not have been toxic because the concentration at the point of discharge may not have been such that it could have even been biodegradable. But because the company was reacting to a Federal standard which didn't take this into account, they are now forced to pretreat to meet a technology standard. They now are generating hazardous waste. Now they have the disposal

problem. What we've done is we've taken it out of the sludge coming to the treatment, but now you've got it in a bunch of individual piles at different industries throughout the sewer district. You've also concentrated it.

SENATOR PALLONE: Well now let me understand. What you're saying is that if the bill was passed that said in six months we have a provision that says those authorities that are now disposing of their sludge in the ocean, has to meet the same standards as we now have for land disposal -- okay? -- you're saying that technologically you can do that in four years, but what it may mean is, what, that the industrial plants are not going to be allowed to use your system? I mean, I was told before by the DEP that it was a problem. You seem to say, "Oh technologically it's not a problem. We can do it."

MR. D'ASCENSIO: I don't mean to put a time on it. I think the problem is not that you can't do it. You can outlaw certain chemicals like you outlawed DDT or PCBs. If there's a particular chemical or a particular toxic waste that has constituents in it that make it toxic, you can address that issue any way you want. The effect of how you do that: First of all, it could have an effect on the processes that generate it. But more importantly--

SENATOR PALLONE: Yeah, but the point is we would like to do that.

MR. D'ASCENSIO: Okay.

SENATOR PALLONE: I mean, one of the reasons we would like to see this legislation is because if you have to meet certain standards, then the industries that are dumping into your system are going to have to adopt waste minimization proposals, and go that route.

MR. D'ASCENSIO: That's right. Or stop producing the chemical--

SENATOR PALLONE: Right.

MR. D'ASCENSIO: --or go out of business.

SENATOR PALLONE: Right.

MR. D'ASCENSIO: And the big assumption there I think is that if we relate toxicity to just heavy metals, it's a different situation then if your relate toxicity to the organic chemicals.

SENATOR PALLONE: Okay.

MR. D'ASCENSIO: There's a tremendous amount of information about heavy metals, and I could bring in all kinds of studies that will show there's a much more clear idea of the heavy metal portion of the toxic problem than there is from the organics portion of the toxic problem.

SENATOR PALLONE: I realize-- You know, I guess I'm trying to get an answer, which is that it can be done. And you're saying that it can be done, but these are the consequences of it.

MR. D'ASCENSIO: See, toxicity is not something that you can say is this chemical. It's an effect. And you may have a thousand chemicals that are acting to produce an effect, and you don't even know which one is causing that effect.

SENATOR PALLONE: Okay.

MR. D'ASCENSIO: All you see is the effect. With heavy metals there have been studies done where it's a little clearer. When you have a mixture of soup that comes into a treatment plant, that is highly variable -- the organic portion of it. And a lot of the reactions -- either the synergistic or antagonistic reactions -- are not even known by the scientific community, and assumptions are being made. We have to relate that back to a particular chemical and say, "Is it phenol? Is it trichlorethaline? Is it, 'X'?" And when you're doing the kind of tests that have been referred to, you don't know definitely if you eliminate these five, that you've solved the problem.

SENATOR PALLONE: I understand. But I think that your testimony is kind of in a sense going along with what the

environmentalists were saying, which is that if we implement the more stringent pretreatment standards, then things are going to back up. We're going to have to outlaw certain chemicals and certain types of processes. And that's fine with me.

MR. D'ASCENSIO: We did this with mercury as an example. When we were getting ready to burn the sludge we found through our consultant that there was a large mercury discharge in the effluent, and we did exactly that. They sampled in the sewer line, backed up, found the company, the Commissioners approved a resolution adopting a regulation which affected basically this one company. He reduced the amount of mercury that he was discharging by about 95%, and that brought the numbers down. But the difficulty I think Mr. Schiffman was talking about -- and he can correct me if he's still here -- has to do with the time.

We have a study here that I mentioned in there -- and this is a summary sheet -- and if someone were to analyze the variability in here, you would see that you just can't go and take a sample for one or two months and say, "This is the problem." Because we saw variations in the second six months of this study that were totally different from the first six months. And we have graphs -- and these were given to people at DEP and EPA because they had assumed there was a certain stability. If you sampled today and January, you can be reasonably certain that's going to be the same way in March. Well if we sampled in January, made some assumptions and implement a pretreatment program and it changes in March, we've missed the mark. That's the time problem we're talking about. The characterization has to be done in such a way so when you put the companies out of business, or cause them to do what you want them to do -- whatever it is to meet it -- that you're reasonably certain that it's going to have the effect that you want. What these studies have shown is that you just can't

rush into something and assume that the data you have now is going to be exactly the same as six months from now.

SENATOR PALLONE: I understand what you're saying, and I don't disagree with you. But I just think that we're going to have to force some of these things to happen, and they're going to have to be soon because the public just finds it unacceptable.

MR. D'ASCENSIO: Absolutely. And I think you see that we're not disagreeing with the need to clean up the sludge. We're not stopping doing it. We're looking for data and information telling us what we have to meet.

SENATOR PALLONE: And we're going to have to spend a lot of money to develop the data and to do the enforcement, and all these things.

MR. D'ASCENSIO: Once we have that, we have the staff to do it. But our problem is getting the data to say what limits do we have to place? What numbers do we have to meet? Then we can do it.

SENATOR PALLONE: All right. I don't mean to cut you short, but we've got two other authorities.

MR. LIPKE: Senator, if you're going to pass a law, we'd rather incinerate than land apply.

SENATOR PALLONE: I understand that too. (laughter)

MR. D'ASCENSIO: And we appreciate the time to come here, and appreciate your patience in having us here.

SENATOR PALLONE: All right. Thanks a lot. Thank you for coming down.

Okay. I would just as soon continue rather than take a break, but I think I want to vary it a little. We'll have one more of the sewage authorities, and then I want the PIRG people so we're not just getting all the sewage authorities at once. The next one that's signed up is Dr. Mary Buzby, Rahway Valley Sewerage Authority.

D R. M A R Y B U Z B Y: Ready?

SENATOR PALLONE: Yes, ready as we'll ever be.

DR. BUZBY: Good morning. I am Mary Buzby. I am representing the Rahway Valley Sewerage Authority at this morning's hearing.

SENATOR PALLONE: You can't hear in the back? (inaudible response from audience) No, the microphone is not for amplification. That's for the taking--

DR. BUZBY: The tape recorder. Okay.

SENATOR PALLONE: Right. So just speak a little louder if you could.

DR. BUZBY: Okay. I am happy to be here this morning to discuss our pretreatment program, and the impact that pretreatment has on our sludge quality.

As a start I was going to brief you on what the pretreatment program consists of, but I think that's come out. There are general pretreatment requirements that are Federal requirements. They apply across the nation, uniformly. They are meant to prevent the discharge of pollutants that will block the sewer, cause fires or explosions, or create dangers or damage the treatment plant. Okay?

The categorical requirements apply only to individual industries, based on the industrial process taking place at that plant. Examples of industrial categories under the Federal pretreatment program are the electroplaters, the metal finishers, copper formers, pharmaceutical, and manufacturers. Okay? The level of pollutant removal required by each categorical pretreatment standard varies widely among the industries.

Local pretreatment requirements are calculated, adopted, and implemented on a local level by individual POTWs. They are intended to address pollution problems on a case by case basis, and to provide POTWs with a mechanism to avoid operational problems or sludge contamination due to pollutants that are not adequately regulated under the Federal law. Okay?

The implementation of pretreatment requirements is not an optional proposition. Stringent pretreatment regulations are a part of the New Jersey Pollution Discharge Elimination Permit System. It requires all of New Jersey's POTWs that meet minimum size and industrial participation guidelines, to implement pretreatment programs. Rahway Valley has implemented our pretreatment program in response to the State and Federal mandate. Okay?

Unfortunately, there is in New Jersey a widely held opinion that the industrial pretreatment program has not been implemented. And unfortunately, this erroneous report is frequently reported by those concerned about ocean disposal of sludge. In fact, implementation of pretreatment at Rahway Valley has had a significant reduction in the concentration of metals in our sludge.

SENATOR PALLONE: Well, you're the one that the Department says actually meets the land disposal criteria.

DR. BUZBY: Yeah. That was news to us. (laughter) In fact I brought with me a chart that shows how our 1986 average sludge concentrations compare with the Class B sludge quality criteria issued by the DEP. There are several interesting things about this data.

First, the sludge is not far-- In the end of 1986 we were not far from complying with Class B sludge. The DEP considers Class B sludge as suitable for non food crops, including horticultural uses and reclamation projects. The metals that exceeded the Class B criteria are copper -- this is at the end of '86 -- are copper zinc and chrome. These three metals are specifically excluded from pretreatment requirements for small electroplaters. So that we know where they're coming from. The concentrations of these metals in our sludges at the most exceed the criteria by 33%. This is at the end of '86. Okay?

Now the data at that time were a result of composite, everyday, all year long-- Okay? They are not the best sludge we can do. That's what I was going to say. We can continue to improve. We are a denomic operation. When we get to one standard we don't stop. We are continuously evaluating the impact of our product, the impact of our operation, and ways to improve it. Okay?

So in fact the pretreatment program in New Jersey is working. I've got to say, there is one little problem. Every time there is a solution there is another problem, and we are creating industrial waste residues. These residues tend to be contaminated with metals and other pollutants that are difficult to handle in a cost-effective and safe manner.

Frankly, it's my opinion that this problem is not insurmountable. Our users have, on their own initiative, demonstrated that hazardous residues can be avoided through process changes, raw material substitutions, and reuse of wastewater. In our system, our users have gone beyond the requirements. Many of our small platers have seen their success, and are saving money through pretreatment. They're realizing it now, and are saying, "I'm going to take care of this, and I'm going to take care of this too." And they're going beyond the actual mandate.

But I think as a leader in the environmental issue here -- in the environmental policy making in our State -- you have to know that many industries are still creating hazardous waste that needs to be taken care of. And whether we're landfilling hazardous waste in New Jersey, or in Michigan, or in Arkansas, the storing of hazardous waste in landfills is a non solution. It's a postponement of a problem -- a serious problem.

So we in New Jersey have to be committed to: One, avoiding hazardous waste, avoiding difficult waste; and secondly, destroying any waste that we do generate.

So my comments so far have been addressed to pretreatment requirements at any POTW in New Jersey. Now I'm going to switch to POTWs that handle sludge in the ocean. There are six ocean dumpers. Okay?

Ocean disposal of sludge in the ocean -- now this is a little different than you've heard before -- is regulated using the Federal ocean dumping permits systems. The EPA in New York is issuing our ocean dumping permits. Permit conditions are based on the criteria for evaluation of permit applications which appeared in the "Federal Register." Okay?

The six New Jersey ocean dumpers are now in the process of making applications to the EPA for new permits to discharge at 106.

SENATOR PALLONE: Right.

DR. BUZBY: Okay. These applications include extensive data submissions concerning the quality of the sludge generated at each POTW, extensive work.

SENATOR PALLONE: The data that you have to provide?

DR. BUZBY: Right.

SENATOR PALLONE: Right.

DR. BUZBY: And they tell us what they want. We actually have it contracted with a consulting lab, and have all the tests run. Under the current ocean dumping regs the waste constituents beyond the limit of the dump site must be less than .01 -- that's one-one-hundreths -- times the lowest concentration of any contaminates found to be toxic to any appropriate marine organism. Okay? So we do have regulations right now controlling the dumping of sludge.

SENATOR PALLONE: When the permit is issued?

DR. BUZBY: In January 1, at 106.

SENATOR PALLONE: And even now in theory?

DR. BUZBY: No. Because when we made our contract with EPA -- our agreement, our court agreement -- the court agreement, it's my understanding, overrode the regulations.

And the agreement was that we could go to 12-miles, dump at any rate, temporarily.

SENATOR PALLONE: Oh, okay.

DR. BUZBY: When we go to 106 as of the first of the year, we have to be dumping in compliance with the regulations at a rate that complies with the regulations. Okay?

SENATOR PALLONE: Okay.

DR. BUZBY: Now, outside the dump site there have to be constantly at a water quality criteria better than .01 times the least toxic concentration. Within the dump site we have to meet the concentration within four hours of dumping. Okay. Our data submissions to EPA include all the information that they need to establish the correct rate for us to dump at, in compliance with the existing rules.

In addition to that, right now the researchers at the EPA laboratory in Narragansett have developed mathematical models to determine if there are adverse impacts either short-term or long-term on the marine environment, due to the dumping at the 106-mile site. The ocean dumpers enthusiastically have endorsed EPA's work. We have met with these researchers, and we have volunteered to cooperate fully with them to accurately evaluate the impact of ocean dumping. Okay?

Simultaneously, the regulators at EPA in Washington are drafting two sets of regulations that will impact the disposal of sludge in the ocean. The first are just an update of our existing ocean dumping regs. The second set will address sludge quality. It's what Helen Chase was talking about before. EPA has been directed by Congress to identify pollutants that are significant to sludge disposal, and to write regulations appropriate to sludge management. This is under the new Clean Water Act. It is my understanding that the new regulations will be based on rush assessment, and will be written on a pollutant by pollutant basis for each specific

sludge management option. Helen said 10, I thought it was 15 pollutants that have been identified as significant in sludge that is disposed of in the ocean. The list I have seen includes organic compounds that we have never looked at before, but they will be specifically regulated, and we anticipate both sets of these regulations momentarily. They're both supposed to be out this summer.

Now, as soon as these regulations are available, it's the function of our industrial pretreatment program to identify if we have a problem with any of these contaminants, to find the source of the non compatible pollutants, and to eliminate them. And we are poised to act to do that.

So my most important message to you today -- and this is something that's not clearly understood I don't think -- is the management of pollutants, of wastewater and sludges, is not a static science. Waste management is a dynamic process. We are a society in motion. We see our needs changing as a society. Obviously we cannot tolerate what happened to the beach this summer. As a society we have got to take care of these problems.

We as an industry -- the wastewater industry -- is an industry in action. Our pretreatment programs are poised to effectively reduce pollutants entering and leaving New Jersey treatment plants. We are evaluating our problems and we're looking for new solutions. And we are moving to treat our waste wisely.

This is my final thought. Is the continued dumping of sludge off the New Jersey coast a wise decision? That's a basic problem right now, a basic question. Presently 53% of New Jersey's sludge is discharged to the ocean. The practice continues because alternative management options have not been available.

Although it is frequently touted as the process -- by the general public, and people who say they are against ocean

dumping -- the land use spreading methods are very unlikely in New Jersey. These methods include composting, and farming enrichment, and similar methods of applying sludge to the land. There is no doubt in my mind, none whatsoever, that we can generate sludges that are clean enough to apply to the land. We can generate them efficiently and reasonably soon.

SENATOR PALLONE: You already have, according to the DEP.

DR. BUZBY: Well that's new to me, but yes. You have to remember too that's like one little package of information. In another six months someone's going to say, "You know, this is also a problem."

SENATOR PALLONE: But as of today, they would allow you to land dispose.

DR. BUZBY: Yeah, okay. Probably. I don't know if we could find a place to do it. But anyway, there's no doubt in my mind that we have control over the quality of our sludges. Okay. The logistical problems of applying close to 1 million dry pounds a day-- One million dry pounds of sludge a day goes to the ocean. I mean, I don't even know how one million dry pounds of pebbles -- would be hard to get rid of in New Jersey. The logistics of doing that are, in my mind, insurmountable on land.

SENATOR PALLONE: What about through incineration?

DR. BUZBY: Well, the problems with land spreading are -- I'm going to that next -- are: Land areas just are not available. We have to deal with public opposition. The public is New Jersey is tuned "anti everything." This is a big problem, because people have to associate themselves with waste generation. I mean, I can assure you that the people who are in industry and the people in the wastewater industry, are regular people. I mean, we have children, and-- It's not as though we want to be destroying the New Jersey beaches. Okay?

Now, we also have freezing weather problems, composting medium problems, and transportation. Moving this much material is difficult. Okay?

SENATOR PALLONE: Well, has your Authority-- I mean, given now, I guess you just found out that you do meet the land based standards?

DR. BUZBY: We'll do anything. I mean our position--

SENATOR PALLONE: Is any effort being made to get out of the ocean?

DR. BUZBY: No, not at this moment.

SENATOR PALLONE: Okay. And the reason is?

DR. BUZBY: Well, just because we're a dynamic thing. We just didn't get that close. We didn't get to that yet.

SENATOR PALLONE: Okay.

DR. BUZBY: Incineration is our most promising alternative. Yesterday I did speak to Bill O'Sullivan at DEP. Apparently the success of the pretreatment program in New Jersey is making incineration feasible. Okay? It's my understanding because the sludge is cleaner, and because there are now more sophisticated air filtering devices available, it's possible now we think to permit a sludge incinerator in New Jersey. Okay? That's for the DEP to permit. However, implementation of incineration will mean facing the problem of siting the incinerators, and of siting a landfill to accept incinerator ash.

The question becomes, is it wise to burn a million pounds of sludge per day in New Jersey, in a State which is universally non compliant with their Federal air quality requirements? Is that a wise decision? That's what we have to decide.

And how does the sludge issue fit into the bigger picture of solid waste management in New Jersey? Maybe we could slip some of these littler volumes of sludge in with the solid waste. Right?

SENATOR PALLONE: We have a problem with that too.

DR. BUZBY: All right, well-- Are the land and the air better receptacles of our sludge than the ocean? I don't know the answers to these questions. However, I am willing to bet that the people of New Jersey will want to know before they are willing to site sludge incinerators, or alternative sludge disposal options.

So, my suggestion today -- and this is my one suggestion -- is that the New Jersey legislate and fund a multi-media assessment of sludge options available in New Jersey today, based on the fact that frequently when the environmentalists will report data to you it's five or six years old. Things change from last month to this month. We have an industry put in a big treatment process, it makes a big difference quickly. So I think that what we need to know is what is the best sludge management option in New Jersey, and I would guess that it's going to be a combination of available alternatives. But it is essential that the people of New Jersey understand what is at stake in accepting a sludge disposal option. And they can only make a good decision if the information that they need to make a thoughtful decision with, is available. So I really think that a multi-media assessment of all of the available sludge disposal options is long overdue. A real technically sound, valid, defense that we can use to say, "Look, incineration is the way to go," or instead, "The ocean is the way to go."

Rahway Valley is willing to go along with the results of any valid scientific evaluation of sludge management. Okay? Our members and our staff are committed to a clean environment, a clean ocean, and a healthy New Jersey.

In closing, I'll tell you I appreciate the opportunity to come today and share our perspective on this issue. We also appreciate your concern for these very important issues.

SENATOR PALLONE: Well thank you. Your testimony was very valuable.

DR. BUZBY: Okay?

SENATOR PALLONE: The main thing is, you're an example of an authority that could actually use incineration or the composting or whatever, if the means were available.

DR. BUZBY: If we could find a place to go.

SENATOR PALLONE: If we as a Legislature make a decision that we don't want any more ocean dumping, then we have to come up with ways of expediting the permitting process, and making these alternatives more feasible.

DR. BUZBY: But I really think you should take a look at do you really not want ocean dumping?

SENATOR PALLONE: Well I think we don't, but--

DR. BUZBY: Well I mean think about it. Where is the sludge going to go?

SENATOR PALLONE: I understand. I understand what you're saying.

DR. BUZBY: I don't mean to go, in general.

SENATOR PALLONE: You made the point very well.

DR. BUZBY: Okay?

SENATOR PALLONE: All right.

DR. BUZBY: Thank you very much.

SENATOR PALLONE: Thanks a lot. Jeannie Jenkins from New Jersey PIRG?

Senator Van Wagner sent us a note saying that he cannot come today because he is meeting with some New York legislators with regard to his legislation on an enforcement unit between the two states. I might point out -- I was going to make the point at the end -- that we are going to have a bistate hearing on the 29th in Middletown with the New York Assembly Subcommittee on Interstate Cooperation, in an effort to try to deal with some of the issues -- the manifest system for medical waste, the bistate enforcement unit, stricter penalties against the polluters -- and to deal with those on a bistate basis at that next hearing. That will be the next hearing of this Committee. Go ahead.

J E A N N I E J E N K I N S: At this point, good afternoon. My name is Jeannie Jenkins. I'm a staff biologist with the New Jersey Public Interest Research Group -- or New Jersey PIRG. New Jersey PIRG is a statewide nonprofit environmental and consumer research advocacy group with 75,000 members in the State. I'm going to skip my introductory remarks. I don't need them any more.

New Jersey PIRG has a number of concerns about pretreatment programs in general, and the regulation of toxic categorical dischargers in particular. We have examined pretreatment program annual reports for all the designated POTWs in New Jersey, and we have examined individual files for industrial dischargers at the majority of these treatment facilities. The single largest problem we have noted is the inability of POTWs to enforce the permit limits set for industries discharging into treatment facilities. Local political pressure prevents effective enforcement in numerous cases. The majority of POTWs find it difficult to even find industrial violators, and we found very few instances where treatment facilities could effectively enforce the permits.

SENATOR PALLONE: Could I just ask you--

MS. JENKINS: Sure.

SENATOR PALLONE: I guess you're going to get into this, but-- When you say local political pressure, that's assuming because these industrial polluters or manufacturers are the main-- I mean, they're paying the tab for the authority -- right? -- in many cases.

MS. JENKINS: That's part of the problem. There are boards that basically decide what the sewage treatment plants can and cannot do, and they may either have direct influence or not so direct influence on the-- (inaudible)

SENATOR PALLONE: But what I mean to say is, your concern is that because these industries are paying a large part of the cost of operating the facility, that there may be less concern of clamping down on them.

MS. JENKINS: Yes. That is a big problem, also the local economic health of the community.

SENATOR PALLONE: All right. But at the same time they don't have anyplace else to go. You know what I'm saying? It's not like there's competition between municipal sewage treatment plants.

MS. JENKINS: They could become direct dischargers, which is a possibility.

SENATOR PALLONE: So, in other words if the cost becomes too high, they may decide to do--

MS. JENKINS: They could relocate also. I mean, that's always a threat.

SENATOR PALLONE: All right. I just wanted to understand what you were saying. Go ahead.

MS. JENKINS: In the last year, New Jersey PIRG has filed citizen suits against seven industries discharging into New Jersey POTWs. The industrial violators were all regulated under the electroplating or metal finishing categories -- which incidentally, are arguable two of the categories with the most toxic effluents -- and both the electroplating and metal finishing category industries that we have filed suit against, were all being monitored by sewage treatment plants with approved pretreatment programs. The pollutants being illegally discharged -- usually thousands of times above permitted limits -- include cadmium, lead, zinc, chromium and cyanide. These pollutants represent some of the most toxic and persistent chemicals found in our environment.

In a number of cases, the POTW has tried to work with the company in violation but had not been able to bring the dischargers under control. In at least one case, the chronic violations of the industrial discharger were so great that the sewage treatment plant itself was in violation of its own permit. In another case, the violations continued even after New Jersey PIRG filed a notice of intent to bring suit, and the

POTW did eventually disconnect the industrial hook-ups. However, the sewage treatment plant was not allowed to disconnect the sanitary sewer lines so that the industrial facility could continue operation and no jobs would be lost. The company is now continuing to operate and to pour its repeatedly used wastewater -- which is heavily laden with toxic metals -- into unmarked barrels that are stored outside behind the building. This is being investigated by the DEP, but they are still in operation. And it is because of local pressure that the company was not actually shut down. In the above instances, the sewage treatment pretreatment staff expressed frustration at their inability to adequately enforce pollutant discharge limits, and welcomes citizen intervention.

The violators acted on by New Jersey PIRG represent only a small portion of the actual number of violators within the pretreatment programs. Noncategorial dischargers, regulated under State or local standards, frequently do not have limits on toxic pollutants in their permits, even when toxic pollutants are known to be discharged on a daily basis. A period of monitoring of toxic pollutants, sometimes for as long as five or ten years -- which is one to two permit rounds -- is common in permits for both direct and indirect dischargers. Many small industrial dischargers, both categorical and noncategorial, do not even pretreat their wastes and argue that pretreatment would be prohibitively expensive. In other cases, pretreatment equipment is installed and works effectively for a period of time, before lack of maintenance starts taking its toll. Much of the maintenance problem appears to be poorly trained operators. All of these problems point to a need for better enforcement, more effective communication of pretreatment options and more extensive training for industrial pretreatment personnel.

SENATOR PALLONE: What do you think-- I mean, we constantly hear that what we need is better enforcement, better

training, etc. I'm just trying to get an idea of the magnitude of what you might-- I mean, I know you can't answer the question. Is there any estimates needed about what--

MS. JENKINS: Well, at the sewage treatment plants-- In many facilities there is basically one person that's responsible for pretreatment. They are responsible for both the noncategorial and the categorical dischargers. They are in many cases separate from the rest of the plant, in that in a number of cases the pretreatment coordinator knows nothing about the permit for the sewage treatment plant facility itself. So there is no coordination, despite what has been said today. I think it's just impossible for one person to really take that many indirect dischargers and keep them in line.

SENATOR PALLONE: But, I mean, I'm just trying to think of what could be done legislatively? I don't know.

MS. JENKINS: I think there does need to be more DEP supervision. I think the DEP pretreatment program is a very good one. I've been very impressed. But I still think that there does need to be more oversight and more help from them.

SENATOR PALLONE: Less reliance on the industries or the treatment plants.

MS. JENKINS: And on the local politics of the sewage treatment plant.

SENATOR PALLONE: Okay.

MS. JENKINS: The federally derived categorical standards for electroplaters and metal finishers are concentration based limits. Limits for some other categorical dischargers such as iron and steel manufacturers, are based on kilograms of product made. These are production based numbers, and the limits that are derived can and are routinely challenged on the basis of alleged inaccurate industrial flow measurements. To further complicate this situation, the sewage treatment plants are frequently unable to install flow meters

to independently measure flow on these facilities, and thus must depend on self-reported data from the regulated companies. In many instances the companies are still determining flow by using a bucket and a stopwatch, so it's less inaccurate. Production based limits are difficult to determine and they're difficult to enforce. This appears to be reflected in the almost universal inattention received by all categoricals other than electroplaters and metal finishers.

It does not make sense to establish limits for highly toxic industrial categories on the one hand, and on the other hand ignore these industries because of tedious equations using disputable data. Improved enforcement of all the categorical standards now in place is needed. And that obviously demands that we have more accurate ways of assessing what's actually coming into the plant from these indirect dischargers.

Another serious concern of New Jersey PIRG is the fate of heavy meals entering sewage treatment plants as a result of inadequate pretreatment. The DEP and EPA estimate that somewhere between 60% and 75% of the heavy metals entering sewage treatment facilities are removed by primary and secondary treatment. These metals end up as contaminants of the solid residue or sludge. In New Jersey the sludge is disposed of in several ways. Six of the sewage treatment plants dispose of their sludge by dumping it in the ocean, ten incinerate their contaminated sludge and the ash is then either disposed on site or in New Jersey landfills. The remaining facilities dispose of sludge by hauling the material to New Jersey or Pennsylvania landfills. In one case a portion of the sludge that is rated as Class A sludge is being applied to agricultural fills in a controlled study.

I'm going to skip the part on ocean dumping sludge because I think we have discussed that pretty thoroughly. But I would like to say that I do feel that there is a concern on land application of contaminated ash and sludge, not perhaps

the Class A sludge, but the Class B sludge. My concern is that repeated application of contaminated sludge in the same area will cause an accumulation of metals, and will result in groundwater contamination.

The 60% to 75% removal of metals from wastewater cited by EPA and DEP is only a rough estimate of the actual amount of metals removed during wastewater treatment. At present, the DEP does not perform mass balance analyses to determine the actual amounts of pollutants entering the air, water, sludge for facilities with pretreatment programs. These analyses are critical to an understanding of the fates of toxics in our environment. In fact, as of May of this year, the majority of POTWs with pretreatment programs were not submitting information on toxics in their own discharges. This means that the heavy metals and the organics passing through the sewage treatment plant and into New Jersey waterways are, with few exceptions, not even being monitored. This is largely due to the lack of limits on toxic pollutants in the sewage treatment plants' NJPDES permits.

I would like to make just a brief point on the existing technologies. There are many proven technologies that are existing. There are technologies both for reduction and substitution and reuse of waste metals, as some people have already discussed. Definitely changing just the way you do your plating can reduce the amount of waste metals and the amount of organics used in clean processes. Many companies have moved from using cadmium for plating to lesser toxic metals such as zinc. Obviously there are very good technologies available now that are not very expensive for precipitating metals, and basically not releasing any metals in the wastewater. This is obviously essential to having clean sludge that can be reused for other purposes.

New Jersey PIRG strongly urges a reevaluation of the pretreatment program as it is now administered. The lack of

enforcement of pretreatment permits is a serious problem. Sewage treatment plants do not have the capability to enforce toxic permit limits, nor do they have the technical staff to adequately assist industrial dischargers violating their permits. Pretreatment standards were intended to protect our waterways against toxic pollutant discharges, and it is imperative that enforcement agencies see preservation and restoration of our waterways and not economic hardship as the most fundamental issue. Thank you.

SENATOR PALLONE: I understand everything you said generally, and I think that you are making a very good case. But I'm just wondering from the point of view of the Committee or the Legislature what can be done?

MS. JENKINS: I think the sludge quality would be vastly improved if the pretreatment limits that are now in effect -- particularly categorical standards -- were enforced. The very large companies in many cases can afford to put in pretreatment programs. They do. They don't always work, but they work periodically. In some cases they work all the time. The smaller companies make the case that it's an economic hardship, and they generally win on that case. And because they're small facilities there's some pressure not to put them out of business, and they're also not high priorities in terms of going after them by State agencies. So they tend to fall through the cracks and continue contaminating the sludge. I do think that much better enforcement would be a tremendous help.

SENATOR PALLONE: And the main thing is to get away from having the sewage treatment facilities themselves do most of the testing and evaluation and the different things that--

MS. JENKINS: I don't think that there's a problem with the sewage treatment plants doing the day-to-day operation. I think they are in the best position to know what is happening with their companies. I do think that there is a problem with asking an agency that is receiving money from companies to then enforce the permit limits.

SENATOR PALLONE: Okay. All right. Thank you very much.

Just so you know. We only have two more. We have Mr. Aiello from the Middlesex County Utilities Authority, and then Dr. Mytelka. I hope you don't mind being last. (laughter) Can we have Mr. Aiello?

R O B E R T R O W E: My name is Robert Rowe, Chief Chemist with the Middlesex County Utilities Authority, and this is Mr. Aiello who is our Pretreatment Coordinator.

SENATOR PALLONE: Do we have a statement from you?

MR. ROWE: I have a statement here.

SENATOR PALLONE: But you don't have copies per se?

MR. ROWE: I will leave this with you. This is a prepared statement from our Executive Director, Mr. Frederick Kurtz.

He says he thanks you for the invitation to testify at the public hearing of your Committee to study to study coastal and ocean pollution, with particular emphasis on pretreatment and industrial wastewater.

"We commend your Committee's initiative in studying the problem of coastal and ocean pollution. We also welcome the opportunity to present our views on this problem.

"The Middlesex County Utilities Authority has been treating wastewater in accordance with regulatory standards since January, 1958. In March, 1978, the Authority initiated operation of its $120 million secondary treatment plant. In August 1984, the Authority's industrial pretreatment program was approved by the NJDEP. The Authority's efforts in this program have been directed at those industries within our service area that are directly impacted by proposed or promulgated U.S. EPA Federal Categorical Pretreatment Standards.

"The Authority believes that the U.S. EPA Federal Categorical Pretreatment Standards are the most effective and expedient tool available to local POTWs for universal enforcement of their programs.

"Unfortunately, the U.S. EPA has been hampered in its attempts to promulgate categorical standards for all of the various industrial classifications by strong legal opposition from the various industrial groups, thereby significantly hindering the pretreatment program.

"One item in the EPA Categorical Standards Program needs to be adjusted. Categorical standards pertaining to the discharge limits of certain constituents from one type of industry are not limited in the categorical standards of a different types of industry. For example, although the discharge of zinc is specifically limited under the categorical standards for metal finishers, no limits of zinc discharges is addressed in the standards for the pharmaceutical industry. Such discrepancies in standards for the same pollutant diminish the effectiveness of pretreatment programs.

"However, the Authority has evidenced significant reductions in certain priority pollutants entering its systems since the inception of its industrial pretreatment programs, primarily from industries impacted by the Categorical Pretreatment Program.

"The MCUA barges its sludge to sea. At present, 25% is barged to the 106-mile site, and 75% to the 12-mile site. Effective January 1, 1988, 100% of the sludge will be barged to the 106-mile site. As more categorical standards are promulgated by the U.S. EPA and as the MCUA industrial pretreatment program is more fully implemented, the quality of the sludge discharged will further improve.

"As evidenced by recent pollutant discharges impacting the New Jersey shore, we strongly feel that too much emphasis and time have been focused on the disposal of sludge at sea, instead of studying other non-point sources of pollutants. We do not expect a significant improvement in the quality of the New York Bight with removal of the sludge that is discharged from the 12-mile site. Our belief is supported by numerous

studies performed by the National Oceanic and Atmospheric Administration and other responsible agencies.

"We suggest that more of the Committee's attention be focused on pollution emanating from non-point sources such as storm water discharges, air pollution fallout, groundwater runoffs, estuarian flows, off-shore vessel dumpings, etc.

"For example, the Interstate Sanitation Commission completed a study which indicated that storm water discharges from New York City contributed far more to the New Jersey Shore than the sludge dump site. This study was completed more than 20 years ago, with very little done to improve discharge conditions since then

"On January 1, 1988, sludge will no longer be discharged at the 12-mile site. Shortly thereafter, we believe that our contention of the minimal impact of the sludge discharged at the 12-mile site upon the New Jersey shore will be proven.

"At that time, perhaps we will all be able to focus our attention to the true sources of pollution to the New Jersey shore." And that's Mr. Kurtz's statement.

SENATOR PALLONE: Thank you, Mr. Rowe. You know, the problem of course is that everybody says the same thing. You know, you talk to the dredge spoils or the dredge materials and they say, "Oh we're not causing the problem." Not that they're not causing but, "We don't contribute much to it." Of course the garbage haulers say that they don't dump at sea at all. And New York doesn't dump anything at sea of course. I think basically what's happening -- at least in my opinion, and it's a layman's opinion -- is that all these different sources are just contributing to one big mess. So I mean I certainly, and this Committee, has never intended to say that the sludge dumping is necessarily causing the biggest problem, or the garbage dumping is causing the biggest problem. I think our impression is that everything combined is just causing a

tremendous problem, and we're trying to get at as many of the things as we can.

The question I had, going back again to the legislation that would basically set the same standards for pretreatment of the sludge that's ocean disposed, as opposed to using the same quality or standards for land disposal, I'm just wondering what kind of comments you might have on that. I don't know where you are on the DEP list in terms of how close you are to that at this point?

MR. ROWE: I don't think we're doing too badly. Actually the pretreatment standards, my impression of them was that initially it was to improve the liquid discharge to the water body.

SENATOR PALLONE: Well, that was mentioned.

MR. ROWE: And of course, inadvertently if you might remove some from the sludge, that was just an added bonus.

SENATOR PALLONE: Yeah.

MR. ROWE: From what I've seen from some of the work that goes back quite a few years in the Raritan Valley section around the Raritan River, the problem with putting a lot of this material on land is you're still going to have problems; in fact, just from the volumes that we have, the volumes of sludge. Even if you take it down to ash. Of course some of the heavy metals are going to be more concentrated, and you're going to have to have contained landfills for this. I'm not so sure that eventually if we do go to incineration and drying, that maybe the ocean still isn't the best place to put some of these materials, under controlled conditions.

Some of the work that I've been doing over the years, and particularly with domestic septage-- And we receive anywhere from 50,000 to 100,000 gallons a day of septage. At one time they anticipated we might receive maybe 400,000 gallons, which was all the septage in the State. And we were preparing for this. But some of the constituents that are in

septage lead me to believe -- and of course this is septage now, this is from domestic waste -- is almost as bad as sludge. Particularly I think copper. I don't see us ever getting down to the levels of copper -- even for ocean dumping or anything else -- that anybody wants. I mean the copper is in there. And anything you do is just not going to remove it. It's already there from domestic.

The other thing that I've seen, and I don't know what the implications are or what the implications might be-- I've seen a lot of aluminum in domestic septage. Now there's a lot of talk going about that aluminum is connected with Alzheimer's disease. A lot of this has been expounded lately. I have concerns about that too.

So I think what we're saying here is that you're going to have time to see now, when we're phasing out from the 12-mile site, maybe you should hold off a little bit and wait and see what that impact is before you go trying to push to get out of the ocean altogether. If you make a regulation that says you can't go in the ocean, and then you actually find out that, yes, it would have been better to go in the ocean, or it is better to go in the ocean, it seems kind of ridiculous to do that. You're going to have a chance to see it.

SENATOR PALLONE: Well, you know what my opinion is. I think that the willpower or the, you know, politics of it is going to be there--

MR. ROWE: That's the problem. That's always been the problem.

SENATOR PALLONE: --to get us out of the ocean, you know, to pass legislation this year. But the main thing we want to do is be a little realistic about how that's going to happen, and not just pass a law and find out that the sewage authorities can come in and overturn it, or there's no way of implementing it.

MR. ROWE: But we're not trying to overturn it.

SENATOR PALLONE: No. I don't mean it that way.

MR. ROWE: We're trying to meet the requirements.

SENATOR PALLONE: There's got to be some way to implement that, getting out of the ocean.

MR. ROWE: The other thing that's happening, and I think some people have touched on it, was the bioassay monitoring. This is the latest wrinkle now that's coming down from U.S. EPA. This is what we're preparing to do to try to meet, so that our discharge, of course meets the criteria of the mysid shrimp. That's the water discharge going into the bay.

SENATOR PALLONE: That's for the effluent.

MR. ROWE: But we've been doing this for years on the sludge. I think Sheldon mentioned that we've been doing this for about 12 years or more. That is the way they govern the discharge of the sludge in the ocean, so as to minimize any impact on the organism in the ocean. That's the whole reason for those bioassays. We've been running them for 12 years or more. And also on the mysid shrimp, on the Menidia menidia -- which is a small fish -- and on Skeletonema Costatum, and I think they're going to use another organism Acartia Tonsa for the 106-mile site. So let's observe the 12-mile site. Let's look at the differences.

SENATOR PALLONE: All right. Thank you very much. I appreciate your coming down. Dr. Mytelka? See the ISC was mentioned, not in vain I don't think.

D R. A L A N I. M Y T E L K A: That's in public. Thank you, Mr. Chairman.

SENATOR PALLONE: Thank you for coming to our hearings.

DR. MYTELKA: It's my pleasure.

SENATOR PALLONE: You never fail. You always have something to contribute that's important.

DR. MYTELKA: What I thought I would do is just briefly go over parts of the testimony, because I think it's

getting late. Some parts I'd like to amplify, and of course any questions--

I'm Dr. Alan I. Mytelka, Director and Chief Engineer of the Interstate Sanitation Commission. We're a tristate environmental agency -- a joint agency of the States of New York, New Jersey, and Connecticut. We were established under a compact in 1936 and approved by Congress.

We have long been concerned with proposed pretreatment strategies and standards because of our work in sludge management. In 1976, we completed a two-year study, funded by the U.S. Environmental Protection Agency, to find appropriate means of disposing of increasing quantities of sludge. Under a further U.S. EPA grant, we engaged in pilot plant testing at Belle Mead, New Jersey to determine whether pyrolysis was an effective method of sludge treatment.

I mention this just to give you some feel of the Commission's background in this matter, and to point out a fact of life that has been a continuing disappointment to us. We've observed that even as communities have embarked or moved from no treatment or only primary treatment to secondary treatment, the problem of sludge control has not lessened. It's been exacerbated. And of course, we've all known this when we demanded that full secondary treatment be done. We knew we were creating additional sludge. We're creating more and more sludge. The need for pretreatment and the resultant nontoxic sludge becomes more pressing by the year. That's the part that is not kept up. We have created more of the sludge. We haven't created more clean sludge.

We are pleased with your interest in this subject which has been of continuing concern to us.

Now is the time to reconsider statements put forth by our Commission ten years ago. Now is the time -- when dirty words like, "pollution" appear daily and prominently in the headlines -- that the public will listen and understand. At least we hope they will.

SENATOR PALLONE: We hope they will after Labor Day. The interest seems to have kept up. I'm waiting a few more weeks to see if that changes, but so far so good.

DR. MYTELKA: Even for a system of sludge management which relies on incineration, pyrolysis, or some other method of combustion, regulations requiring pretreatment and source control for industrial wastes were necessary ten years ago. Today, and for the future, it's urgent.

Even though some of the heavy metals -- and for that matter, toxic organics -- come from non point sources, we are convinced that pretreatment of industrial wastes can lower sludge toxicity to permissible levels. Adequate requirements for pretreatment and source control, properly enforced, are the keys to accomplishing such a goal.

The age of favored treatment for one industry over another is past. Pretreatment standards to protect the environment must be based on the pollutant and not on the type of industry. An example was mentioned before today, of the pharmaceutical industry. Cyanide is the only thing mentioned for pretreatment, which probably is one of the least important things that could come out of the pharmaceutical industry considering the wide variety of chemicals and biochemicals that are produced. This has come about because of a legacy from the U.S. Environmental Protection Agency when they set up the standards for permits from effluents for Publicly Owned Treatment Works. Instead of doing a pollutant by pollutant study, they set up an industry by industry study. So you have anomalies -- and you still continue to have anomalies -- in the effluent standards such that, for instance, oil terminals whether it be a power plant or a petrochemical industry, you'll have different effluent requirements for oil in the permits because of the industry by industry approach, and probably because of the political pressures that one industry had more than another.

SENATOR PALLONE: Dr. Mytelka, just so I understand-- Maybe I'm being repetitive, but-- The danger of that is that that's where things like politics and the economics of the situation come into play, rather than having absolutes.

DR. MYTELKA: That's correct.

SENATOR PALLONE: You're not really paying enough attention to the health and environmental effects. You're paying more to the effects of whether the industry would have to close down, and how many people would lose their jobs, and that type of thing.

DR. MYTELKA: That's correct.

SENATOR PALLONE: Okay.

DR. MYTELKA: What I think we're saying is, that if a pollutant needs to be treated or pretreated, it should be treated or pretreated because of the type of pollutant it is. And the same standards should hold regardless of whether it's industry type A, or a POTW that discharges to the ocean, or a POTW that doesn't discharge its sludge to the ocean. It makes no difference. It's the pollutant that's the key, and it needs to be regulated.

SENATOR PALLONE: Well the one thing that you can-- I mean, I don't want to stop you. And, go through the rest of your testimony. But the one thing I thought you could be particularly helpful to today is giving some idea of what goes on in the other states. I mean, you listened to the testimony today about what New Jersey is doing, and what I'm proposing, and what we're thinking about. But what is happening in the other two states within your jurisdiction? I mean, New York or--

DR. MYTELKA: They are certainly no further along than the State of New Jersey, and in some respects maybe not as far.

SENATOR PALLONE: Well, for example, we have, what, about 50% of the sludge that will be dumped at 106 is from New York sources?

DR. MYTELKA: Well, okay. New York City of course -- which is the largest, but not the only discharger of sludge into the ocean -- they're also going to be meeting the deadline by the end of this year of going out to 106 miles. So it's not going to be--

SENATOR PALLONE: Do they have any standards in New York City or in New York State similar to us in the variation between land-based versus the ocean disposal? I don't know. Maybe you're not in a position to know.

DR. MYTELKA: I'm just not in a position to comment on that. I'm sorry I'm not.

SENATOR PALLONE: We can ask them at our bistate hearing.

DR. MYTELKA: I'm sorry I'm not. I don't know. The point is that really-- I'd like to get back to my testimony.

SENATOR PALLONE: Go ahead.

DR. MYTELKA: But really I'd like to say there shouldn't be any distinction between for a criteria for sludge, whether it's ocean disposed or land disposed.

SENATOR PALLONE: No. I agree. The only reason I mentioned it is because we're talking here in this New Jersey Legislature about a 1991 deadline, hopefully, that will be legislated to end ocean disposal of sewage sludge. We're talking about pretreatment standards to meet that deadline. But it's only going to help New Jersey. We're still going to have the New York problem unless we get the New York Legislature to do something.

DR. MYTELKA: There is still going to be a problem unless the adjacent states -- New York in this case, and to some extent Connecticut -- do it.

SENATOR PALLONE: Right. Or unless the Federal government steps in.

DR. MYTELKA: I also say that I personally think it can happen by 1991. And if you make it 1991, and it'll happen

in 1991 and a half, the world wouldn't come to an end. But we've had deadlines in the past. In 1976, the study that we did was predicated on it coming out by 1981, and 1981 came and went. Unless there are sufficient teeth put into this so that the POTWS -- which really bear the brunt of all of this. I mean, they are the ones in the middle. The pressure is put on them, and they in turn have to put the pressure on the local industries.

SENATOR PALLONE: Right.

DR. MYTELKA: So they're the one caught in the nutcracker. They're the ones caught in the middle. The pressure has to be put enough on the POTWs so that one, they can say to the industries, "Look, we're not the bad guys, it's the law," or, "It's the Legislature." They could say to someone, "We're not the bad guys," because they have to live with these industries on a day after day basis. And furthermore, it has to be done in such a way, explicit enough so that the POTWs can make it plain to the industries that they have to comply or else. The POTWs are going to be in no position to grant them an extension, and that if they have to turn the valve off so that there can't be discharge leading to the POTW from that industry, that is a recognizable and real possibility. And if that is understood by an industry, then they'll do it. Wonders never cease to come about when people realize they have to do it. Otherwise you can give 25 reasons why it can't be done.

SENATOR PALLONE: Sure.

DR. MYTELKA: Very simply, pretreatment is necessary to keep toxics out of the sewers. Once in the sewers three things can happen, all of them bad. Obviously, once in the sewers toxics move through the treatment plant and end up as contaminated sludge, and also in the effluent. Also, they can interfere with the operation of treatment plants. And finally, in communities with combined sewer overflows -- and in our

district most of them are -- the toxics will pour directly into the receiving waters every time it rains. We made these points ten years ago, and it's just as true today. Pretreatment is necessary, vital -- you can use any terms you like -- certainly urgent.

What's more, there should be no advantage to dischargers who go through the municipal systems. Effluent levels for toxic waste required for pretreatment should be just as stringent as though they were direct dischargers.

The Commission's position, as far as industry standards are concerned, is that direct discharge into sewers is tantamount to discharge into the waterways themselves. That's certainly true where you have combined sewers, absolutely true there. Direct discharge into the sewers without pretreatment should not be.

If an industry cannot prevent toxic discharge, its products should not be manufactured. I know that's a tough thing to say, but ultimately that's what it comes down to.

SENATOR PALLONE: Sure.

DR. MYTELKA: This may also mean the government will have to examine some products used in the home market and ban those which are toxic. I can think of no product producing untreated toxic waste that is so vital to our health, welfare, and happiness that its wastes should be allowed to be discharged.

To my mind, pretreatment must become standard operating procedure. Once this is brought about and sewage sludges are nontoxic, then safe sludge disposal becomes possible and viable. Today I don't know, except that for a few of the plants that are meeting some of these requirements, that any of the sludge disposal that we have is really safe. It's just dumped.

Combustion is one alternative. Incineration in one form or another could be put into operation, as incinerators would no longer be exuding toxics.

Composting and disposal on land is another consideration; one that can benefit the soil and represent true resource recovery. Again, it all depends on pretreatment to produce sludge that is nontoxic. As recent events have so dramatically demonstrated, ocean dumping simply is not practical. The possibilities of short dumping and the opportunities for sneaking toxics into sludge barges are just too great. I say that with a great degree of sadness, quite frankly. Ten or twelve year ago I and our Commission looked at continued ocean disposal for at least some of the nontoxic sludges as a possibility, and as viable. I just don't think it's a good one today any more, quite frankly. All of us collectively have not done what we should have been doing for the last ten or twelve years, and the public is so fed up with what's happening in the ocean that from a practical consideration I just don't see it being viable--

SENATOR PALLONE: I think you're right.

DR. MYTELKA: --although one could make a technical case for it.

SENATOR PALLONE: No, I think that's the lesson for the summer. I mean, we've heard a lot of testimony today, some of the authorities basically saying they should be allowed to continue to dump. But that leaves aside the realities of the summer, which are all this illegal dumping taking place.

DR. MYTELKA: I think in all candor, the authorities say this and they mean it, and that they wish they could be allowed to go in the ocean. That's why they go in the ocean, because it's the cheapest means. And nobody wants to spend money for nothing. I just don't see it as being viable, as I said. And I say that with great sadness. I really do. From a purely technical point of view -- except for the possibility of disinfection of sludges themselves, or what the non disinfection of sludges means in terms of some of the health in the ocean, which is something that was not considered

particularly ten years ago-- Aside from that, once the sludges are cleaned up, and maybe from a technical point of view perfectly viable, yet I just don't see it in the wind.

Ten years ago, alternatives and answers to sludge quality and sludge disposal options were clearly needed. Today, alternatives, answers, and disposal options are a pressing matter.

And then I just go on-- And quite frankly, any questions you have is really what it amounts to.

SENATOR PALLONE: No, I appreciate your coming. As far as the ISC is concerned, you don't actually set any pretreatment standards per se, or could you?

DR. MYTELKA: We do not, and we can not. What we have not done to date, and what we are getting into now, is the setting of toxic limits on effluents from treatment facilities.

SENATOR PALLONE: You are doing that?

DR. MYTELKA: Well, we are doing it I'll have to say very slowly. Quite frankly, the environmental departments of our three states would like us to do everything but that. Their position is leave it to them.

SENATOR PALLONE: But legally it's possible for the ISC?

DR. MYTELKA: Legally it is possible, and in fact we are working on it. I don't want you to believe that we've just left it. What we have been doing is working with the environmental departments of our three states trying to get them -- at least in the Interstate Sanitation District -- to come up with a series of regulations that not only are cohesive and coherent among all three of them, and similar -- I don't say exact, but similar -- but also do the job. And I would hope that in working with them -- and I said this at Commission meetings in public so there's nothing new said here today -- that we at the Commission then will adopt with them these regulations, these effluent regulations for toxics.

The alternative, if each of them goes off in their own direction -- as they seem to be doing now somewhat, and we don't have cohesiveness in our district -- then we in the Commission will be forced to do it, and once we do it it will be mandated in our district, regardless of political jurisdiction. I prefer to do the better way, working closely with the environmental departments, and we're doing it that way. We're starting to make some headway. Otherwise, we'll just have to go it alone with all the divisiveness that we know that will entail. But nonetheless we're prepared to do it that way. And I've mentioned this at Commission meetings, and the Commissioners of our Commission -- the Interstate Sanitation Commission -- understand it, and they've urged me to try to work as closely as possible with the environmental departments and do it that way, and of course we are.

SENATOR PALLONE: Okay. Thank you very much.

DR. MYTELKA: You're certainly welcome.

SENATOR PALLONE: I appreciate it.

DR. MYTELKA: Thank you very much, Mr. Chairman.

SENATOR PALLONE: Are you going to be at our next hearing, the one on the 29th?

DR. MYTELKA: I've been invited by you, and I spoke to my office this morning. I understand that I've been invited also by your New York counterparts. I had meant to be there. Their invitation is somewhat different then yours, so what I'm going to do is put everything together and will testify on a cohesive basis.

SENATOR PALLONE: Okay. All right. Thanks a lot. This is I think our shortest hearing so far. I imagine New York wants him to talk about perhaps some of the air pollution problems?

DR. MYTELKA: No, not really: Our relationships with agencies and what our role should be -- a continuation of a year ago, April. I hope in this forum we'll have a chance to say what we want to say, rather than being cut off as were before.

SENATOR PALLONE: Okay.

MR. D'ASCENSIO: (from audience) Senator? Excuse me?

SENATOR PALLONE: Yes?

MR. D'ASCENSIO: May I just add one comment that was not addressed?

SENATOR PALLONE: Yes, but then come up to the microphone.

MR. D'ASCENSIO: I apologize, but I neglected to mention that--

SENATOR PALLONE: Why don't you indicate your name again for the record?

MR. D'ASCENSIO: Yes. Frank D'Ascensio, Passaic Valley Sewerage Commissioners. You kept asking me about the pretreatment program, what could you as a Legislature do to help us clean up the sludge.

SENATOR PALLONE: Right.

MR. D'ASCENSIO: One area that's covered briefly in my testimony concerns the conflicts in companies attempting to implement recovery procedures. In the RCRA law -- which unfortunately is a Federal law -- there are definitions about what is waste and what is hazardous waste. And there was a program that was in place for four years that was coordinated between Passaic Valley, the Port Authority of New York and New Jersey, New York DEP, New Jersey DEP, in order to put in place a central facility to recover the heavy metals from over a hundred electroplaters and metal finishers in the New York-New Jersey area. The purpose of this project, with the coordination of these other groups, was to keep from generating hazardous waste as a result of the implementation of the pretreatment requirements, which at that time would generate hazardous sludge as they pretreat. The technology was in place. There was a professor from Princeton University -- Dr. Schlossel (phonetic spelling) -- who started us off maybe five or six years before.

Unfortunately we got down to the eleventh hour, with all the corporations, and trying to work this out and delays associated with this, resulted in U.S. EPA taking legal action against the Board of Directors first, of the corporation that was established to do this. The end result was that most of the companies who were involved in this project just bailed out and put in destruct systems. We had about 53 or 54 companies in our district that missed the deadline because of the delays in getting the waste designated, not a hazardous waste but an industrial waste, so that it could be treated differently in the sense of the handling -- because of the bureaucracy in applying for a permit under RCRA, as opposed to applying for a permit under an industrial waste management facility requirement. All these delays by the bureaucracy caused these companies to miss the deadlines. And finally they were sued because the claim was made that they were not taking efficient action, or action fast enough. But this type of regulation -- or the implementation of this -- really went against the intent of RCRA, which is to recover the hazardous waste, not make a hazardous waste.

So as I say, if we had a limit that we could shoot for, or if somebody were to tell us, "This is the limit you have to meet in your pretreatment program," I don't think any of the pretreatment plants have any problem in enforcing it -- maybe some better than others, but at least establishing a program to do that, and giving the companies the time to design a facility. But when you have a program that's supposed to be allowing for recovery and promoting it, and yet there's another facet of the regulations which contain such a bureaucracy that inhibits that, that's going to make your job that much more difficult, which will make our job that much more difficult.

So if somehow we could coordinate with the Federal people to look at how we can promote recovery-- Let's not just say take it out and pretreat, let's stop this stop from getting

into the environment either or by our sludge, or by the sludge from any one of a number of industries that have to pretreat. The technology is there is a lot of areas, but it's not being promoted. That's probably the one biggest area that needs to be addressed: to bring RCRA requirements into the pretreatment requirements so that they don't conflict, but that they complement each other.

SENATOR PALLONE: All right. We'll look into that.

MR. D'ASCENSIO: Thank you.

SENATOR PALLONE: Thank you. All right. Does anyone else have any comments? (no response)

I want to thank you all for coming today. Again, I hope that you realize that not only the issue of pretreatment, but all of the issues that the Committee has been focusing on, I think within the next couple of months we're going to see some direct legislative on, and we already are seeing some of it with bills moving in the Legislature. And I'm hopeful that because of the incidents that occurred this summer, even though they may not be in some instances directly related to what we're talking about today, that public concern is going to spur on some legislative activity to deal with the ocean dumping problem.

We do have that next hearing that is going to be held on the 29th with the New York Committee as well as this Committee, to deal primarily with the problems that came up this summer; in terms of trying to set up a monitoring system, enforcement surveillance for illegal dumping of garbage at sea, as well as to deal with the manifest system for hospital waste, and to just basically see what can be done with regard to the problems that we've had with garbage disposal at sea.

We also have another public hearing planned in October, that is going to be dealing with the issue of incineration of toxic wastes at sea -- which as you know is another controversial issue, which has been postponed by the

Federal government, but is not going to go away most likely. So we're continuing on.

I just want to thank you all for coming again. I thank the reporter for taking this all down. Probably happy that this only went until 2 o'clock. We had one Committee meeting that went until 8:30 at night, and started at 10 in the morning. With that, we'll close.

(HEARING CONCLUDED)

APPENDIX

TESTIMONY BEFORE THE SENATE SPECIAL COMMITTEE TO STUDY COASTAL AND OCEAN POLLUTION

TUESDAY, SEPTEMBER 15, 1987

STATE HOUSE ANNEX

TRENTON, NEW JERSEY

PRESENTED BY

ARNOLD SCHIFFMAN, ADMINISTRATOR

WATER QUALITY MANAGEMENT ELEMENT

DIVISION OF WATER RESOURCES

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

GOOD MORNING. THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION IS PLEASED FOR THE OPPORTUNITY TO PRESENT OUR VIEWS BEFORE THE SENATE SPECIAL COMMITTEE TO STUDY COASTAL AND OCEAN POLLUTION ON THE SUBJECT OF INDUSTRIAL PRETREATMENT.

BENEATH THE STREETS OF EVERY CITY AND MANY TOWNS THROUGHOUT NEW JERSEY LIES A COMPLEX SYSTEM OF SEWERS WHICH CONVEY A MIXTURE OF DOMESTIC, COMMERCIAL, AND INDUSTRIAL WASTEWATER TO PUBLICLY OWNED FACILITIES FOR TREATMENT AND DISPOSAL. THE RESIDUES OF THE TREATMENT PROCESS (SLUDGES) ARE USED OR DISPOSED OF BY A VARIETY OF OPTIONS INCLUDING COMPOSTING, LAND APPLICATION, INCINERATION, AND OCEAN DISPOSAL.

INDUSTRIAL PLANTS ARE ONLY ONE OF MANY SOURCES OF WASTEWATER DISCHARGED INTO MUNICIPAL SEWERS. HOWEVER, THE WASTEWATER DISCHARGED BY INDUSTRY IS OFTEN CONTAMINATED BY A VARIETY OF TOXIC OR OTHERWISE HARMFUL SUBSTANCES THAT ARE NOT COMPATIBLE WITH THE TYPICAL MUNICIPAL TREATMENT PROCESSES. SEVERAL SERIOUS PROBLEMS CAN OCCUR WHEN INCOMPATIBLE INDUSTRIAL WASTEWATERS ARE DISCHARGED INTO SEWAGE SYSTEMS:

* TOXIC INDUSTRIAL POLLUTANTS MAY PASS THROUGH THE TREATMENT PLANT, POLLUTING A RECEIVING WATER BODY AND POSING A THREAT TO AQUATIC LIFE, AND, THROUGH THE FOOD CHAIN, TO HUMAN HEALTH.

* TOXIC INDUSTRIAL WASTES MAY INTERFERE WITH THE OPERATION OF THE TREATMENT PLANT, RENDERING THE TREATMENT OF OTHER WASTES LESS

* INDUSTRIAL WASTES CONTAINING HIGH LEVELS OF TOXIC METAL OR ORGANIC COMPOUNDS CAN CONTAMINATE SLUDGE, MAKING DISPOSAL OPTIONS MORE EXPENSIVE AND MORE LIMITED.

THESE UNDESIRABLE EFFECTS RESULTING FROM THE DISCHARGE OF INCOMPATIBLE INDUSTRIAL WASTEWATER INTO MUNICIPAL SEWERS CAN BE PREVENTED. INDUSTRIAL PLANTS, USING PROVEN POLLUTION CONTROL TECHNOLOGIES, CAN REMOVE POLLUTANTS FROM THEIR WASTEWATERS BEFORE DISCHARGING THEM INTO THE MUNICIPAL SEWAGE TREATMENT SYSTEM. THIS PRACTICE IS KNOW AS "PRETREATMENT".

INDUSTRY IS ALREADY PRETREATING ITS WASTEWATER IN MANY COMMUNITIES ACROSS THE STATE. THE PRETREATMENT PROGRAM IS A COOPERATIVE EFFORT OF FEDERAL, STATE, AND LOCAL OFFICIALS TO REDUCE THE LEVELS OF POLLUTANTS DISCHARGED BY INDUSTRY INTO MUNICIPAL SEWAGE SYSTEMS.

RESTRICTIONS ON THE POLLUTANT CONTENT OF WASTEWATERS DISCHARGED BY INDUSTRY INTO MUNICIPAL SEWAGE SYSTEMS HAVE EXISTED IN SOME LOCALITIES FOR MANY YEARS. SUCH REGULATIONS ARE THE PREDECESSORS OF THE MODERN PRETREATMENT PROGRAMS WHICH NOW INCLUDE BOTH NATIONAL STANDARDS AND LOCAL PROGRAMS TO CONTROL INDUSTRIAL POLLUTANTS.

THE STATE OF NEW JERSEY WAS DELEGATED AUTHORITY FOR IMPLEMENTATION OF THE NATIONAL PRETREATMENT PROGRAM FROM EPA IN 1981 UNDER THE N.J. WATER POLLUTION CONTROL ACT. SINCE THAT TIME, THE DEPARTMENT HAS APPROVED THE PRETREATMENT PROGRAMS OF 22

POTWs WHO ENCOMPASS MOST OF THE HEAVILY INDUSTRIALIZED SECTORS OF THE STATE. WE ESTIMATE THAT 80 TO 90 PERCENT OF THE INDUSTRIAL INDIRECT DISCHARGERS ARE LOCATED WITHIN THESE 22 POTW SERVICE DISTRICTS. THE PRETREATMENT PROGRAM REQUIREMENTS IN THE REMAINING AREAS OF THE STATE ARE ADMINISTERED BY THE DEPARTMENT.

THE DEPARTMENT PROVIDES OVERSIGHT OF THE 22 POTWs WITH LOCAL PRETREATMENT PROGRAMS. OUR OVERSIGHT PROGRAM, CONSISTING OF ON-SITE AUDITS, ANNUAL REPORT REVIEWS, LOCAL LIMIT EVALUATION AND INDIVIDUALIZED TECHNICAL ASSISTANCE, IS DESIGNED TO ENSURE A UNIFORM DEGREE OF CONSISTENCY AND STRINGENCY ON A STATEWIDE BASIS.

POTWs HAVE TRADITIONALLY THOUGHT OF THEMSELVES AS SERVICE AGENCIES. MANY POTWs HAVE BEEN SLOW TO ADAPT TO THEIR GREATER REGULATORY RESPONSIBILITIES UNDER THE PRETREATMENT PROGRAM. RECOGNIZING THIS PROBLEM, IT HAS BEEN NECESSARY TO FOLLOW A LEARNING CURVE IN PROGRAM IMPLEMENTATION. INITIAL DEPARTMENT EFFORTS WERE DIRECTED AT PROPER IMPLEMENTATION OF PROGRAM BASICS SUCH AS CONTROL MECHANISMS (USUALLY PERMITS), PERFORMANCE OF REQUIRED SAMPLINGS AND INSPECTIONS, AND IMPROVEMENTS IN THE DOCUMENTATION OF OBSERVATIONS AND ACTIVITIES NECESSARY TO SUPPORT ENFORCEMENT ACTIONS. RECENT DEPARTMENT EFFORTS ARE DIRECTED AT INCREASING INDUSTRIAL COMPLIANCE THROUGH ENFORCEMENT ACTIVITIES.

IS THE PRETREATMENT PROGRAM WORKING? OF THE SIX POTWs DISPOSING OF THEIR SLUDGE BY OCEAN DUMPING, ONLY ONE RECEIVED A RATING OF "UNACCEPTABLE" ON THEIR MOST RECENT AUDIT OF THEIR PROGRAM IMPLEMENTATION. ALL SIX HAVE DEMONSTRATED REDUCTIONS IN MOST, OF

FROM 32 TO 91 PERCENT. THESE REDUCTIONS CAN BE ATTRIBUTED TO IMPLEMENTATION OF THE FEDERAL CATEGORICAL STANDARDS AS WELL TO LOCAL LIMITATIONS.

FEDERAL CATEGORICAL STANDARDS WERE INTENDED TO PROVIDE TECHNOLOGY BASED LIMITS FOR SPECIFIC INDUSTRIAL PROCESS WASTEWATERS NATIONWIDE. SEVERAL PROBLEMS HAVE BECOME APPARENT WITH THE IMPLEMENTATION OF THIS APPROACH: 1) THESE INDIVIDUAL STANDARDS ARE DEVELOPED AND ISSUED INDEPENDENTLY BY EPA AND DO NOT PROVIDE FOR EQUITABLE LEVELS OF TREATMENT FROM ONE INDUSTRY STANDARD TO THE NEXT; 2) MANY MANUFACTURING PROCESSES WHICH PRODUCE IDENTICAL WASTEWATERS TO OTHER REGULATED WASTESTREAMS WERE EXEMPTED FROM REGULATION; AND 3) THE LACK OF TIMELY ISSUANCE FOR SEVERAL CRITICAL STANDARDS (I.E., ORGANIC CHEMICALS AND PESTICIDES).

IT HAS BEEN LONG UNDERSTOOD THAT THE FEDERAL CATEGORICAL STANDARDS WOULD NOT SOLVE ALL OF THE PROBLEMS WITH INDUSTRIAL DISCHARGES TO POTWs. EPA's STATED POSITION HAS BEEN THAT THE DEVELOPMENT AND IMPLEMENTATION OF LOCAL STANDARDS IS EXPECTED TO SUPPLEMENT THE FEDERAL STANDARDS AND "FILL IN THE GAPS". THESE LOCAL LIMITS WOULD BE BASED UPON POTW PERMIT LIMIT ATTAINMENT, PLANT PROTECTION AND SLUDGE DISPOSAL/MANAGEMENT CRITERIA. BASED UPON AN EVALUATION OF THESE FACTORS, THE POTW WOULD (1) DETERMINE WHICH IS THE MOST LIMITING, ON A POLLUTANT BY POLLUTANT BASIS, (2) CALCULATE AN ALLOWABLE LOADING OF EACH POLLUTANT, AND (3) DEVELOP AN ALLOCATION SYSTEM TO SET ACTUAL LIMITATIONS. THIS PROCESS CAN ONLY BE EFFECTIVE WHEN THE INFORMATION IT'S BASED UPON IS COMPLETE. THIS IS NOT ALWAYS POSSIBLE.

POTW PERMITS GENERALLY DO NOT CONTAIN SPECIFIC TOXICS LIMITS. AT THE PRESENT TIME POTWs ARE REQUIRED TO TEST FOR ACUTE TOXICITY (BIOASSAY). ACUTE TOXICITY RELATES TO TOXIC EFFECTS THAT ARE APPARENT OVER A SHORT TIME PERIOD. ACUTE EFFECTS ARE MEASURED BY THE DEATH OF THE TEST ORGANISM. CHRONIC TOXICITY RELATES TO EFFECTS THAT ARE MORE SUBTLE, SUCH AS CHANGES IN GROWTH OR REPRODUCTIVE ABILITY. THE REGULATIONS GOVERNING THE REQUIRED PROTOCOLS FOR CHRONIC TESTING ARE CURRENTLY BEING DRAFTED.

IN SEPTEMBER 1985 A FINAL PERMIT MODIFICATION WAS ISSUED TO PERMITTEES WITH SIGNIFICANT INDUSTRIAL CONTRIBUTIONS REQUIRING ACUTE TOXICITY TESTING OF THE EFFLUENT. SIMILAR REQUIREMENTS ARE INCLUDED IN ALL OTHER PERMITS AS THE PERMITS ARE RENEWED. CHRONIC TOXICITY TESTING WILL BE PHASED IN AFTER THE PROTOCOL REGULATIONS ARE ADOPTED. ALL OF THOSE FACILITIES WHICH USE OCEAN DISPOSAL AS A SLUDGE DISPOSAL MECHANISM ARE REQUIRED TO PERFORM THE ACUTE ANALYSES.

WHEN A FACILITY IS IDENTIFIED AS A RESULT OF THE TOXICITY TESTING AS AN APPARENT TOXIC DISCHARGER, THE PERMITTEE IS REQUIRED TO DEVELOP AND IMPLEMENT A TOXICITY REDUCTION PLAN. THIS PLAN PROPOSES THE MECHANISM THAT WILL BE USED BY THAT PERMITTEE TO IDENTIFY THE POTENTIAL SOURCES OF TOXICITY AND TO REDUCE THE TOXICITY IN THE EFFLUENT.

THE MOST DIFFICULT STEP IS TO IDENTIFY THE TOXIC COMPONENTS OF THE EFFLUENT. THIS CAN BE DONE IN A NUMBER OF WAYS, INCLUDING

IDENTIFICATION OF TOXIC AREAS OF THE SERVICE DISTRICT, OR IDENTIFICATION OF THE SPECIFIC CHEMICAL TOXIC FRACTIONS OF THE EFFLUENT. DUE TO THE COMPLEXITY OF MOST COLLECTION AND TREATMENT SYSTEMS, AS WELL AS THE COMPLEX MATRIX OF THE WASTESTREAM, THIS PROCEDURE MAY REQUIRE SEVERAL YEARS TO COMPLETE.

MOST PERMITTEES WILL WORK THROUGH THEIR PRETREATMENT PROGRAM AND REGULATIONS REQUIRING TOXICS TO BE REDUCED BEFORE THE WASTE IS DISCHARGED TO THE COLLECTION SYSTEM. HOWEVER, FOR SOME TYPES OF TOXICS, IT MAY BE COST EFFECTIVE TO MODIFY THE TREATMENT TRAIN AT THE POTW TO REMOVE THESE TOXICS PRIOR TO DISCHARGE.

LOCAL LIMITS CAN BE AND ARE DEVELOPED BASED UPON THE QUALITY OF SLUDGE REQUIRED FOR A POTWs SLUDGE DISPOSAL/MANAGEMENT METHOD. EPA STUDIES HAVE SHOWN THAT DIFFERENT DISPOSAL METHODS HAVE DIFFERENT POLLUTANTS OF CONCERN WITH REGARDS TO HUMAN HEALTH OR THE ENVIRONMENT. THE FINAL CONCLUSIONS OF THE EPA STUDIES ARE NOT YET AVAILABLE, HOWEVER, WHEN THEY ARE AVAILABLE, THE POLLUTANT CONCENTRATION LIMITS FOR ALL RELEVANT POLLUTANTS OF CONCERN WILL BE INCORPORATED INTO THE POTW PERMITS. LOCAL LIMITS AT THE POTWs WOULD THEN REQUIRE REEVALUATION TO DETERMINE THEIR ADEQUACY IN ENSURING NECESSARY SLUDGE QUALITY.

TO ASSESS THE IMPACT OF THE OCEAN DUMPERS' SLUDGE QUALITY ON THEIR POTENTIAL ABILITY TO MOVE TO LAND BASED SLUDGE MANAGEMENT ALTERNATIVES IS A COMPLEX ISSUE. THOROUGH EVALUATION OF THE SUITABILITY OF THE OCEAN DUMPERS' SLUDGE FOR LAND APPLICATION IS REQUIRED. SUCH AN EVALUATION INCLUDES A STUDY OF THEIR INDUSTRIAL DISCHARGERS TO DETERMINE IF POLLUTANTS OTHER THAN

THOSE ROUTINELY TESTED PURSUANT TO OUR SLUDGE QUALITY ASSURANCE REPORTING REGULATIONS (SQAR) ARE DISCHARGED INTO THE SYSTEM. BASED UPON AN INDUSTRIAL EVALUATION ADDITIONAL ANALYSES ARE GENERALLY REQUIRED PRIOR TO MAKING A DETERMINATION ON THE SUITABILITY OF A SLUDGE FOR LAND APPLICATION. HOWEVER, CONSIDERING ONLY THE ROUTINELY REPORTED PARAMETERS, ANALYSIS OF THE POLLUTANTS IN THE OCEAN DUMPERS SLUDGE WAS PERFORMED FOR ALL DATA REPORTED SINCE SEPTEMBER, 1985. THE ANALYSIS SHOWS THAT THE OCEAN DUMPERS ACHIEVE LAND APPLICATION LIMITS FOR MOST PARAMETERS. HOWEVER, ADDITIONAL PARAMETERS NEED TO BE EVALUATED. NEEDLESS TO SAY, THE INDUSTRIAL EVALUATION WILL BE A MAJOR UNDERTAKING FOR THESE LARGE SYSTEMS.

THE ANALYSIS OF THE SUITABILITY OF THE OCEAN DUMPERS' SLUDGE FOR INCINERATION IS MORE COMPLEX. INCINERATION IS GENERALLY BELIEVED TO BE THE MOST VIABLE SOLUTION FOR THESE LARGE QUANTITIES OF SLUDGE (PRESENTLY 53% OF THE NEW JERSEY'S TOTAL SLUDGE PRODUCTION). HOWEVER, THE INCINERATION ALTERNATIVE WAS EVALUATED BY THE OCEAN DUMPERS AND BY EPA IN THE MID 1970'S DURING THE 201 FACILITIES PLANNING PROCESS. KEEPING IN MIND THAT THE AIR EMISSION EQUIPMENT EVALUATED WAS INFERIOR TO THE CURRENT CONTROL TECHNOLOGIES, EPA PERFORMED A RISK ANALYSIS ON THE COMBINED EMISSIONS FOR ALL THE OCEAN DUMPERS PROPOSED INCINERATORS. THE STUDY CONCLUDED THAT UNACCEPTABLE HEALTH RISKS WOULD BE IMPOSED ON THE EXPOSED POPULATION.

THE REASON FOR THESE HEALTH IMPACTS WAS FOUR FOLD: 1) THE NORTHEASTERN PORTION OF THE STATE IS A NONATTAINMENT AREA FOR

INCINERATORS MUST BE CLEANER THAN THE AMBIENT AIR QUALITY. 2) THE NUMBERS OF PEOPLE EXPOSED TO THE EMISSIONS FROM THESE PROPOSED INCINERATORS WOULD BE GREATER THAN ELSEWHERE IN THE STATE; IN A RURAL AREA THE RISKS WOULD BE FAR LOWER. 3) THE SLUDGES ANALYZED AT THAT TIME CONTAINED ELEVATED CONCENTRATIONS OF MERCURY WHICH CANNOT BE CONTROLLED BY AIR EMISSION CONTROL DEVICE AND 4) A ROUTINE EMISSION CONTROL DEVICE WAS HYPOTHESIZED FOR STUDY PURPOSES. THE ISSUES IDENTIFIED BY THE STUDY ARE STILL VALID TODAY. THE NORTHEASTERN PORTION OF THE STATE IS STILL A NONATTAINMENT AREA; THE POPULATION (NUMBER OF EXPOSED INDIVIDUALS) HAS INCREASED SINCE THE STUDY; THE PRESSURE FOR IMPROVED EFFLUENT QUALITY HAS RESULTED IN LARGER QUANTITIES OF SLUDGE; AND ACCEPTABLE EMISSION CONTROL CAN ONLY BE APPROACHED THROUGH THE IMPOSITION OF COSTLY STATE OF THE ART EQUIPMENT.

THE MAJOR IMPEDIMENT TO IMPLEMENTING LAND BASED ALTERNATIVES IS SITING. POPULATION INCREASES AND INCREASES IN THE LEVEL OF SEWAGE TREATMENT ARE RESULTING IN DRAMATIC INCREASES IN THE QUANTITY OF SLUDGE NEW JERSEY GENERATES. WE PROJECT THAT THE VOLUME OF SLUDGE GENERATED WILL INCREASE BY 60 TO 70 PERCENT BY 1990.

REGARDLESS OF WHETHER LOCAL PRETREATMENT STANDARDS ARE DEVELOPED AS A RESULT OF TOXICITY REDUCTION, SLUDGE MANAGEMENT OR ANY OTHER DRIVING MECHANISM, THE PRETREATMENT PROGRAM CAN EVENTUALLY ENSURE INDUSTRIAL COMPLIANCE. HOWEVER, INCREASED REMOVALS OF TOXIC POLLUTANTS BY INDUSTRY PRIOR TO DISCHARGE TO POTWs WILL RESULT IN MORE HAZARDOUS WASTE RESIDUALS BEING GENERATED BY THE PRETREATMENT SYSTEMS. THIS ADDITIONAL HAZARDOUS WASTE WILL PLACE

ADDITIONAL BURDENS ON AN ALREADY STRAINED HAZARDOUS WASTE DISPOSAL SYSTEM.

AS CAN BE SEEN, THE PROBLEM MAY NOT BE RESOLVED BY INCREASED PRETREATMENT, ONLY MOVED AROUND. WHAT IS NEEDED IS TO REDUCE THE AMOUNTS OF WASTE GENERATED IN THE FIRST PLACE. A NUMBER OF THE NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM (NJPDES) PERMITS FOR BOTH INDUSTRIAL DIRECT AND INDIRECT DISCHARGERS CONTAIN REQUIREMENTS TO ELIMINATE OR REDUCE WASTES. THE WASTE MINIMIZATION/REDUCTION PROVISIONS REQUIRE THE PERMITTED INDUSTRY TO STUDY AND EVALUATE THEIR ENTIRE PRODUCTION AND TREATMENT PROCESS TO IDENTIFY WAYS TO REDUCE WASTES GENERATED. THE PROVISION ALSO REQUIRES THE PERMITTEE TO IMPLEMENT ALL RECOMMENDATIONS OF THE STUDY. WITH THE INCREASING COSTS OF WASTE DISPOSAL, WASTE MINIMIZATION/REDUCTION PRACTICES MAKE GOOD ECONOMIC SENSE.

A PRETREATMENT PROGRAM IS A TOOL TO CONTROL THE INFLUENT TO A POTW. ONCE THE REQUIRED LIMITS ARE DETERMINED THE PRETREATMENT MECHANISM CAN MAKE THE NECESSARY ADJUSTMENTS. THE LONG TERM ENVIRONMENTAL GAINS WILL BE REALIZED THROUGH A COMBINATION OF PRETREATMENT AND THE IMPLEMENTATION OF WASTE MINIMIZATION/REDUCTION PRACTICES BY INDUSTRY. A CLEANER POTW INFLUENT TRANSLATES INTO A CLEANER POTW EFFLUENT AND SLUDGE, OPENING UP A WIDER RANGE OF SLUDGE DISPOSAL OPTIONS.

Statement By

Passaic Valley Sewerage Commissioners

Before the

Senate Special Committee

To Study

Coastal and Ocean Pollution

Public Hearing September 15, 1987

Presented by

Frank P. D'Ascensio

Manager of Industrial and Pollution Control

Senator Pallone, members of the Senate Special Committee, my name is Frank D'Ascensio. I am here on behalf of the Passaic Valley Sewerage Commissioners, the fourth largest treatment plant in the nation, and wish to thank you for the invitation to address this Special Committee. I am the Manager of Industrial and Pollution Control at PVSC. This Department has been responsible for the state approved Pretreatment Program since July, 1983. The PVSC sewer district presently includes 31 municipalities in four counties. Bayonne and Jersey City will be connecting to our system soon, which will bring the total to 33. We have issued nearly 400 permits to many different types of industrial users and our staff of trained professionals has had many years experience in developing, implementing and administering a pretreatment program.

Our purpose today will be to focus on hazardous waste minimization, development of stricter pretreatment standards, on the relationship between sludge quality and sludge disposal options as well as the concern that ocean disposal allows for poor sludge quality which affects land disposal options. We could easily spend an entire day reviewing just a portion of any one of these items, so I believe that additional hearings such as this one may be needed during the decision making process, as various solutions to these problems are developed. In order to limit the length of my presentation, I have attempted to generalize as much as possible. However, I would be happy to be specific if there is a particular question that needs to be addressed.

If one reads some of the news releases one could draw the conclusion that the large treatment plants in New Jersey have done little to improve the quality of the environment. Let me assure you Gentlemen that this is far from accurate, at least as far as the PVSC is concerned. For example, since 1980 we have reduced the total quantity of heavy metals entering the treatment plant by 65.7%. Mercury, the most toxic one, has been reduced by 91%. While this is significant and may impress some people, we are not satisfied and expect additional reductions as three companies fine tune their pretreatment facilities. Since the federal standards are based on technology, we also anticipate the need for PVSC to establish local limits to cause further reductions in these metals. Turning to the toxic organics, it is safe to say that EPA has not done enough to regulate these types of discharges. In all honesty, the complexity in effectively regulating these pollutants no doubt has contributed to the delay. However, despite this, in 1984, PVSC adopted a numerical local limit to control the discharge of flammables, a regulation which has become very effective and one which we believe was the first of its kind in the nation. In January, 1986, a consultant completed a 14 month study of the PVSC influent in which 15 samples each month were analyzed for 95 organic pollutants. Three additional locations within the interceptor system were also sampled extensively. Copies of that report were supplied to NJDEP, EPA consultants and the Office of Technology Assessment.

Again, the results of this study were more extensive than any we have found to date, and confirmed the extreme variability of the pollutants in the influent to our treatment plant. Some of the data was contrary to certain assumptions previously made by EPA and we believe more experimental work is needed. However, the high cost has become a factor. Finally, before we can adopt a local limit to control the volatile organics, PVSC needs to identify the sources. We found little guidance from other agencies and decided not to wait until a regulation was promulgated. To accomplish this, we have just purchased a computer operated portable gas chromatograph. In this way, we can develop the necessary data and be ready to react to a future need in an orderly fashion.

It is our opinion that, while programs such as I have just outlined can be effective in reducing levels of various toxic and hazardous chemicals, they will not provide the degree of environmental safety needed.

Turning to the focus of this hearing we can state the following. The most direct way to minimize the generation of hazardous waste is by substituting a chemical that does not generate the hazardous waste. Several companies have done this successfully but it is limited by the chemistry of the process. However, chemical companies can still do more to minimize the generation of hazardous waste by adjusting their processes to reduce or eliminate excess raw material usage. For instance, it is not uncommon for the chemical process to call for an excess of the least costly chemical. In this way, the company can be certain that all of the more expensive chemicals will enter into the reaction. This excess chemical then becomes waste. If it is toxic or hazardous, it becomes a toxic or hazardous waste. The solution would be to minimize this excess usage.

Another effective way to minimize hazardous waste is by recovery. In particular, many types of toxic heavy metals can be separated on site and recovered for reuse. The process would keep them from becoming a waste and entering the environment. Certain organics, particularly the volatiles, can be recovered for reuse. Unfortunately, the various regulations make disposal a more attractive alternative than recovery. The second R in RCRA stands for Recovery and EPA has not done enough to encourage it. The regulations need to be modified so that recovery is promoted and a positive incentive provided to insure that it is done on a consistent basis.

Stricter pretreatment standards can be a very effective means to improve the quality of the discharges from various manufacturing facilities. We all know that this will have a direct impact on the quality of the sludge produced at the treatment plant. I agree with Senator Connors that if the sludge is too contaminated for disposal at the 12 mile site, it is too contaminated for disposal at the 106 mile site. It is also too contaminated for disposal on land and probably too contaminated for incineration. However, we believe the converse is also true. If the quality of the sludge is improved such that it can be disposed of on land, then it can be disposed of at sea.

However, there is a sad corollary to a more effective pretreatment program. Every pound of a metallic pollutant removed by pretreatment and not recovered could become a pound of a toxic or hazardous waste. Therefore, we at PVSC could do an exceptional job in getting users to pretreat but by so doing, we could increase the quantity of hazardous waste in almost direct proportion. What we would essentially be doing Gentlemen, is taking the heavy metals out of our sludge and putting it in the sludge from many industrial pretreatment plants. And what are the recommended options for disposal of hazardous waste? Incineration, land disposal? We submit that the two issues are inexorably connected.

There was a time when land disposal was considered state of the art for disposal. There was a time when incineration was considered state of the art for disposal. A report prepared by the Radian Corporation and submitted to EPA just 3 months ago questions the use of incineration technology for municipal solid waste, not even hazardous waste. If EPA will be reexamining incineration technology for municipal garbage, should we not be reexaming incineration technology for hazardous waste?

We believe that the proper disposal of hazardous waste generated by pretreatment, hazardous waste minimization, substitution or recovery are all techniques that must be implemented as part and parcel of any program to improve sludge quality at publicly owned treatment plants. And Gentlemen, it is not because of any reluctance on our part to "lower the boom" so to speak on industries, but a genuine concern for the environment as a whole. I fear that if we focus just on sludge quality as it pertains to ocean disposal, eventually this or some other committee will be holding hearings on the hazardous waste crisis, or air pollution crisis or a groundwater contamination crisis or worse, a widespread health crisis.

Finally, the elected government officals should recognize the fact that in a state as densely populated as New Jersey legislation along these lines may not be enough. Certain chemicals or products may have to be outlawed. In other words, just like DDT and PCB, we may have to face the reality that some consumer goods may have to disappear from the state because there is no environmentally safe way to dispose of the chemicals, the goods themselves or the waste products of their manufacture.

Gentlemen, I recognize that my remarks today go somewhat beyond the focus of this hearing but we feel an obligation as environmentalists first and sewage treatment plant operators second to offer our concerns. We will do everything in our power to cooperate with this or any other Committee to improve the environment wherein we live.

I have one final anecdote to relate, and although it is a little oversimplified, I believe it ilustrates my point. Congress passed the Clean Air Act because the air was polluted. The air became cleaner but efforts to clean the air resulted in water pollution. So Congress passed the Federal Water Pollution Control Act. The water became cleaner but efforts to clean the water resulted in pollution caused by hazardous waste. So Congress passed the Resource Conservation and Recovery Act as well as Superfund. Hazardous waste was not dumped on land. It was incinerated, and where did the polltuants go? Back into the air.

Thank you.

NJPIRG
99 Bayard Street
New Brunswick, NJ
08901
(201) 247-4606

TESTIMONY BEFORE THE SENATE SPECIAL COMMITTEE TO STUDY COASTAL AND OCEAN POLLUTION BY JEANNIE JENKINS, STAFF BIOLOGIST SEPTEMBER 15, 1987

Good morning. My name is Jeannie Jenkins and I am a staff biologist with New Jersey Public Interest Research Group (NJPIRG). NJPIRG is a statewide nonprofit environmental and consumer research and advocacy group with 75,000 members.

INTRODUCTION

Since enactment of the Federal pretreatment standards, the New Jersey Department of Environmental Protection (DEP) has approved 25 pretreatment programs at 23 Publicly Owned Treatment Works (POTWs) in the state. All but one of these POTWs has fulfilled the minimum requirements of the program and has set up an in house permitting division with a pretreatment coordinator.

Pretreatment programs oversee a diverse mix of large and small companies with both conventional and highly toxic pollutant discharges. The individual POTWs are responsible for writing permit limits for the majority of companies discharging into their facilities but for industries with highly toxic discharges, known as categorical dischargers, the Federal Environmental Protection Agency has set uniform industry-specific discharge limits that must be applied.

RETREATMENT

New Jersey Public Interest Research Group (NJPIRG) has a number of concerns about pretreatment programs in general and the regulation of toxic categorical dischargers in particular. We have examined pretreatment program Annual Reports for all the designated POTWs in New Jersey and have examined individual files for industrial dischargers at the majority of these treatment facilities. The single largest problem we have noted is the inability of POTWs to enforce the permit limits set for industries discharging into treatment facilities. Local political pressure prevents effective enforcement in numerous cases. The majority of POTWs find it difficult to even fine industrial violators and we found very few instances where treatment facilities could effectively enforce permits.

CASE STUDIES

In the last year, NJPIRG has filed citizen suits against 7 industries discharging into New Jersey POTWs. The industrial violators were all regulated under the electroplating or metal finishing categories and were all being monitored by POTWs with approved pretreatment programs. The pollutants being illegally discharged, usually thousands of times above permitted limits, included cadmium, lead, zinc, copper, chromium and cyanide. These pollutants represent some of the most toxic and persistent chemicals found in our environment. In a number of cases, the POTW had tried to work with the company in violation but had not been able to bring the discharges under control. In at least one case, the chronic violations of the industrial discharger were so great that the POTW was in violation of its own permit. In another case, the violations continued even after NJPIRG filed a notice of intent to bring suit and the POTW did eventually disconnect the industrial hook-ups.

However, the POTW was not allowed to disconnect the sanitary sewer line so that the industrial facility could continue operation and no jobs would be lost. The company is now continuing to operate and to pour its repeatedly used waste water into unmarked barrels that are stored outside behind the building. In the above instances, POTW pretreatment staffs expressed frustration at their inability to adequately enforce pollutant discharge limits and welcomed citizen intervention.

PERMIT DEFICIENCIES

The violators acted on by NJPIRG represent only a small portion of the actual number of violators within the pretreatment programs. Noncategorical dischargers, regulated under state or local standards, frequently do not have limits on toxic pollutants in their permits, even when toxic pollutants are known to be discharged on a daily basis. A period of monitoring of toxic pollutants, sometimes for as long as five to ten years, is common in permits for both direct and indirect dischargers. Many small industrial dischargers, both categorical and noncategorical, do not even pretreat their wastes and argue that pretreatment would be prohibitively expensive. In other cases, pretreatment equipment is installed and works effectively for a period of time before lack of maintenance starts taking its toll. Much of the maintenance problem appears to be due to poorly trained operators. All of these problems point to a need for better enforcement, more effective communication of pretreatment options and more extensive training for industrial pretreatment personnel.

The federally derived categorical standards for electroplaters and metal finishers are concentration based limits. Limits for some other categorical dischargers, such as iron and steel manufacturers are based on the kilograms of product made. Production based permit limits can and are routinely challenged on the basis of alleged

naccurate industrial flow measurements. To further complicate this ituation, POTWs are frequently unable to install flow meters to ndependently measure flow and thus must depend on self-reported data rom the regulated company. In many instances, companies still easure flow by using a bucket and a stopwatch. Production based imits are difficult to determine and enforce and this appears to be eflected in the almost universal inattention received by all ategoricals other than electroplaters and metal finishers.

It does not make sense to establish limits for highly toxic ndustrial categories on the one hand and on the other hand ignore hese industries because of tedious equations using disputable data. mproved enforcement of all the categorical standards now in place is eeded.

'ATE OF TOXICS

Another serious concern of NJPIRG is the fate of heavy metals ntering POTWs as a result of inadequate pretreatment. The DEP and PA estimate that somewhere between 60% and 75% of the heavy metals ntering sewage treatment facilities are removed by primary and econdary treatment. These metals end up as contaminants of the olid residue or sludge. In New Jersey, sludge is disposed of in everal ways. Six of the POTWs with pretreatment programs dispose of heir sludge by dumping it into the ocean, 10 of the POTWs incinerate heir contaminated sludge and then dispose of it on site or in New Jersey landfills and the remaining facilities dispose of sludge by auling the material to New Jersey or Pennsylvania landfills. In one ase a portion of the sludge that is rated as Class A sludge is being applied to agricultural fields in a controlled study.

Sludge dumped into the ocean can be of a lesser quality than that disposed of in landfills. In fact, there are very few regulations concerning ocean dumping. Therefore POTWs dumping their sludge in the ocean have little incentive to improve their pretreatment programs. Land application of contaminated ash and sludge is more tightly regulated but presents poorly understood but probable future pollution problems in the form of accumulated metals and organics and groundwater contamination.

The 60-75% removal of metals from waste water cited by EPA and DEP sources is only a rough estimate of the actual amount of metals removed during waste water treatment. At present the DEP does not perform mass balance analyses to determine the actual amounts of pollutants entering the water, air and sludge for facilities with pretreatment programs. These analyses are critical to an understanding of the fates of toxics in our environment. In fact, as of May of this year, the majority of POTWs with pretreatment programs were not submitting information on toxics in their own discharges. This means that the heavy metals and organics passing through the POTW and into New Jersey waterways are, with few exceptions, not even being monitored. This is largely due to the lack of limits on toxic pollutants in the POTWs' NJPDES permits.

Once toxic metals and organics enter our waterways, they can have several fates. The 25-40% pass through rate of metals represents a serious source of contamination for local waterways. At present we have little idea of the percentage of metals remaining in the water column relative to the percentage settling out into the sediments. Metals are a persistent, long term source of pollution that can be released from sediments for many years past the time of the original discharge. Invertebrates and bottom feeding fish will take up these metals which will eventually find their way up the food chain to humans. Many metals and organic chemicals bioaccumulate in fatty tissues and in high levels can result in neurological and developmental abnormalities, cancer, organ failure and death.

XISTING TECHNOLOGY

The issue of pretreatment is urgent and proven pretreatment echniques exist. Many approaches to both reduction and substitution f toxic materials and the reuse of waste metals can be routinely mployed. Increased efficiency in individual metal plating routines an reduce toxics and organic chemical use. Changing the types of etals to be plated less frequently can reduce the amount of cleaning f equipment between batches as well as reduce the amount of metals ost in changing over from one plating material to another. ubstitution of less toxic metals for highly toxic metals such as the ubstitution of zinc for the potent neurotoxin cadmium, can reduce he ultimate toxicity of the discharge. Various metal precipitation echniques allow metals to be efficiently reclaimed prior to ischarge. Many of these changes can be highly effective in reducing ollutant discharges and are relatively inexpensive when compared to he cost of metals lost in waste water over time. However, even more mportantly, the cost of removing these pollutants from surface and roundwater is extremely high and in many cases beyond our current echnological capabilities.

ONCLUSION

NJPIRG strongly urges a reevaluation of the pretreatment program as it is now administered. The lack of enforcement of pretreatment permits is a serious problem. Sewage treatment facilities do not have the capability to enforce toxic permit limits nor do they have the technical staffs to adequately assist industrial dischargers violating their permits. The pretreatment standards were intended to protect our waterways against toxic pollutant discharges and it is imperative that enforcement agencies see preservation and restoration of our waterways and not economic hardship as the most fundamental issue.

REMARKS BY

DR. ALAN I. MYTELKA, DIRECTOR

INTERSTATE SANITATION COMMISSION

BEFORE THE

NEW JERSEY SENATE SPECIAL COMMITTEE TO STUDY

COASTAL AND OCEAN POLLUTION

September 15, 1987

I am Dr. Alan I. Mytelka, Director and Chief Engineer of the Interstate Sanitation Commission. We're a tri-state environmental agency -- a joint agency of the States of New York, New Jersey and Connecticut. We were established under a compact in 1936 and approved by Congress.

Although our responsibilities within our District include the fields of toxics, air pollution, resource recovery and combined sewers, our continuing emphasis and responsibility is on water quality. Therefore, many of our activities -- including studies on toxics -- are directly related to water quality control.

In the vital area dealing with water quality and pollution abatement, the ISC is an enforcement agency -- an agency with both monitoring and regulatory powers.

As such, we have long been concerned with proposed pretreatment strategies and standards because of our work in sludge management. In 1976, we completed a two year study, funded by the U.S. Environmental Protection Agency, to find appropriate means of disposing of increasing quantities of sludge. Under a further U.S. EPA grant, we engaged in pilot plant testing at Belle Meade, New Jersey to determine whether pyrolysis was an effective method of sludge treatment.

I mention this just to give you some feel for the Commission's background in this matter and to point out a fact of life that has been a continuing disappointment to us. We've observed that even as communities have embarked or moved from no treatment or primary treatment to secondary treatment, the problem of sludge control has not lessened. It's been exacerbated. We're creating more and more sludge. The need for pretreatment and the resultant nontoxic sludge becomes more pressing by the year.

We are pleased with your interest in this subject which has been of such continuing concern to us. And, as I mentioned in my testimony dealing with coastal pollution several weeks ago, if any good has come out of the recent environmental outrages along the New Jersey Shore, it has been a loud warning and a clear-cut call for action.

Now is the time to reconsider statements put forth by our Commission ten years ago. Now is the time -- when dirty words like "pollution" appear daily and prominently in the headlines -- that the public will listen and understand. Even for a system of sludge management which relies on incineration, pyrolysis or some other method of combustion, regulations requiring pretreatment and source control for industrial wastes were necessary ten years ago. Today and for the future, it is urgent.

Even though some of the heavy metals come from nonpoint sources, we are convinced that pretreatment of industrial wastes can lower sludge toxicity to permissible levels. Adequate requirements for pretreatment and source control -- properly enforced -- are the keys to accomplishing such a goal.

The age of favored treatment for one industry over another is past. Pretreatment standards to protect the environment must be based on the pollutant and not on the type of industry.

Very simply, pretreatment is necessary to keep toxics out of the sewers. Once in the sewers, three things can happen -- all of them bad. Obviously, once in the sewers, toxics move through the treatment plant and end up as contaminated sludge and as effluent. Also, they can interfere with the operation of treatment plants. And finally, in communities with combined

sewer overflows -- and most are -- the toxics will pour directly into the receiving waters every time it rains. We made these points ten years ago and it's just as true today. Pretreatment is necessary, vital, fundamental, essential -- and urgent!

What's more, there should be no advantage to dischargers who go through the municipal system. Effluent levels for toxic wastes required for pretreatment should be just as stringent as they are for the direct discharger.

The Commission's position, as far as industry standards are concerned, is that direct discharge into sewers is tantamount to discharge into the waterways, themselves.

Direct discharge into the sewers without pretreatment should not be!

If an industry cannot prevent toxic discharge, its products should not be manufactured. This may also mean government will have to examine some products in the home market and ban those which are toxic. I can think of no product producing untreated toxic wastes that is so vital to our health, welfare and happiness that its wastes should be allowed to be discharged. I'm sure we all agree that, above all, the cleanliness of our waters is vital.

To my mind, pretreatment must become standard operating procedure. Once this is brought about and sewage sludges are nontoxic... then safe sludge disposal becomes possible and viable.

Combustion is one alternative. Incineration in one form or another could be put into operation -- as incinerators no longer would be exuding toxics.

Composting and disposal on land is another consideration -- one that can benefit the soil and represent true resource recovery. Again, it all depends on pretreatment to produce sludge that is nontoxic.

As recent events have so dramatically demonstrated, ocean dumping simply is not practical. The possibilities of short dumping and the opportunities for sneaking toxics into sludge barges are just too great.

Ten years ago, alternatives and answers to sludge quality and sludge disposal options were clearly needed. Today, alternatives, answers and disposal options are a pressing matter.

Because the Interstate Sanitation Commission has delved into the process of pretreatment -- at great depth, over the course of

many years -- I'd be happy to answer your questions on the subject -- both from a technical as well as a practical point of view.

Again, I am pleased with your interest in the pretreatment issue and thank you for your attention.

* * * *