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ENVIRONMENTAL PROTECTION AGENCY

INFORMAL HEARING

ON THE DISPOSAL AND MARKING
OF POLYCHLORINATED BIPHENYLS (PCBs)

Room 3906
EPA Headquarters
Washington, D.C.

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Room 3906
EPA Headquarters
Washington, D. C.

Tuesday,
June 28, 1977

The informal hearing was convened, pursuant to notice, at 10:11 a.m.

PANEL MEMBERS

GEORGE F. WIRTH, Chairman
WILLIAM PEDERSEN, General Counsel
HAROLD SNYDER, Enforcement
CLAIRE WELTY, Air and Waste Management
STEPHEN WEIL, Planning and Management

APPEARANCES

JOSEPH HIGHLAND, Environmental Defense Fund

MONS 007404

P R O C E E D I N G S

CHAIRMAN WIRTH: We will reopen the hearing on PCBs labeling and disposal regulation.

My name is George Wirth. I am the Group Supervisor for the Regulations Group in the Office of Toxic Substances responsible for writing Section 6 Regulations.

I want to welcome everyone here to the third day of the hearing. Our apologies for the hot, stuffy, crowded, poor acoustics room. I would do something about that but, frankly, in this building I don't think there is much improvement anywhere we search. However, this room is too small, but we had a difficult time scheduling this week where there is numerous meetings in the Agency.

For those of you who have not been at the other two days of the hearing, we will follow the same format basically today as we have in the other two days.

We have four witnesses scheduled for today: The Environmental Defense Fund, State of Michigan, Peerless Cement Company, and Rollins Environmental Services.

We basically heard yesterday from the transformer and capacitor manufacturing business, and we heard on Friday from the user business, the electrical utilities.

Tomorrow is the last day of scheduled witnesses, at which time we will hear from VERSAR, a Government witness who was the contractor who -- submitting the amount of the

information for this Regulation, and two other assorted interest in the Regulation.

The first two today are pretty much categorized as the Environmental groups, and then this afternoon Peerless Cement and Rollins and we would like to hear most of the comments from the disposal industry.

We ask that the witnesses come up and state their name, affiliation and general interest in the Regulation. And if they represent someone else other than -- will they also state that.

At the end of their prepared remarks, we will go up and down the panel and ask questions until we have exhausted all the interrogatives that the panel has.

The audience is allowed to submit questions to the panel. You can pass them up and lay them on the desk here anywhere.

If the panel will -- a written question -- the panel will ask the questions of the witness using its discretion as to whether it is particularly germane to the issue.

Since this is our first hearing and since -- under Toxic Substances -- and since the time for operating the procedures in this hearing was reduced even from what we had proposed in the hearing regulations, we have been relatively liberal in interpreting some of the rules that need some

flexibility because of the shortened time span. I would like to ask now that if anyone has any additional comments or remarks that they are submitting today for the record, or a copy of their prepared statement for today, that you please submit it now to our record and hearing clerk, Ms. Joni Repasch, right here at the door.

Is Environmental Defense Funds here?

: Yes.

CHAIRMAN WIRTH: Do you have additional information you are submitting this morning?

: No.

CHAIRMAN WIRTH: Is the State of Michigan here this morning?

: Yes.

CHAIRMAN WIRTH: Do you have additional remarks?

: Yes.

CHAIRMAN WIRTH: Okay, fine. We would like to Xerox those so the panel can have copies of those.

CHAIRMAN WIRTH: Is Peerless Cement here this morning?

: Yes.

CHAIRMAN WIRTH: Do you have additional papers?

: No.

CHAIRMAN WIRTH: Is Rollins Environmental Services here? Do you have additional material?

: No.

CHAIRMAN WIRTH: Okay, fine. Joni, I guess that will be the submissions for the day if you can Xerox those.

I will introduce the panel and then we will go forward.

On my extreme left is Mr. Steve Weil from the Office of Planning and Management, who is responsible for the Economic Impact Studies in this particular Regulation, or at least the coordination of it and the Agency position on economics.

Next to me is Mr. Harold Snyder of the Office of Enforcement, who is responsible for enforcement issues. I might also add Mr. Snyder was formerly with my office until a couple of weeks ago. And if there is a single author of this Regulation, he is primarily it.

On my immediate right is Mr. William Pederson from our Office of the General Counsel.

And on the far right is Miss Claire Welty from the Office of Solid Waste Management and whose primary input has been the disposal requirements and specifications.

With that, if there are no questions, we will call our first witness and ask the Environmental Defense Fund to take their position at the witness table.

If anyone wishes to bring more than one person with him, that is perfectly welcome, too.

MR. HIGHLAND: My name is Joseph Highland. I am

the Chairman of the Toxic Chemicals Program for the Environmental Defense Fund. The Environmental Defense Fund has been concerned with the issue of PCBs for a number of years now, and has participated in a number of regulatory decision-making processes in this Agency as well as the Food and Drug Administration, and therefore has an active concern in the problem of disposal of PCBs.

Most of you know the Environmental Defense Fund has been categorized this morning as one of the Environmental groups. We are a nonprofit, public-interest organization composed of scientists and lawyers dealing with a variety of Environmental issues; Toxic Chemicals Program specifically focusing on human involuntary exposure to toxic chemicals in the environment.

I would like this morning to address several specific issues with respect to the proposed disposal regulation, the PCBs, which underscore the general problem we see with the regulations as proposed, and that is what we believe is a failure by the Agency to provide the necessary strict regulations commensurate with the potential problem that will be associated with the possible release of hundreds of millions of pounds of PCBs into the environment.

Specifically, I would like to address the issues of sludge disposal, the collection and examination of PCBs in electrical application, PCBs in flourescent light ballasts,

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and small home-use capacitors, the problem of storage and the issue of marking.

I do not intend to deal this morning with technical issues such as incineration times, the sufficiency of chemical land fills, et cetera.

I think it should be understood at the beginning that we share the Agency's concern about the PCB problem and perhaps even feel more strongly that every possible effort has to be made to prevent the further contamination of our environment with PCBs.

The situation we face today is one in which PCBs have become a ubiquitous environmental contaminant largely as the result of our failure in the past to regulate or prevent the discharge of these chemicals into the environment, the air or water.

We all know that over 90 percent of us have measurable levels of PCBs in our adipose tissues and that each of us continues to ingest about 8 micrograms of PCBs a day, that is each adult. The toxilogical effects, including the carcinogenicity of these compounds is well known.

I think that, with the passage of TSCA, our attention is largely switched from the focus from production to disposal of PCBs. And here I think perhaps lies one of the greatest challenges ever faced in terms of toxic chemical regulation, if not only by its sheer magnitude of hundreds of millions

of pounds of material to be disposed of. I think, however, this also provides the Agency with an extremely important opportunity to fully address the problem that we face and elicit the help of the American people in finding a solution.

Now, specifically on the points I said I would like to touch on, the issue of sludge, for instance, is one which we have dealt with before in the contamination with PCBs in comments to the Agency on their Proposed Municipal Sludge Management Document that was published June 3.

And it seemed to us, in reading the proposed regulations, that the finding, contaminated sludge, is that containing more than 500 parts per million. It is just insufficient to deal with the problem.

After reviewing, for instance, the data that we have received from the Agency as well as in the published literature, and I for instance refer to one paper here by a whole series of authors that I can make available, I am sure you have, by Fure A. Towe, which is a multi-element analysis of what is in sludge in American cities.

It is clear if you look at the data that is presented here that for PCBs we are talking about levels well under 500 parts per million. Even in the worst cases that I know of, we are only talking about several hundred parts per million. And I can be wrong, but I would say the

majority of the information I have seen certainly indicates the sludge can be a problem if contaminated with less than 500 parts per million PCBs.

We know that, for instance, in Bloomington, Indiana -- which is just one example -- where sludge which contained less than 500 parts per million PCBs was applied to agricultural lands; that significant problems developed in terms of contamination of the products grown on those lands and the milk produced from the cow which grazed on those lands.

So I think it is necessary that the Agency address the issue of sludge at a level lower than 500 parts per million and perhaps in terms of disposal of that sludge in different manners.

In other words, I think that you may feel it necessary to put a stronger regulation of disposal of sludge or use of sludge containing PCBs which is intended for agricultural land than perhaps other uses of sludge.

It has been suggested, for instance, that sludge could be used in forests or ornamental gardens where it would not be directly -- the PCBs would not be directly -- ingested by the absorption into foodstuffs.

I think we have seen in the past the problem of the contamination of the food chain and human contamination with PCBs.

As an example, we know that the major component of diet right now, which is contaminated, is fresh or estuarine fish.

Over 90 percent of the 8 micrograms a day that we ingest of PCBs is believed in the last years to have come from our ingestion of these type of fish.

The consequences I think are quite grave, not only the potential consequences to the adults that ingest these chemicals. But if one were to look at the levels of PCBs, which are reflected now in mothers' milk, I think we see a tremendous problem.

The levels in mothers' milk are a direct reflection of what is in a woman's adipose tissue, which in large part is believe to be a reflection of what she has consumed in her diet.

For example, using the data supplied by the Agency for PCB levels, average levels, in mothers' milk, one can calculate that the average nursing infant in this country is taking in PCBs at a rate per kilogram body weight 100 times that of an adult; that in one year of nursing, the average child takes in roughly the equivalent of what an adult will take in in ten years. So that there is a very heavy body burden being created for a nursing infant. PCBs are only one of the components.

I would offer to you that if sludge is inappropriately

used which is contaminated with PCBs at much lower level than 500 parts per million, we may find further foodstuffs contaminated and this problem extended.

So I think that regulations which may go to lower levels of contamination as well as differentiating between areas in which sludge can be in is a very important area which is just simply not dealt with.

Not only must one, I guess, be concerned about agricultural lands, but I think one has to be concerned about the underlying water tables aquafers which exist. And there is mention of that in the proposals although I don't think just the term one should consider or that then is sufficient. I think it will take a lot more to assure that PCB sludge is not disposed of inappropriately.

I think the problem will become even more serious in the future. I think the FEA's recent proposal to lower the tolerance of PCBs in fish, for instance, from 5 parts to 2 parts, if adopted, will mean that any further contamination of water sources in which these fish live will preclude the further use of fish from these areas for a longer period of time and perhaps fish from waters which we still can use.

I think we are losing a very important resource in terms of human protein, and I think it has tremendous economic ramifications as well. So I think that the question of sludge and that type of waste and its disposal is a very

serious one and that it has to be addressed, not only to the agricultural land contamination of underground aquafers and possible problems with drinking water and as well as I mentioned the fresh water bodies which can contain PCBs and contamination of fish.

On the issue dealing with the collection and examination of PCBs in electrical applications, we noted in our written comments -- and this is referred to on page 4, No. 5.-- that the language to us seemed insufficient to assure that, in fact, a building owner would examine electrical system to see if PCBs were involved and that they be properly disposed of.

Using the Regulations Section of the Federal Register document says -- uses terms like: It is stated that the building owners should examine their electrical systems, that a sample might be analyzed for PCBs, and electrically -- probably will be aware of the PCBs -- may well be well and good except that if the "should" doesn't occur and the "might" doesn't occur, there is a great chance for the improper disposal of PCBs.

I think under Section 6(a) of this -- obviously of Toxic Substances and Control Act -- the Agency has the power to require that electrical systems be examined and require that tests be done in order to have that proposal occur properly. Clearly, the language of the law says to

the extent necessary to protect adequately against such risk -- and it defines risk as injury to health and the environment. I think that a failure to do that will only result in an improper disposal of large quantities of PCBs.

The issues of the disposal of flourescent light ballasts and small home-use capacitors are also dealt with in the proposed Federal Register document.

Specifically, here, it seemed to us, that the Agency said, and I quote from page 26568, that: "If strong strong regulation is required, several regulatory options can be considered." And then they gave a list of examples.

I think there is no question that strong regulatory options are necessary. I think that the suggestions which would have involved, as you say here, public education for the collection from private homes, possibly a bounty program for correction, et cetera, are the directions that have to be taken. And I think that although four options are clearly analyzed, the one which is a weak problem now as adopted, which is the essentially nonregulation of a lot of these items -- but I think that will only produce problems in the future and that that is just an incorrect approach for what were -- totals over 100 million pounds of PCBs.

The next point which we mentioned briefly in our comments was the problem of storage. Clearly, if the Agency is correct in its assumption that it will take many

years to establish the incineration capacity to promptly dispose of -- no one is questioning the need for storage. But our problems, obviously, as we stated, were the little guidance given other than the building and container specification in terms of record-keeping for that period of time, who will be responsible for the storage sites, how much material will they contain, et cetera.

Again, our fear is that if this is not properly spelled out in detail in strong regulatino that we stand to have a lack of regulation and a failure to comply with it.

Finally, we noted the issue of marking. And this dealt with a number of capacitors which are in service, will be in service for a long period of time, and which the Agency said it was possible to mark. But this would involve the disruption of electrical service and, therefore, the choice was not to mark them directly but to supply marking information in another locale.

I think the consequence of that is simply going to be that the disposal of those capacitors will occur without any consideration for their PCB content. It is hard for me to believe that in 15 years from now the proper records will have been kept so that those disposals will occur properly. I think we stand a much better chance if, in fact, those capacitors are marked directly. If our understanding is correct that this will involve the destruction of electrical

service, then I think again the consequences of improper disposal warrants such an interruption to have that marking.

So, not to exceed the time, I guess our major concern is that, although the Agency is obviously and the Congress is obviously recognizing that there is a tremendous poblem with disposal of PCBs and their potential relation to the environment, we feel the regulations as they stand are just not strict enough and strong enough to provide the necessary pressure, if you will, or guidance, if you will, to make sure that occurs.

The consequences in the future are I believe essentially disastrous. We know that there are several hundred millions of pounds of PCBs that have been released, that have caused very significant problems, and we are dealing with quantities much in excess of two- to three-fold of that material which now must be disposed of properly. If that doesn't occur because of weak regulations, then the problems we see now with PCBs are only going to be minor and have occurred for a relatively short period of time as opposed to what can occur in the future.

If you have any questions on what I have tried to convey, I will be happy to try to answer them.

CHAIRMAN WIRTH: I am sure we do. Thank you very much, Mr. Highland.

Why don't we start with you, Steve.

MR. WEIL: I don't have any questions right now.

CHAIRMAN WIRTH: Harold?

MR. SNYDER: Yes, I have several questions that I would like to discuss at this time.

One of the -- you correctly pointed it out. One of the areas that we had a lot of concern with was forest and light ballasts, home use capacitors in trying to come up with some kind of a program that we thought would adequately address the problem in truly the broadest sense of the word. And you feel that we have sort of abdicated our power here a bit here in this area.

Two things come to mind. One, you have some thoughts on how effectively we could really enforce requirements like this on individual homeowners who own small building operations; what precedence you think exists. Your written comments refer to World War II and some precious metals or -- precious metals -- or aluminum which was rather precious I guess if you were a pilot in World War II.

Using that as an analogy -- and I am wondering if in a more current context and using it in the environmental sense, you think would give us a reason to believe that we could effectively get people to do what we want here.

Also, you referred to bounty programs and whether you have any thoughts on the effectiveness of a bounty program, that it would be -- the amount money that might

have to be involved in any individual bounty and, lastly, on the bounty issue, whether you think we have any authority or power to do that under any existing legislation.

MR. PEDERSEN: I might just add onto that that the World War II analogy is not, as far as I know, an argument for regulation, since that was a voluntary program.

MR. HIGHLAND: Let me try to respond. The analogy to World War II example is clearly not that it was a requirement or -- we won't argue that.

What we are trying to say is that at that time a sense of urgency was created in terms of the need of the country which people responded to.

I don't think you can dismiss without trying to instill that kind of sense of urgency. I believe right now that the average person is simply not aware of the problems that exist with PCBs and further exposure to them.

And I would give a couple of examples of I think programs, current day programs, which may focus it a little more clearly, clearly which have not been again required but have even appeared to start to work in terms of voluntary when people felt the need.

There are certainly small issues such as the recycling of metal, glass, paper, which has to some extent, where people have been educated -- provided facilities in a

viable way to start to encourage people to reuse materials as opposed to just disposing of them.

I know we did just a small check in Washington of several apartment houses where people are now recycling newspapers. They have been simply told of the need to do it. They have been provided a space instead of dumping everything down one shoot. They stack their newspapers. I did this myself when I lived in an apartment house in Bethesda.

There was just a feeling among most people that I knew that, even without the requirement, although they told us that it would be inappropriate to dispose of it through the shoots anymore, people voluntarily supplied those newspapers to those sites.

I think on a more national scale we are facing the same problem in terms of the energy question, and the nation is going to have to respond in terms of our energy consumption as an issue, whether as a nation we will be able to voluntarily or whether we will have to have Congressional action and Executive action to actually force us to curtail our use of energy.

The President has clearly proposed, in terms of gas usage in cars, severe taxes in several years for people who want to use cars which waste gasoline.

It seems to me -- and I am not a lawyer so I can't speak directly to the authority but having checked with the

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attorneys that work on our staff, it is my understanding that the Agency has powers under this law which they have simply not used to assure that these kinds of things occur rather than only having considered them in a stage of development and then having adopted something which I think is rather minimal.

MR. PEDERSEN: To do what?

MR. HIGHLAND: Well, obviously to enforce the kinds of things which are stated in the Federal Register as considerations.

MR. PEDERSEN: Well, I don't think there is any question but that we could promulgate the requirement that individual homeowners, et cetera, should bring in their PCB articles for disposal.

The question is whether it would exist anywhere except on paper.

MR. HIGHLAND: Well, I think that failure to even promulgate it guarantees that the PCBs are disposed of inappropriately; that if 95 percent, if I remember correctly, of the ballasts exists in apartment houses and in industrial concerns, that the ballast from those light fixtures could be returned.

Now, if you argue that in all cases this won't occur and if the enforcement problem will be a problem, I am not denying that there will be some problems with enforcement,

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but what I am saying is the option adopted simply says this seems too much to overcome; therefore, we will just allow the stuff to be released into the environment, because I don't think we are guaranteed any proper relief under the proposed standards.

I think that if the public education system were adopted, if people were to understand for the first time that we are now facing a situation where, unless we can control this disposal properly, we are going to lose more and more of our ability to eat certain foods, contaminate our environment further, create further problems and questions for people who want to nurse children, then unless the Agency goes forth and tries to make up arguments and win people to that understanding, the option that you have adopted is simply unacceptable. It is to say look, we see problems and therefore we won't go any further. We simply think it is overwhelming to us.

MR. PEDERSEN: There are really two questions here. One is the lack of an education program, and I assume no one would dispute that a voluntary program for these small PCB articles might be a good idea.

The question is whether such an education program should be backed up by legally enforceable regulations. And I think the exemption here was based very explicitly on the philosophy that regulations that cannot be realistically

enforced shouldn't be promulgated; and that, without regard for what we ask people to do voluntarily, if you can't have a reasonable chance of detecting violators and punishing them, then you should -- you really should not regulate. Now, is that a philosophy with which you disagree?

MR. HIGHLAND: No, I don't disagree with that. I don't think that that is applicable in this situation. I mean that if you are worried about flourescent light ballasts in, for instance, and I will take an example: Say you have a large building which is going to be destroyed and you are worried about retrieving those ballasts or something. You are certainly going to face the problem in the future.-- this is only the first time we are going to face this -- of having to say to someone when you destroy this building or whatever these certain fixtures have to be removed and these articles disposed of.

I think it is not impossible to enforce something like that if there is a regulation there which requires it. And we are going to face that over and over. We have problems in terms of -- as Dr. Selakoff of Mt. Sainai has pointed out -- in terms of the use of asbestos in buildings and how we are going to dispose of those things.

Certainly in terms, I believe, of air regulations, the Agency is considering orders -- and I am not up to date sufficiently -- in the disposal -- in the destruciton of

buildings, certain requirements to minimize exposure to asbestos of people who are doing that destruction of the building. And I think that is not impossible in buildings such as this, or in other kinds of institutions, to require those things and to enforce it.

I am not saying, like anything else which is a requirement in these enforcement is not simple, but the magnitude of the problem -- and if you question, for instance -- and one of the points raised before was the question of how much would bounties cost.

I think if we look back as an example on the PCB discharges from General Electric into the Hudson River that the argument probably could have been made all along that the installation of treatment facilities would have been an enormous price to have to pay for General Electric.

On the other hand, in the settlement of the GE suit, GE has paid millions of dollars, we have 500,000 pounds of PCBs at the bottom of the Hudson River, and we still can't use the river's fish, and we don't know what to do with the problem.

MR. SNYDER: That cost really isn't relevant to the question of bounty. In other words --

MR. HIGHLAND: Well, I am only trying to use it as an analogy to say that the bounty may seem expensive now, but in the long run the consequences of improper disposal

may be much, much more severe.

CHAIRMAN WIRTH: May I ask a question on that specific point. There is 800 million ballasts for our estimates.

MR. HIGHLAND: Right.

CHAIRMAN WIRTH: At $.10 a ballast, that is $80 million. I would like to ask, in your opinion, whether you think $.10 a ballast or $.20 a ballast or do you have any feel at all or guess -- and I realize it is a guess and a feel -- as to how much would make it worthwhile bringing it in, as opposed to, let's say, no bounty and a voluntary public education program.

MR. HIGHLAND: Well, I think the only analogy I can use is the efforts which have been made by certain groups such as the Boy Scouts to collect waste paper at a very low price per hundred pounds, that in fact if people could dispose of it they may not themselves turn it in for $.20 or $.30 -- but certainly you have done that -- when I was a kid, at least, with bottles, someone took the effort to turn in the five-cent bottles to get the nickel; it might not have been my parents, but I certainly collected four or five bottles and got $.20 for it.

So I think that if that kind of bounty existed, there may be well an analogous kind of situation where the individual might say yes, we know these can be returned and

someone might go and collect them such as the Boy Scouts and other organizations or whatever. And it would certainly make it worthwhile for them.

CHAIRMAN WIRTH: I think we have a little difficult time encouraging the Boy Scouts or any youth group that normally does this type of thing to act as a collection -- or something containing PCB and ask you: Realistically, do you think that we could possibly have such a program that would set a bounty on these things, publicly encourage Scouting groups to collect something that was also -- whose collection was publicly encouraged because it was a highly toxic substance?

MR. HIGHLAND: Yes, because I think if you explain the -- how the toxicity occurred, and I think if you explain in terms of the -- how the material is contained within, that you can deal with that issue.

I don't think that you are out asking them to collect open vats of hydrochloric acid and bring them to a local point.

CHAIRMAN WIRTH: I realize that. But do you really, sincerely believe that we could deal with that issue, that we can explain that this is a can containing a part which is toxic material that we do not want in our environment and that we would like to recruit the assistance of the Boy Scouts to collect this?

MR. HIGHLAND: I don't think that it is an impossible situation either to get the help of service organizations or individuals to dispose of chemicals which are,quote, "toxic" providing you are not asking them to, in a sense, bring in liquid PCBs' equivalent.

CHAIRMAN WIRTH: Well, I think there is the probability that any one of these may be leaking on collection.

MR. HIGHLAND: Well, if you are concerned about that, you can provide sufficient, I think, materials to afford people knowledge as to how and what to collect.

I think that you can always postulate that things can be leaking, and this can be a hazard, and whatever. But essentially your option, on the other hand, is to do nothing and to simply allow a whole lot of this 80 million pounds, by your own estimate --

CHAIRMAN WIRTH: No, I am not arguing to do nothing. I am just asking on that specific point -- I am asking on the point of bounty. I am am not proposing that we do nothing. I am trying to get a clarification on whether you really think a bounty would add a marginal improvement to the program over what we may do voluntarily.

The reason I ask that question is because if you only put a dime on it, which is not sufficient amount to make anyone really go through the effort of screwing up parties still doing it voluntarily in a public minded,

spirited sense, in my mind, you know, not for a dime. And if you give only a dime, you have got $80 million. Now, if you talk about more than that, you are talking, you know, hundreds of millions of dollars.

I guess my question is: Do you think the bounty is the marginal, effective way to spend it or could we forget the bounty and let's see if we can't get everyone to do it from a public-spirited standpoint?

MR. HIGHLAND: I think either with bounty or public-spirited standpoing you are not going to collect 80 millions pounds of PCBs from ballasts.

I think that you have to realize that only some proportion is going to be collected. And we are not suggesting that if you put $.10 on it you are going to get them all back, and if you don't put $.10 you get nothing.

But I am saying, though, that in certain instances that I know of in locales such as Minneapolis where there were drives for paper, bottles, aluminum cans, that a small amount of money, even over nothing, effectively increased our ability to retrieve those materials. I think that is the consideration that has to be given, how much of that $80 million -- 80 million pounds -- is going to be added on and what does that cost become.

MR. PEDERSEN: Isn't there a real difference, though, in that the papers and the cans are sitting around

waiting to be thrown away, and any citizen can just put them in the back of the car and take them to the recycling center.

The PCB articles, you dispose of them when the larger equipment itself is going to be disposed of and you have to get it out of the interior of that thing, and indeed for us in lights, probably not until the building is demolished.

It seems to me it is much less adapted to citizen groups, and you will really be relying a lot more on the repairman or the junk man or the demolition contractor to do it.

MR. HIGHLAND: I think that is what I was saying. In terms of ballasts in industrial buildings in terms of light fixtures, I am not suggesting that that may be the most appropriate place for the bounty although it may be of help.

I am saying that in that kind of place you should be able to have a regulation which can be enforced in terms of the demolition of the building.

What I am talking about in terms of home use small items, there may have to be a different kind of system set up; it is obviously not a demolition system.

CHAIRMAN WIRTH: Another question relative to flourescence. It was said that we estimate there is 80 million

pounds there of the 750-plus out there, roughly 10 percent.

MR. HIGHLAND: Ten percent.

CHAIRMAN WIRTH: In that particular use, the PCB is encased in a capacitor which is podded in a tar/sand substance encased in steel. It is a tenth of a -- value. I think it is fair to say that we will not collect everything, nor can we enforce everything.

My question is -- and of course the flourescents by themselves are only one category of small capacitors where we are going to have problems. We are going to have problems in the home air conditioners and appliances and things of that sort.

Do you feel that that 10 percent, with probably a better envelope of protection around it than any other PCB item in the society, is the most effective place for us to put the effort in, either in enforcing or in regulating PCBs for disposals?

MR. HIGHLAND: I think it is certainly an essential area to do it in. Whether you are going to say it is the most important area of not is another question.

But I don't think you can rely on the fact that the material, encased the way it is, will not leak out. I think there is ample reason for concern that some amount of it -- the same way that some of it is going to be collected -- is going to leak into the environment. All I am suggesting

is that, since it does represent 10 percent and not a tenth of a percent of a total, and since it represents in your estimate 80 million pounds, which is probably on the order of half or a third of what has caused all the problems of today, we see today, that potentially it is a very significant contributor to an overall problem and that it, itself, cannot be ignored as an issue.

There is no question you have to drain big transformers and capacitors, and there is no question you have to try to retrieve whatever you can, as most effectively as you can. But I don't think it is an area which the failure to regulate is commensurate with a potential problem that it conform.

CHAIRMAN WIRTH: Again, on flourescence, collection is one thing; moving to disposal and disposing is another. In the case of the recycled item, once that material is collected, once the paper is sitting in a bin on a school yard of bottles or the aluminum, I am under the assumption, and I think it is true, that in most cases if not all from there on it has an economic value commensurate with its recycling; so it moves forward from that standpoing. If the paper is not worth picking up, and some value there, it doesn't move anywhere.

Now, the problem is that the PCB items that we may collect, setting up any central system, they have an economic

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disvalue from that point on. Somebody has got to haul over the disposal and spend money to dispose of them.

Do you have any suggestions at all as to who might bear the brunt of that cost and how it might be passed through that bearer.

MR. HIGHLAND: I guess there are a couple of points to consider with that. One is -- and I guess is what our view is. One is the ramification of not doing that. In other words, who is going to pay the price in the future, and how has the problem been created in part.

Off the top of my head, I can't give you obviously an answer to who is going to pay the price. Obviously, we have thought about those who have been involved, obviously, in the production of the items. We thought about the general public, in a sense, for its own protection. I don't know whether they have a resolution of that issue.

But I think that it all has to be viewed in terms of what is likely to occur in the future if the disposal does not occur properly and that who is going to pay and what are the ramifications. And then I think it becomes more essential to address the issue.

I can't answer your question directly as to who will pay or who should pay. But I think that, although that sounds like a very difficult question and one which it may be raised is it worth paying, I think the answer comes out

yes because of the ramifications in the future if we fail to do it.

CHAIRMAN WIRTH: I have just one more on that. I have -- do you have any suggestions at all as to who or how? I personally am a little bit lost on that subject. If I follow your logic, I would say well, it is the generations of Americans in the future which maybe makes it a public expenditure. But how do we --

MR. HIGHLAND: How do we collect it?

CHAIRMAN WIRTH: Who would you suggest for collection --

MR. HIGHLAND: I have a basic gut feeling that if there were money to be made in the collection of these items, that you would find people collecting these items.

Is what you are postulating that no one will handle it? Is that what you are saying?

CHAIRMAN WIRTH: No. I am saying if we are to call for a program or to design a program to do this, who would you look to as the individuals or companies or businesses to step in and provide the transportation from the collection points to disposal or even to establish the collection point?

MR. HIGHLAND: I would only assume that there are disposal companies which can handle the disposal of such type material; and that, again, if there were a viable

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program which was going to produce the material to be disposed of, there would be ways to collect it and take it to a disposal site.

MR. PEDERSEN: But those companies would want to be paid.

MR. HIGHLAND: Yes, that is a separate issue we just talked about before. The question, as I am understanding it, is not who is paying for it or is there a mechanism.

CHAIRMAN WIRTH: Well, it says both.

MR. HIGHLAND: Well, if it is both, then I am suggesting that there is a mechanism.

MR. PEDERSEN: The question is: Is there a mechanism under this current statute or are you really suggesting that we go back to Congress and ask for more authority?

MR. HIGHLAND: Maybe you and I will differ on what the understanding of the authority is. But it would seem to me that the authority to require that kind of collection program is not precluded by the authority given.

MR. PEDERSEN: The collection program is one thing. But the question is can we then require someone and, if so, who to at their -- who is not the owner of the PCBs -- at their own expense to pick up those things and burn them. That is a question where if you say that we can do it under

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our present statute, we would much appreciate having your legal argument.

MR. HIGHLAND: As I say, I can't answer the details of the legal argument on the issue. I would suggest that, if what you are saying is that you have the inability to do it, that it is your responsibility to go back to Congress and to say that and not to suggest a regulation which is incompatible with the problem.

I mean, as I say, I am not a lawyer and I am not speaking to the legality. If you can put forth the argument -- and it stands -- that in fact in order to do what you have to do you don't have sufficient authority, money, or whatever, then I think it is your responsibility to go back and do it and say it to Congress, and not to propose therefore an alternative which simply ignores the issue.

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CHAIRMAN WIRTH: I might add, Mr. Highland, but on any particular subject we interrupt and stay on that particular subject. So I think we have exhausted fluorescent lightbulbs.

MR. SNYDER: I have some questions on marking.

You made specific reference to our provisions whereby operators of large high voltage capacitors would not have to shut down a system to apply a marking and you were somewhat critical of that. What is your understanding of large high voltage capacitor and who owns and operates them?

MR. HIGHLAND: My understanding is from the document and from what I have been able to glean from it. The understanding I had is not a problem of who owns it but rather the question of disruption of electrical service as a consequence of having to mark it. And if I am not incorrectly stating it, the issue as stated there was simply that that is what would be required, the consequence of doing that would be the disruption of service and, therefore, that is not an alternative which is chosen.

MR. SNYDER: The large voltage capacitors are owned, it is my understanding, exclusively by electric utilities. And the particular reference refers to the use of these capacitors in sub-stations and other applications

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where there are literally hundreds of these items on racks under common ownership. And our experience so far has generally led us to believe competent ownership and it would necessitate shutting down an entire power system to apply the label and we offered the alternative of setting up a record keeping or proximity label or sign to handle the problem and again recognizing that the ownership is essentially singular.

So I don't know if that colors at all your view of this particular --

MR. HIGHLAND: No, my understanding was --

MR. SNYDER: I mean I almost get the feeling that we ought to apply a little more hassle because it is a serious problem and some of the views that we have taken was that we would try to analyze the activity to see if we would get adequate control, full recognition of the mechanics of whatever kind of activity that the --

MR. HIGHLAND: I guess that is the area which we preceive it differently. It is not a question of whether there should be any kind of labelling or record keeping or not and whether there is an expensive alternate. There is clearly going to be an expense involved in locale labelling or whatever you want to term that plus record keeping in terms of these capacitors.

There is clearly an expense involved if you

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cp3 1 label the capacitor itself.

2 The question is how sufficient is the alternative
3 that you suggested. And my only suggestion is that as a
4 function of time, I think that the alternative may well not
5 work and that in ten or 15 years from now when you are
6 relying on -- of these things being understood that these
7 had PCB's or these five now still have PCB's or whatever --
8 and my understanding may be correct, but I would think
9 that if there is a failure in the system, that something
10 has to be replaced and if that occurs, then it will
11 require further record keeping to say that this one does
12 not, but this does have.

13 And I am only suggesting that that provides for
14 such great error in the future as to lead to the improper
15 disposal of significant quantities of PCB's. But, in
16 fact, unless it is stated on the item, you stand a good
17 chance in 12 years from now when "X" number have been
18 replaced of a great deal of confusion in the disposal of
19 the next one.

20 I am just not convinced, I guess, that the option
21 that you selected is really a viable one in terms of the
22 problem.

23 MR. SNYDER: We have had some discussion in these
24 hearings about labelling new units that do not contain
25 PCB's. Specific label to that effect. It is discussed even

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in the regulation.

If this kind of activity occurs, it would be my assumption that that might effect the usefulness of our alternate procedure and positively effect it.

Do you have views in general about the effectiveness of labeling and marking as a way to really convey information on a long-term basis and have people, in fact, heed it? We started the meeting out with asking folks not to smoke. As far as I know probably every cigarette in here is American made and, therefore, labelled, but we still had to discuss that matter.

Do you have a --

MR. HIGHLAND: I don't see labelling as a panacea for control. I just see that at the current time with the education to the extent of the problem, the need to dispose of these things promptly, that it will have a greater effect, a more likely chance of success of proper disposal if the item itself is labelled so that when the individual goes to remove it, do remove it and have to dispose of it, it is at least clearly stated.

Certainly it is not a guarantee of proper disposal. And if I could think of a better guarantee or something that would assure it, I would certainly have offered it.

But I do think that you increase significantly the chances of proper disposal when the thing is appropriately

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labelled, as opposed to having records in a separate office which have to be referred to for a gang of these kinds of capacitors. And clearly if you make the assumption, if you label everything which is not, you go a step in the right direction if you are willing to presume that everything unlabelled does contain and if that could be clarified.

But I think the idea, the concept of labelling it directly is the best bet for assuring the kind of proper disposal. It is not a guarantee. I can't suggest to you anything better.

I do suggest what is being given as an alternative is less likely to work correctly.

MR. SNYDER: A lot of the discussion has centered on the large high voltage capacitor which is almost by the very words the largest of the capacitors. There are, I think, fewer of them than any other kind. They do have more PCB's in them. That is important.

Now we get down to some of the tougher issues, I think, in labelling and that is as we get to smaller units. I am still talking about capacitors. I don't think there is -- you made no comment about transformers and I don't think that there is any real discussion about the usefulness of labelling there and the number of items are -- not relatively small, but they are smaller than

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these numbers.

Now when we get to the fluorescent light ballast or capacitors that are in air conditioners or other kinds of equipment -- and I am going to restrict my comment to existing capacitors, existing pieces of equipment, not newly manufactured items.

Do you feel your comments on the usefulness of marking apply in these areas? There is now perhaps a greater risk in terms of whether someone can effectively comply with that.

The utilities, again, are in our judgment well managed. They have a lot of ways they can do these things. Now all of a sudden we are talking about T.V. service personnel, air conditioning service and personnel, Joe-fix-it at home, this kind of situation.

MR. HIGHLAND: Well, I think that the effectiveness of labelling, as you sort of indicated, is obviously -- my judgment would be -- better under the circumstances of the utility companies. And the importance of labelling these big capacitors perhaps greater than if you are suggesting going back now in individual labelling every internal component which contains PCB's -- television, air conditioners, micro-wave ovens or whatever.

I think that -- although I haven't given it sufficient thought -- I think that it is perfectly reasonable

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to consider that we suggest that the labelling of these big capacitors, which can be dealt with by utility companies -- I am not sure of the significance, if you are suggesting going back and labelling -- having every television set brought in, every appliance brought in and for the future disposal, especially when the disposal will just go to regular sanitary landfills.

Unless you change the approach in terms of what is going to be required from these --

MR. SNYDER: Let's assume that we did change the approach for discussion purposes, then how would you feel about retro-labelling all these --

MR. HIGHLAND: Well, I would really have to have some estimate in respect to time, costs, et cetera. I can't make a snap judgment like that.

I would say that if you are not going to do it, then if you are not going to change the approach, then it is a waste of time and money to go back and label them. If you are -- you know, as we suggested -- going to change that approach, then I would need a little more data to understand what would be involved in that.

MR. SNYDER: So, in essence, you would analyze it from the standpoint of potential effectiveness, cost involved, hassle factors and things like that.

MR. HIGHLAND: Yes. A whole conglomerate. How

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much is involved in those items, hassles, costs, et cetera. WIthout that, I think it is inappropriate to respond.

MR. SNYDER: I have one further question and it relates to storage areas and record keeping. You made specific mention both in your written comments and your verbal comments about record keeping.

The owners and operators of storage facilities are required to maintain a series of records. There is some view within the agency that we don't want to overwhelm the country with records, so there is an effort to try to have the most effective records and not necessarily burdensome records.

The fact that owners and operators of these storage facilities would be required to keep records,when they came in, the amount, the type, et cetera. Apparently you don't feel that that is adequate. And I would like a little more information on where you think the inadequacy is and what specifically you suggest we do.

MR. HIGHLAND: Well, I guess it is a question that if those records are going to be maintained and if -- again, maybe my understanding isn't sufficient in this -- the agency -- is the agency at this point going to maintain at least a check or surveillance on those records and what happens to the equipment.

Or is it simply that I am going to maintain my

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own records and since that in effect won't be at all monitored in terms of storage, disposal, et cetera -- I mean that was simply our concern. I am not -- doubting the ability of these people to keep records.

I am only concerned that there would be sufficient kind of check or concern overall for this, that that be somehow monitored. I am not suggesting that they are incapable.

MR. SNYDER: Okay. Your comment about sufficient check, is that restricted to having all these reports submitted to the agency or that the agency develop some kind of program where they would monitor these records on some basis, frequent or less frequent depending --

MR. HIGHLAND: I think that would be completely sufficient. I don't know that you need to have duplicate records sitting at the agency in order to assure the kind of monitoring. I think that that would be an enormous burden of paper and time.

But I do think that if there was some kind of monitoring of what is going on, that that would further assure the proper handling.

MR. SNYDER: Thank you.

CHAIRMAN WIRTH: Steve, do you want another chance?

MR. WEIL: No.

CHAIRMAN WIRTH: I have one or two other questions

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I think I would like to ask.

You said in your opening remarks that the carcinogenesis of PCB's is well-known. I think we are only familiar with one, two suspected carcinogenic occurrences, I guess. The Mobile Oil thing and the Yusho, Japan information.

MR. HIGHLAND: And the Kimbrough data from rats.

CHAIRMAN WIRTH: And the Kimbrough data. Did you --

MR. HIGHLAND: All I was really stating is what this agency stated as its policy in the 307A discharge hearings of PCB's. And I don't mean that in a facetious way. I simply stated that the agency argued and found and the administrator ruled that PCB's in the studies that we did have -- and those would be those two you mentioned plus the Kimbrough data -- were carcinogenic risks and did not stop to differentiate and say, well, we have it on Aroclor 1216. We have this data from Mobile and we have this and we are piecing together whether 1241 -- you know, 1016 is carcinogen.

And the data that we have in that case is that data that I am referring to and is sufficient for the agency to conclude that PCB's were carcinogenic.

CHAIRMAN WIRTH: That is fine. I just -- ask you if you had extra studies or additional information that we

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were unaware of.

One moment, please.

MR. HIGHLAND: Let me add one other thing. I mean I only mentioned carcinogenicity. I would have equally mentioned Jim ALlen's work on the non-human primate as a toxicological concern. I don't mean to only single it out,but I think that we have significant evidence both in laboratory animals and human experience for the potential carcinogenicity and the actual carcinogenicity of the compound, as well as other reasons for toxicological concern.

CHAIRMAN WIRTH: I am not aware -- maybe it is my own ignorance -- that Jim Allen's work specifically points to any carcinogenicity.

MR. HIGHLAND: No, but I am talking about the behavioral and the learning difficulties in nursing infants.

CHAIRMAN WIRTH: Iwas just curious whether you had additional information that we did not.

I think I would like to talk about your comments on sludge just for a further few minutes.

Are you suggesting that for sludge we lower the definition of a PCB or that we lower the definition of a PCB in general?

MR. HIGHLAND: Well, specifically with respect to

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sludge, if you -- it seems to me that what you have done is you preclude, by definition, sludge containing less than 500 parts per million. For that particular material, and I just pick that as one in which I could focus on and have some background to address. That that is way to high a number probably by an order of ten to 100 to control sludge in the way that it has to be controlled.

And so if you have to define sludge or lower the number for sludge, yes, I am suggesting that there has to be something different only because we know that the ramnification of improper use of sludge contaminated at much lower levels have grave consequences.

So that 500 as a cutoff for sludge -- now, as I said, you may be aware of much more data than I am. The data that I have available to me suggests that most sludges are contaminated lower than 500 parts per million and that effectively defining a level at 500 parts per million excludes sludge.

And I think it is a rare case where the sludge is in excess.

CHAIRMAN WIRTH: Yes.. Well, we don't deny that most sludges would be well below the 500 and the intention is that the 500 is basically not to include sludge.

It is a disposal regulation and I guess my question is do you have any suggestions on how well we might direct

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sludge with PCB's in it for disposal?

MR. HIGHLAND: Well, what I was trying to suggest was that depending on the level of contamination, different disposal for use, if you will, it becomes more or less appropriate that in the considerations previously by the agency in terms of sludge, there was a question of whether sludge contaminated at a certain level should be applied to an agricultural land or whether it could be used in terms of forests, landfills, for instance, filling in from strip mining.

Now, I know that there are weaknesses in suggesting that an area which is strip mined does not become an agricultural land, but the considerations previously given were to look at how sludge is disposed of or used and then try to differentiate based on levels of contamination, appropriate places that it might go.

It would seem grossly inappropriate to apply sludge containing 100 or 200 or 300, 400 or whatever parts per million of PCB's to agricultural lands. We are effectively going to destroy agricultural land in its further use.

So all I am suggesting is that the agency might consider that they are lowing the value in terms of sludge and then looking and providing regulation for differential disposal depending on level of contamination.

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CHAIRMAN WIRTH: I think your suggestion about regulation is that at least you identify one improper disposal of sludge and that be the application of any PCB containing sludge at above trace levels to agricultural lands. Is that basically --

MR. HIGHLAND: Yes.

CHAIRMAN WIRTH: Okay. Are there any questions from the audience.

MR. SNYDER: I have one more question.

Picking up on a point that Mr. Wirth raised earlier on this sludge question of 500 parts per million level, do you have any views about 500 part per million as a definition level, for our definition of PCB mixtures? I am not talking about sludge now. I am talking about in general, contaminated soil, commercial products, solvents, et cetera.

MR. HIGHLAND: We have tried to I guess study or look at the issue and I don't really feel at this point comfortable to go into debt and argue either one way or the other on this. I am just not sufficiently well versed on that specific side of sludge to really give you --

MR. SNYDER: Okay.

CHAIRMAN WIRTH: Thank you very much. We will take a five minute break.

(Recess)

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CHAIRMAN WIRTH: Next on the agenda is from the State of Michigan, Department of Natural Resources. Are you ready to report?

MR. POWERS: My name is Richard Powers. I am representing the Michigan Department of Natural Resources, Office of Toxic Materials Control.

We have the responsibility for implementation of Michigan Act 60 of 1976, more commonly known as the PCB Control Act. We have requested time at this informal hearing to present our views on how your proposed regulations for marking and disposal of PCB will impact on PCB legislation already in effect in Michigan and to propose some possible alternatives to and modifications of the regulations you have proposed.

Michigan has been very concerned about the impact of PCB's in the environment since 1969. Some fish species in each of the Great Lakes on which Michigan borders have concentrations of PCB in excess of the FDA guidelines for human consumption.

There has been no indications in the latest fish samples analyzed that these PCB concentrations have begun to decrease. Warnings against consumption of these fish species have been issued.

A copy of this warning is attached. The effect of these warnings on Michigan's large and important recreation

cp16 1 industry could be substantial.

2 Michigan has had an active PCB Control Program since
3 1971. We have taken samples from over 100 Municipal Wastewater
4 Treatment Plants and over 300 industries. Many of these
5 facilities have been sampled numerous times. Several large
6 point sources of PCB were discovered. The facilities took
7 corrective action, often at great expense, and switched to
8 non-PCB substitutes.

9 In 1976, the Michigan Legislature passed Act 60
10 to give the Department of Natural Resources greater power to
11 control PCB. This Act and the administrative rules promulgated
12 pursuant to the Act became effective on April 1, 1977.
13 Copies are attached.

14 Briefly, the Act bans the manufacture, sale and
15 use of PCB in Michigan except in transformers and
16 capacitors. The Act and rules provide labeling,
17 reporting, and disposal requirements. Provisions are also
18 made for the exemption of incidentally or residually
19 PCB-contaminated materials.

20 On April 1, 1977, booklets containing information
21 on the Act and the necessary reporting forms were mailed to
22 15,000 Michigan industries. A copy of this booklet is
23 also attached.

24 Compliance with this act has been very good.
25 Approximately five violations involving the use of small

epl7 quantities of PCB have been discovered. Enforcement action will be taken to bring these violators into compliance.

Once the reporting forms are fully processed by computer, we will know the use patterns of the remaining PCB in Michigan. Annual reports will also yield information on where and how PCB is being disposed of in Michigan.

I feel quite confident that by March of 1978, after the first annual reports are processed, we will have the most complete data available anywhere on the use of disposal of PCB. The data will be used to determine what further steps, if any, must be taken to control the remaining uses.

Michigan indutries using or storing PCB must also submit a Pollution Incident Prevention Plan. This plan outlines how the industries propose to prevent, detect, contain and clean up spills. An example of such a plan is attached.

This plan was submitted by one of our large electrical utilities. They have generously allowed us to use this plan as a model that other facilities can follow. The company has removed all reference to themselves on the advise of their legal counsel.

I have gone through this brief history of PCB Control in Michigan to establish a basis for the following proposal. That is, changing these proposed regulations to allow delegation to indivudal states of PCB control authority under

epl8

section 6(e) of TSCA.

States could develop PCB Control Programs within EPA guidelines. These programs could be approved by EPA and would then function with a minimum of guidance and review by EPA.

The precedent for such a system has been established by other programs including the NPDES permit program. Such a program could have the following benefits.

One, the conflicts between the Michigan Legislation already in effect and the PCB regulations being proposed by the U.S. EPA could be more easily eliminated. I will outline these conflicts later.

Two, The Mighican Department of Natural Resources is more familiar with PCB problems in Michigan than the U.S. EPA would be and is better able to develop a program which will meet Michigan's particular needs.

Three, enforcement of PCB regulations can be integrated with state enforcement programs already in effect resulting in a more efficient and effective program.

Four, the need for two levels of bureaucracy doing exactly the same thing would be eliminated.

Five, theU.S. EPA could concentrate their limited personnel and resources on enforcement of PCB regulations in states not having approved PCB Control Programs.

I strongly urge you to consider this proposal.

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I will now devote some time to specific areas of conflict between the Michigan Act and the proposed EPA PCB regulations.

The first area is marking. There is a direct conflict between the label Michigan facilities are required to use and your proposed labels. Our label was developed jointly with the American National Standards Institute and was to be published in the revised C107 guidelines. These C107 guidlines have been held up awaiting the promulgation of your regulations.

We once again urge you to consider adopting our label. This will save Michigan industries the considerable time and expense involved in relabelling equipment which has already been labelled.

We also urge you to leave the door open to alternatives to marking for existing equipment. We did this in our rules by requiring that facilities be able to differentiate between PCB and non-PCB units.

One method of differentiation is marking. An alternative developed in Michigan is to mark all new non-PCB capacitors clearly and to handle and dispose of all non-marked capacitors as PCB-containing units. This policy is set forth as part of the companies Pollution Incident Prevention Plan.

Such a system is particularly valuable to large

cp201 electrical utilities who may have 30,000 to 40,000 power factor correction capacitors. We believe that such a system will do as good a job of protecting the environment as would a complete labeling program.

Adoption of our suggestion of approving State PCB Control Programs would go a long way toward solving these conflicts. Within reason, states could develop their own systems for identifying equipment already in use.

Our label, for example, provides basically the same information as your proposed label with some additional information. It would seem that our label would be as good for existing equipment. This would save Michigan industry much time and trouble. We do feel that one common label is needed on a national level for all new equipment produced.

Two, disposal. We believe that this part of the proposed regulations could be greatly simplified by reducing the many distinct types of PCB-contaminated materials to two, combustible and non-combustible PCB-contaminated materials. This was the approach taken in the rules promulgated pursuant to Michigan Act 60. All combustibles would be incinerated and non-combustibles would be landfilled in approved chemical landfills.

Combustible PCB-contaminated materials would be defined as those for which an acceptable incineration method is available which destroys the PCB.

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This approach not only greatly simplifies the regulations but it also adds flexibility. We believe that it is doubtful that enough incinerators will be available by July 1, 1979 to handle all capacitors bound for disposal.

The approach outlined above will allow capacitors, for example, to continue to go to chemical landfills until incinerators are available to handle them. When incinerators are available which can handle capacitors, the capacitors will automatically have to go there. This system will also provide an incentive to people to develop these incinerators because they will know that if such an incinerator is developed, capacitors will have to go there.

We also propose that states with qualified solid waste and air pollution programs be delegated the authority to approve incinerators and chemical landfills for PCB disposal as a part of the general EPA approval of state PCB control programs which has proposed earlier.

We believe that many state solid waste and air quality programs are in a better position to evaluate the physical characteristics and management of landfills and incinerators than the EPA regional administrator. This would also eliminate a double system of approval by state and federal governmental agencies.

Generally, we think the proposed EPA regulations are adequate to control the marking and disposal of PCB.

cp22

It is obvious that much thought and work has gone into the development of these regulations. It is unfortunate that the timing was such that the Michigan legislation had to go into effect only a few months prior to the federal regulations.

This may have the effect of punishing Michigan industries for being ahead of the rest of the nation in regards to PCB control. We strongly urge you to consider the impact of this potential double regulation on Michigan industries and our proposed modifications before you finalize the proposed PCB regulations.

Thank you for this opportunity to testify.

CHAIRMAN WIRTH: Thank you, Mr. Powers.

Claire, we will start at your end.

MS. WELTY: I have no questions.

CHAIRMAN WIRTH: Bill.

MR. PEDERSEN: In general, Mr. Powers, what is your opinion of the suitability of chemical waste landfilling for disposing of PCB's in enclosed form, such as in capacitors or fluorescent light --?

MR. POWERS: Well, obviously, the only method of destroying the PCB is by incineration. That is the one that we would prefer. However, we have no incinerators in Michigan at the present time which can handle any PCB's. I don't know -- I think that the chemical landfills are as good a means of disposing of them right now as there is available.

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The only means, until such time as these incinerators are developed.

MR. PEDERSEN: Do you have any data or experience that you can share with us on your experience with chemical waste landfills in Michigan? How long have you used them? What quality of containment have they provided?

MR. POWERS: Up until the present time we haven't really had what you would call chemical landfills in Michigan. Most our waste has been shipped to ILlinois, which presents some real moral problems as far as I am concerned.

With this act, the rules also call for the development of criteria for landfills and for evaluation of landfills in Michigan. Our solid waste management unit has developed criteria for landfills which in some cases are more stringent than the criteria that you have put forth. And they are going about evaluating landfills at the present time and have approved approximately three for PCB waste in Michigan.

These are not chemical landfills, per se. They are licensed landfill areas, but evaluated on the basis of how much containment they provide to keep PCB's from entering the ground water, surface water, thickness of clay. That type of thing. The same types of criteria that you look into.

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Mr. PEDERSEN: What do you mean they aren't chemical landfills, per se?

MR. POWERS: Well, they are not approved to accept any chemical. They are approved specifically for PCB -- in other words, they are designated as a PCB landfill, but not as a general chemical landfill.

MR. PEDERSEN: On what are you relying when you question whether the incineration capacity is available by the time of the proposed regs say it should be?

MR. POWERS: Well, on the basis that within our area right now there are no incinerators which can handle PCB.

MR. PEDERSEN: We have heard --

MR. POWERS: We are talking about solid --

MR. PEDERSEN: That is right. I understand.

We have heard an earlier participant state that it is very, very difficult to get the necessary state and local permit to construct such an incinerator. Do you have any thoughts on that?

MR. POWERS: Well, I think that that is the other part of why we think that the incineration facilities are not going to be available. I don't think in two years that it is going to be possible to have somebody to design, build and get the necessary permits to have these incinerators in operation.

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MR. PEDERSEN: Have you had any experience in Michigan that you know of with someone seeking approval to build such an incinerator?

MR. POWERS: Yes.

MR. PEDERSEN: And what happened?

MR. POWERS: It got kind of bogged down in county health department problem and public relations problem within the area that they are in. Citizens are very much against -- you get the same problem -- you shouldn't take this specific case really because you get the same problem anytime that you propose a landfill or any facility that may handle hazardous waste. People do not want it in their backyard.

MR. PEDERSEN: Does your office or your department take any position to help these people?

MR. POWERS: Well, our position is that we will evaluate the incinerator on the basis of its qualifications and if it qualifies and if it is built such that it will destroy the hazardous chemical which it is handling, that we would approve it.

MR. PEDERSEN: But do you help the person who wants to build the incinerator landfill out at all with the local authorities?

MR. POWERS: What kind of help?

MR. PEDERSEN: Consult with them, reassure them.

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MR. POWERS: Yes, yes. In this particular incinerator that would like to burn PCB, we have had several meetings with them.

MR. PEDERSEN: With the local people?

MR. POWERS: With them -- not with the local people. With the county health department and the incinerator and state personnel.

MR. PEDERSEN: To what result?

MR. POWERS: I am not too sure. This incinerator does have a scheduled public hearing coming up. We will also be testifying there in their behalf, but it looks like the incinerator theoretically can handle the PCB. They have done test burns proving that they can handle it.

MR. PEDERSEN: Where do they do the test burns, if they haven't built the incinerator yet? Or this is an incinerator that exists and wants to burn PCB?

MR. POWERS: It is a cement kiln that exists and wants to burn PCB's.

MR. PEDERSEN: Who owns it?

MR. POWERS: Peerless Cement Company. You will hear from them this afternoon.

But there is a public relations problem anytime that you want to do this type of thing. Certainly we, on the basis of the expertise that we have available in the department, would, youknow, provide that expertise at

cp27 public hearings or whatever supporting the construction and operation of these incinerators. But there is sometimes just no way you can deal with the emotional and political aspects.

MR. PEDERSEN: But you think that these problems are easier to deal with for landfills than for an incinerator or is it just that you need fewer landfills?

MR. POWERS: I don't -- the landfills don't have to go through the permit procedure that incinerators do at this time. The permit procedure calls for, you know, public input,that type of thing, so it is much easier for the public to stall those types of things than it is for a landfill in Michigan at this time. The procedures are different.

But, generally, you know landfills we have in effect, we are not approving or looking at new landfills not because we don't want to be, because there aren't any proposed, but there are existing landfills that are licensed that would go one step beyond and meet additional criteria to handle PCB.

So it is really just an in-staff evaluation of these landfills. There is nothing additional in the way of licensing or anything.

CHAIRMAN WIRTH: Do I understand correct, that in Michigan there is existing landfills that you expect to

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approve for PCB containment?

MR. POWERS: Yes.

CHAIRMAN WIRTH: There is also at least one incinerator, namely, the cement kiln, that you also tacitly or expect to approve for permits to burn PCB's?

MR. POWERS: That permit approval is not in our hands. It is in the county hand, within county health department are the ones that would handle that permit.

MR. PEDERSEN: And that would be for liquid PCB?

MR. POWERS: That would be for liquids. Yes.

MR. PEDERSEN: But not for solids.

MR. POWERS: Not where they have set it up now.

CHAIRMAN WIRTH: They are not required to have an air pollution permit?

MR. POWERS: Yes. They have an air pollution permit.

CHAIRMAN WIRTH: THey have that, which your department issues?

MR. POWERS: No, the county issues it.

CHAIRMAN WIRTH: Oh, the county issues that in Michigan?

MR. POWERS: Right. This one county has the authority delegated from the state to the county -- the county can handle that function within their jurisdiction.

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CHAIRMAN WIRTH: What is holding up that activity then?

MR. POWERS: It has been a political problem basically. Now they have a scheduled public hearing coming up.

CHAIRMAN WIRTH: Is there an injunction against the company or anything from proceeding to burn?

MR. POWERS: No. A bureaucratic injunction I think it is.

CHAIRMAN WIRTH: -- permits are theoretically ready to go; is that correct?

MR. POWERS: They have an air permit, but they don't have the PCB -- they are not permitted to burn PCB at this time. That is what they have to add to the permit.

CHAIRMAN WIRTH: They do not have the air permit for the burning of PCB?

MR. POWERS: No. That is what the public hearing would be on.

CHAIRMAN WIRTH: That is what the county is attempting to issue or contemplating issuing.

MR. POWERS: Considering

CHAIRMAN WIRTH: Considering. And there is considerable opposition to that?

MR. POWERS: Local opposition within the --

CHAIRMAN WIRTH: In the case of PCB's, have you --

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in the case of landfills, have you given any -- does anyone have the authority or do they need the authority to start landfilling PCB's in Michigan?

MR. POWERS: They have to have the authority. Our rules state that each landfill which can accept PCB has to be specifically approved in writing. So --

MR. PEDERSEN: By you?

MR. POWERS: By the department, yes.

CHAIRMAN WIRTH: Have you approved any yet?

MR. POWERS: Three of them have been approved.

CHAIRMAN WIRTH: Did you receive any opposition on those approvals?

MR. POWERS: Like I said, it is a different procedure.

CHAIRMAN WIRTH: Did you hold hearings on them?

MR. POWERS: No. It is an in-staff approval.

CHAIRMAN WIRTH: Was there any public announcement of that approval or any recruitment of public input?

Would you care to estimate whether you expect any opposition once the activity starts and it is known that it is going on?

MR. POWERS: The activity is going on right now. I don't know. I would expect that it would get opposition. Yes. It is expected all --

CHAIRMAN WIRTH: Your sister state out there, of

cp31 course, has had plenty of opposition --

MR. POWERS: Which?

CHAIRMAN WIRTH: In Illinois.

MR. POWERS: Yes, I would say that they had some opposition once it was discovered.

CHAIRMAN WIRTH: Oh, okay. I am informed the record won't show. The opposition was against bearing PCB's, specifically Wilsonville, Illinois.

MR. PEDERSEN: No more questions.

CHAIRMAN WIRTH: Harold.

MR. SNYDER: Yes. A couple of questions.

You have indicated Michigan's interest in being designated as having an adequate PCB control plan. Does the state of Michigan contemplate requesting an exemption to section 18 of the Toxic Substances Control Act, whereby we would -- that provision of the law sets up a mechanism where the agency can grant an exemption which would allow your laws to remain in effect. As you may or may not understand, TSCA has the provisions in it whereby state laws would be pre-empted by federal regulations in this area unless the agency granted some specific exemption.

Perhaps I should put that in the form of a question. Are you aware of that provision in TSCA?

MR. POWERS: No, I haven't been.

MR. SNYDER: Perhaps other representatives in

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Michigan may be, but I am interested in a procedural way whether you contemplate requesting an exemption whereby your regulations -- or at least some form of your regulations could remain on the books.

On the line of --

CHAIRMAN WIRTH: I have another question on the line of preemption.

MR. SNYDER: Okay.

CHAIRMAN WIRTH: As Mr. Snyder pointed out, the regulation -- and I will repeat it -- the federal regulation would preempt the state unless the state has a complete ban on the material and then your regulation overrides. You do not have a complete ban but you are tougher in certain areas than the federal regulation.

You may request the federal agency administrator of EPA for an exemption to the preemption and he may grant that if it does not interfere with interstate commerce.

My question is assuming that you are tougher in certain areas and assuming you would ask for the exemption to the preemption, are there any requirements in your regulation that you can think of off-hand that would be, if allowed to stand and the federal regulations stood for the rest of the country, would it impede interstate commerce?

In other words, so that it would put us in a position that we cannot grant the exemption?

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MR. POWERS: The only one would be the labelling probably of new equipment and that we agree that there has to be a standard label on a national level for new equipment with PCB containing equipment.

CHAIRMAN WIRTH: -- the requirement to label specifically for Michigan versus the rest of the country could be made, that would be interstate --

MR. POWERS: I would think so.

CHAIRMAN WIRTH: That is difficult.

MR. POWERS: But otherwise, it is within Michigan.

CHAIRMAN WIRTH: Is your labelling requirement for new equipment in effect as of this moment?

MR. POWERS: Yes.

CHAIRMAN WIRTH: How long has that been in effect?

MR. POWERS: Since the first of April.

CHAIRMAN WIRTH: First of April. So items have been labelled. Do you have a labelling requirement for existing equipment?

MR. POWERS: Yes.

CHAIRMAN WIRTH: How long has that been in effect?

MR. POWERS: The whole act went into effect the first of April.

CHAIRMAN WIRTH: Are they putting labels on now

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or do they have a certain period of time in which to --

MR. POWERS: Labels are being put on now. There was no time period given. Technically they should be all on by now.

CHAIRMAN WIRTH: Okay. No time period given, so as of April 1st they should have all had labels on. Or, I understood your labelling program to be one of each user and holder of PCB items was free to do whatever he wanted as long as he was capable of identifying one -- a PCB item at all times?

MR. POWERS: Well, I don't think I would say free to do whatever he wanted. Certain things have to be labelled. The only -- capacitors and transformers are handled differently than our other equipment. Any other equipment, like hydraulic systems which are still incidentally contaminated or residually contaminated or any other equipment of that type would have to be labelled.

The transformers also would have to be labelled. The only difference would be with the capacitors and that would have to be under -- they could propose a different means -- they have to be differentiated between PCB and non-PCB.

Now, in order to do that, they would have to propose it in their pollution instant prevention plan which is reviewed by us and approved. So they have it down in

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writing. If they have an alternative method such as marking all the new Non-PCB capacitors and considering all existing non-marked capacitors as PCB containing, they would have to set that policy forth from their pollution instant prevention plan, so that it is formalized and also that plan is then distributed within the company and all the people in the areas responsible for it, must have access to that plan.

So it is a formalized plan on their part and it is approved by us, so that if anybody else comes up with a different means of differentiating, they can propose that in their pollution instant prevention plan also. But it has to be reviewed and approved by us.

CHAIRMAN WIRTH: Okay. Thank you. Harold, back to you.

MR. SNYDER: On this issue of adequate state plan that we have discussed in some detail here this morning, two factors. One, you have a fairly streamlined procedure at the moment for approving the disposal of PCB's in land.

And on the other hand for incinerators, the state doesn't really have a program. It is a county program.

MR. POWERS: No. The state -- one county in Michigan has been designated and that is Wayne County. The state handles the rest of the state.

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MR. SNYDER: Okay. I stand corrected.

Let's see, Wayne County is --

MR. POWERS: Detroit.

MR. SNYDER: Detroit. That is the biggey? Okay.

So your state program, at least in that county, does vary. Okay. That clarifies that point.

I wanted to get on to the labelling issue a little bit. As I recall -- well, we discussed labels in earlier testimony here. We had one witness describe the ANSI label as a product of the lowest common denominator in terms of the information in that label.

My own review of that label has indicated at least one slight -- I don't know whether it is slight or not -- but at least one --

MR. POWERS: Are you talking about the current ANSI label?

MR. SNYDER: I think I am talking about the current ANSI label.

MR. POWERS: Okay, see, we negotiated with ANSI. They were coming out with new C107 guidelines and our label was -- the one that we accepted and they accepted was to appear in their new guidelines and that was substantially changed from the one that exists now.

end II

MR. SNYDER: Do you have a copy of that label?

MR. POWERS: Yes. It is in one of the attachments here. It is in the rules.

Tape 3-A
JF:emb-1

MR. POWERS: Look at Attachment 4.

MR. SNYDER: About how many inches down?

MR. POWERS: It is the page that is prior to attachment 5. Which is the last attachment.

Numbered page 16. Ed loves 8 by 10-1/2 inch paper and nobody else does so we dropped the page numbers in the process. I think you have the rule right there now.

(Pause)

MR. SNYDER: Rule 10. Let me take a moment to glance at that.

I think this is essentially the same label that I've reviewed before. I think there could be a slight variation. One of the specific comments that I have is that you refer to the 800 number for the national response center for transportation emergencies and the national response center has a much broader responsibility than transportation emergencies. Of course you also refer to Chemtrec, and Chemtrec, that number is used for transportation emergencies and Chemtrec number is set up by manufacturing chemicts association. I had a personal concern that confining the national response center notification to only transportation emergencies involving PCBs would overlook other incidents that would be of significant environmental concern. Do you have any comment on that?

MR. POWERS: I think it was, the theory was that

if people arent familiar with it were to come in contact with these, it would be in transportation emergencies. Capacitors and transformers, any PCB equipment remaining in operation in Michigan would do so under the prevention plan of the company and that company sets forth exactly how they a re to handle any other type of -- any spill or anything.

MR. SNYDER: Well, is your concern on the label that we allow this label to stand in Michigan or that we should consider adopting this label nationally?

MR. POWERS: One of the-other.

MR. SNYDER: Okay.

MR. POWERS: We'd like to have you consider adopting it nationally. I don't think it is that much different. The two labels aren't that much different. Just unfortunately ours is in effect already, and it is going to have a large impact on Michigan companies if they have to go back and relabel.

If you -- we understand the need for one label for new equipment on a nationalized basis but I think our label is adequate on existing equipment in Michigan to handle the balance, along with the rest of our -- I think our overall program along with which the label is part, is enough to handle any spills or anything that would occur. So I don't see the need for the companies to go back and relabel everything that tey've already labeled just, put a very similar label on

that EPA is -- approval of a state PCB control program would solve that problem I think, if you would accept our label as part of the program that we propose to you.

MR. SNYDER: So you feel that your specific program can account for whatever problems I have inthe label? Now that may not be applicable to another state.

MR. POWERS: Yes. I think it is an individual type of thing. Another state may not mandate that they have a prevention plan. This plan sets forth who they are to contact, it also sets forth what they are to do when a spill is discovered, how they are to handle it, where it should be disposed of, it goes through the whole -- all the ramifications of PCB really and each of these is to be approved on the state level.

This plan is supposed to be available on the corporate level to each person who will come in contact with this type problem.

MR. SNYDER: Perhaps you think for the purposes of the record I should read this level or just submit it?

MR. PEDERSEN: Submit it.

MR. SNYDER: Okay. You indicate in the label that you should consult a manufacturer in case of leaks or spills. Is manufacturer information that available, are the manufacturers a good source of information for what to do in the event of a leak or spill?

MR. POWERS: I think generally now they are, yes. Particularly in Monsanto.

MR. SNYDER: Well -- if we deal with the long life --

MR. POWERS: Monsanto is the manufacturer of the chemical. And now you are looking on the side of a piece of electrical apparatus that Monsanto has identity there, and I am sure Monsanto would love to get out of the expert business on PCBs as soon as they stop manufacturing, etc. So that then puts the individual in a position of contacting the electrical manufacturer and I am not here to suggest that the electrical manufacturers don't have a high degree of competence. They are not by definition environmental experts. And in some cases may be out of business because they did such a good job that nobody needs any more capacitors, because they lasted too long so that sort of leaves a void.

I think it depends upon what situation you are looking at,too. Any place within the company where a leak occurs or something, it should be covered in the pollution prevention plan. Again a very specific situation for Michigan.

MR. SNYDER: Right. And your labels supply a generator -- large items as I recall. In other words, what is the smallest capacitor that would get a label?

MR. POWERS: Three pounds of PCBs.

MR. SNYDER: Three pounds. Which would be a large

capacitor by our definition.

MR. POWERS: A large capacitor by our definition too.

MR. SNYDER: Okay. And we heard testimony yesterday that indicated that there is virtually nothing between three pounds and 15 pounds -- that 15 pounds of PCB seems to be the level where you have PCB and you would label that.

MR. POWERS: Right.

MR. SNYDER: You would label that.

MR. POWERS: Basically what I accept is the power faction correction.

MR. SNYDER: Utility owned large units.

MR. POWERS: Well, it is not only utility. There are a number of private industries that buy above power and do own capacitors and transformers.

MR. SNYDER: And they -- anyone that owned a transformer of that type would have to submit a pollution incident.

MR. POWERS: Anybody that uses PCB at all in the state of Michigan. No matter who he is he has to present --

MR. SNYDER: But if he has capacitors that are 3 pounds or smaller, that is in dielectric liquid content.

MR. POWERS: Right.

MR. SNYDER: Is that right? That is not total weight of the capacitors?

MR. POWERS: No. Dielectric liquid, correct.

MR. SNYDER: Anything three pounds or less in an individual unit? In other words do you add the aggregate or just individual units?

MR. POWERS: individual units.

MR. SNYDER: Then he wouldn't submit such a plan?

MR. POWERS: No.

MR. SNYDER: Do you have any thoughts as far as the benefits of some form of labeling for smaller -- really retrolabeling, I am going to assume that you see -- well, I am not going to assume anything.

What labeling program, both newly manufactured items and on items currently in service do you feel is appropriate for units containing 3 pounds or less of dielectric liquid?

MR. POWERS: I think in the newly manufactured items there is no problem in labeling. On the items already in existence I think there is a real big problem.

MR. SNYDER: Okay, do you see a value? In other words there is no problem with labeling but even there is no problem there is obviously some cost so do you see a benefit?

MR. POWERS: New items? Yes. I think it is worth while, on the newly manufactured ones.

MR. SNYDER: And the existing?

MR. POWERS: It is so simple to do that you know,

the cost benefit ratio is very good. On existing now I am not sure that it is worthwhile. So many of these things are -- you run into some real problems with the ones that are buried or there or in appliances or in the household. I just don't really think it is realistic to expect people to tear the capacitors out of their refrigerators or appliances or whatever in private homes.

In industry, in electric and light ballasts I think it probably is more realistic the way things are done to require them to dispose of it properly.

Labeling being a part of disposing of it properly. But I am not sure there either that it is really necessary to go back through and label every capacity that is in existence in light ballasts or whatever.

CHAIRMAN WIRTH: On that same issue, we heard some testimony I believe on Friday, the utility companies suggesting that the most appropriate person to indicate on their label to be called would be the utility. That the user of that particular piece of equipment was the one best capable of responding to this bill and also the one -- or leak -- and the one that was also most interested from a time standpoint which is where we're going to have problems in this transmission and distribution system.

Do you have any opinion on that? Would you agree with that, or --

MR. POWERS: If it's practical I would say yes. They are the best ones to respond to it. They do respond to it in Michigna.

I think most of the time they are also the ones that find it. Through their routine surveillance or if their capacitor banks start blowing out, things aren't going to work properly, and they trace down what the problem is. In Michigan they have been the ones that found their own problems. Also many times these capacitors aren't in areas where the public has a great deal of accessibility. Capacitor banks are well protected behind fences and things.

MR. SNYDER: You heard the comment this morning about labeling individual capacitors in the capacitor banks versus a label in the vicinity and maintaining records, saving shutting down the whole bank. Do you have any view on the program that we've proposed or the alternative that we've proposed for large banks of capacitors, just labeling on the fance or something?

MR. POWERS: I have no objection to that really as another alternative method of labeling. In Michigan the -- also part of the pollution prevention plan is that utilities would have to maintain an inventory and indeed many of them have it computerized so they keep things coming in and out as it happens and do have a very good inventory which is fairly up to date in terms of maybe two weeks entry and striking time

on new and old units that go out of service and they have a good inventory, what they do have. Also they are required toreport to us what they have each year. Not individual units to us but rather total composite of how many units they have, how much PCB it contains and the size range of those units.

MR. SNYDER: They actually report that to you?

MR. POWERS: Yes. That summary information. They don't report each of their individual units to us. The same thing for the pollution prevention plan. They do not have a listing there. Unless they are a small utility or a small company which maybe you know has a relatively small number of capacitors, and they do list the locations. But they indicate in the pollution prevention plan, what type of filing system, inventory system they have, that this is available to the state upon request, and kept up to date, they just indicate what their filing system is and inventory.

MR. SNYDER: In some areas, this is sort of an overall comment, my previous examination of Michigan laws and regulations, some aspects of the problem, it is probably safe to say that you are more comprehensive than what this federal regulation has indicated, just in the area of records and reports for example, submission of information to your agency versus retention of information in the federal regulation.

What kind of reception did this law and the related

regulations get in Michigan, both the public kind of reception, but more particularly industry, those who were going to be directly affected by any of these activities?

MR. POWERS: I think we got a very good reception. When the law was passed we got together a committee of industry, environmental groups, governmental agencies, and they were the ones who drew up our rules to implement the legislation. It really seemed to work very well because a lot of industries had their inputs and the minimal comment at public hearing and the acceptance -- you know, just mailing out a booklet, which I included in here, this size, you would think would stir the wrath of many people, and it has to a few. But we put our telephone number in there and our name. Anybody has any questions or anything can contact us. There were many people that contacted us but most of them were very nice. They wanted to cooperate and I think it has been received very well.

MR. SNYDER: Do you have any view on how you think a program like this might be accepted outside the state of Michigan, I'm kind of -- maybe it's an unfair question. But do you feel that the climate in Michigan, either public concern for PCBs or public concern for environmental issues in genral is different than what you observed or may have discussed with your compatriots in other states?

MR. POWERS: I'm not -- I guess I am not realy sure

on the nationwide basis. There are a few factors in Michigan which may be different.

We can point to the Great Lakes. And there has been a lot of publicity on the PCB problems and our fish there, and say that we are ruining that resource and that was why this legislation was put into effect, was to attempt to stop that from happenning.

It might not be a thing that a few other people can point to in different states. We also went about it a little more differently being on a state level, there was a better chance for input in the very early developmental stages I think by industry, and industry organizations, and I think with that type of input they actually feel it is their regulations more and they turn around and they defend the regulations also, whereas on a national level it is harder, you didn't really take that tack of developing that way so that might make a difference.

But I really don't know what the acceptance would be.

MR. SNYDER: Did Michigan develop, implement any specific public education programs, in other words did the state launch anyspecific public education programs on PCBs?

MR. POWERS: Nothing really on a professional level. We tried to keep news releases and we tried to also represent it on our committee that drew up the regulations,

with our Chamber of Commerce and several industrial organizations, manufacturing organizations, and they, through their newsletters also kept their people up to date and solicited comments. But we didnt really haveany high financed program that went out and sold it to the people. We just tried to have news releases and we tried to say why it was needed and what we were trying to accomplish.

MR. SNYDER: This was in the frame of reference of those areas that you were specifically regulating for the most psrt? In other words you don't regulate much under items three pounds or less, they are largely exempt from your provision.

Do you feel that there would be valuein a public education program to try to get as many of those PCB articles into adequate collection and disposal system as possible?

MR. POWERS: I think there is a real value there in terms of mitigating possible environmental damage. Everyone that you pick up is one less that is going to be improperly disposed of potentially. Our rules do call for voluntary guidelines to be set up andpublished which we are in the process of doing right now for disposal of the units smaller than 3 pounds. What this is going to amount to is that they be collected and taken to the same point, same landfills as the larger units. I think this is especially suitable for like industry and that type of thing where they

are going around changing ballasts, and have a readily, a program which they can readily take these things out and keep them in the area till they have a certain amount and then ship them out. We just couldn't see how it could pertain to the private homeowner, just from the practicality, that they made it very difficult. Most of the people, you tell them to tear the television set apart and take the capacitor out they wouldn't know what they are looking for anyway.

So I don't really think that part of it is practical. It may be even dangerous. You know you get these people fooling aroun d with their television sets, they will electrocute themselves. Potentially.But for the return, I don't think the practicality is that great.

CHAIRMAN WIRTH: Steve?

MR. WEIL: I just have a couple questions, and I guess they are partly out of my own confusion in this thing.

Are transformers and capacitors required to be marked in Michigan? I mean you have to go out and find the large ones. This relates back to Harold's statement aboutcapacitor banks and you said something to the effect that it would be, would sound okay if they markd the fence line around a capacitor bank. Are they now required to mark those capacitors?

MR. POWERS: There is not a marking requirement per se. First of all, they are required, each company in Michigan is required to find out if it has any PCB in its

premises at all, in anything. So you know some of these companies really went through extensive investigations to find out, you know, tracing it back to the manufacturer, writing letters, getting it certified, saying that no, this doesn't contain PCBs or yes this does. It is not that easy. When you have a capacitor or transformer you bought 20years ago, to figure out whether it has PCB or not is going to be a big problem, even on a national level.

But, yes, each companyin Michigan is required to find that out. And on these reporting forms that are in here, they are required to submit to us how many they have of each type.

How much PCB they have into them.

Also, on the pollution prevention plan, on the plan they are required to differentiate, is the word that we use, between the PCB containing and non-PCB containing. Now labeling each one may be ameans of differentiating, but if they can come up with another system that does as good a job such as labeling all new ones and considering all unlabeled ones as PCB containing or marking a bank such as that, I think that is just as good, you know, for these specified uses.

But one problem I can think of with labeling a bank is that you start getting a mix, you are going to run into the same type of problem so you almost have to have a

combination btween yes we're going to label the banks as some of the units are PCB containing but we're also going to have this other policy whereby any nonlabeled units, saying that they are non-PCB, any of these units that aren't labeled will be considered as PCB and handled as such. So you are going to run into the same type of problem there, really.

MR. WEIL: The other question I had had to do with your Pollution Incident Prevention Plan. Who has to have a pollution prevention plan or incident prevention plan and does the plan just cover toxics in general or just PCBs?

MR. POWERS: The plan is not required by the PCB legislation. It is reiterated more or less in our rules. Anybody having oil, salt or polluting materials has to have a pollution incident prevention plan in Michigan. Now these polluting materials are defined as those materials on our critical materials register. And that is currently in the process of being revised, currently has about 60 compounds on it which include some of the metals as well as your inorganics and pesticides, we are revising that. It is going to be much more extensive, much more specific. That will be out for next year's report. But anybody having these polluting materials also has to file a plan.

Now PCBs have been on that register since its inception in 1973 but PCBs in capacitors has been an area that hasn't been -- and transformers -- hasn't been enforced.

For one reason or another.

Through the vehicle of these rules we reiterated that we have to haveit and now we have these reports pouring in on us that we are going to evaluate.

CHAIRMAN WIRTH: I have one or two more.

I guess two. You made the statement on page 4 that when the incinerators are available, which can handle capacitors, that capacitors will automatically have to go there.

Would you tell me what mechanism, how you set that up automatically, did your regulation identify time that declares incineration available or who reviews that or just what is the mechanism for that?

MR. POWERS: No, we don't have any time set-up. But the regulations say that all -- it just talks about -- it doesn't talk about specific equipment, it talks about combustibles and noncombustibles and says that all combustibles have to be incinerated. At the present time under current technology in Michigan capacitors are not combustible. Combustible is defined basically as a method available of incineration which destroys the PCB.

CHAIRMAN WIRTH: Combustible is defined in your regulations?

MR. POWERS: Yes.

CHAIRMAN WIRTH: Okay --

MR. POWERS: So if somebody develops an incinerator in Michigan which can handle solid capacitors, at that point in time, when that is approved, that capacitors become combustible materials, they have to be incinerated.

CHAIRMAN WIRTH: You will give a specific approval as capable of handling certain types of capacitors?

MR. POWERS: Well, if that is necessary, yes. It will beyou know, if he can handle such and such a size but not large ones or something, that will be specified. But anything that he is capable of handling at that time, will automatically become combustibles and those can no longer be landfills. They will have to go to him.

CHAIRMAN WIRTH: How do you plan to get that word around?

MR. POWERS: Well, there are really two ways. First of all, people have gotten into the habit of when they have PCB problems to contact us. Also the pollution incident prevention plan will set this for, and another means is that each person who wants to dispose of PCB in Michigan has to file a manifest with us. That is one thing I didn't bring out here today.

The manifest, we have developed a manifest which basically is a three part form. The first is filled out by the producer of the waste,PCB waste, where he says how much and what type of waste he has. The second part is filled out

by the licensed hauler that hauls that waste and the third part is filled out by the person who disposes of the waste. So that is another means of cross-checking and making sure that these things are properly disposed of.

CHAIRMAN WIRTH: The manifests are filed with your agency?

MR. POWERS: Yes. It is a five-copy form. Each of the people involved retains a copy for two years in their files. Also the first and last copy is sent to DNR and cross checked by computer.

CHAIRMAN WIRTH: So that if an individual is in fact landfilling capacitors that could then be burned in the state, you would immediately know it from the manifest and --

MR. POWERS: As a last stop, you know, if we did not check it by any -- if it wasn't caught by any of the other means, when the manifest came in it would be caught.

CHAIRMAN WIRTH: Okay. The last question I have is you made a comment suggesting that the approval of incineration and landfills be delegated to the state agency head as opposed to the regional administrator. Is it not possible to negotiate that agreement with the regional administrators if the federal regulation delegates that authority to them?

MR. POWERS: I am not sure. Is it?

CHAIRMAN WIRTH: Fair question.

MR. POWERS: I think it would be much more straightforward if you put in there that he was capable of delegating that authority to the states.

I would like to reiterate that I think this is one of the most important points I've made here, that the states should be able to approve themselves, maybe even pass on to EPA for -- you know -- I think it could be handled really the way the NPDES permits are handled now with the review at the regional administrator level or something.

But I think not only would it cut down on bureaucracy, because we are going to have to approve these sites anyway within the state, but it would also I think, the state, the people who are handling these landfills and incinerators are much more familiar not only with the physical characteristics of the facility itself but also I think you have to take into consideration the management and their attitude towards things.

But I think we have some facilities in Michigan who are probably physically capable of handling this stuff who would not be allowed to handle it because they are not really that trustworthy.

CHAIRMAN WIRTH: Okay. I have no -- any others?

MR. SNYDER: Just one question from the floor.

CHAIRMAN WIRTH: One question from the floor.

emb-20

(Pause)

CHAIRMAN WIRTH: A comment from Bill Ward of General Motors says for purposes of information, the State of Indiana is also proposing regulation SPC 19, which would require preparation of a pollution incident prevention plan for PCB.

It is conceivable that other states may also require similar plans, specifically for PCB. Since other states have legislations regulating PCB.

Thank you, Mr. Ward. We are aware of some of those I think. And our file is full of various proposals from the states.

Okay. If there is no further comment we will adjourn and reconvene at 1:30.

(Whereupon, at 12:20 p.m. the hearing was adjourned to reconvene at 1:30 p.m. that same day.)

End T. 3

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CHAIRMAN WIRTH: Bill Pedersen will read some comments about the scheduling of the rest of the hearing.

MR. PEDERSEN: Yes. Since this is the next to the last scheduled day of the panel part of the hearing and since it looks like we are, indeed, going to wind up tomorrow, I just want to state what our thoughts are for scheduling the remaining rulemaking proceedings.

Since we seem to be doing pretty well so far, we are going to loosen up on the schedule as contained in the notice of proposed rulemaking and I will state what we plan to do now if anyone has any great problems with it, they can talk to us and we will have time to react before this stage closes tomorrow.

Our thought is that any request for cross examination must be received by EPA, by Mrs. Repasch, by the close of business on Thursday, the 7th of July, I believe.

We will rule on those by Tuesday, the 12th of July and we will hope to begin the cross examination on Thursday, the 14th of July and hopefully conclude it the next day, although we recognize we can't completely control that, we will make every effort to do that.

We will consider all reply comments which are postmarked July 25th or earlier. So that will be the closing date for the reply comment.

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If -- and unless someone comes to us and tells us why we should change that, this is the schedule that we will follow.

CHAIRMAN WIRTH: The next witness scheduled is with Peerless Cement.

MR. BLACK: My name is Myron Black. I am the director of Environmental Control for Peerless Cement Company. Peerless Cement Company is a division of Amcord, Incorporated. About a year and a half ago we took an active interest in what appeared to be the forthcoming problem of PCB disposal.

Since that time we have done a substantial amount of study,testing and engineering work on a potential contribution to the PCB disposal program. What I will be talking about today will be some of our observations on a broad variety of subjects on some implications that we see in the rules.

I would first like to make a few comments that are not in my written comments that have been really based on previous testimony here.

The first subject I would like to mention, that I think is important, is the question of economics. The controversy between requiring incineration or landfills has been throughout these hearings. There seems to be some disagreement as to what the relative cost of landfill versus incineration.

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I would like to offer for your consideration in pricing currently available services, both for landfill and incineration of PCB's, we found that incineration is more expensive by a factor of probably four or five.

We can't comment on what the impact is of the new rules in terms of how they change the cost picture, but I don't think the relative cost picture will change much. And the reason I say this is I think that your group should recognize that PCB's will not be incinerated unless there is an alternative available.

I think the economics have always been developed towards the lowest cost process. If landfill is allowed, landfill will be done.

Second part of that consideration is that I represent perhaps an organization that is unique in these hearings and that is somebody that has no stake in the PCB problem right now, but has taken an active interest in it and may get involved in it.

The process of a private company appropriating capital funds depends on their management saying clearly that there is going to be a market there for their services. I think that you should recognize that you have taken a strong stand towards incineration so far in the rules and if you back off of the stand that requires incineration, I think you can say goodbye to any new

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industry on their own initiative stepping in and providing incineration services because it simply will not make economic sense to do so.

I am saying this to emphasize that this is a very definite result -- will be a very definite result of how the final rules come out. I will have some more to say later on the landfill versus incineration controversy.

I would like to emphasize comments have been made before that local political problems are extremely important in this issue. And we can speak from personal experience on this matter. You may find that all your plans are thoroughly defeated by the fact that there is no way of handling the local problems that come up.

And, thirdly, I would like to disagree with the testimony of Mr. Whitten yesterday who led us to believe that one of the big saviors of the disposal problem, at least as far as liquid is concerned, is going to be the cement industry.

I don't see that happening. We are the only cement company that has substantially looked into this problem at this point that I know of. There are significant problems. The fact that the process works is only a very, very minor first start.

I think to make a broad brush stroke and say that

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there is plenty of incineration capacity because there is cement plants all over the country is a very simple-minded point of view that will lead you astray if you accept it at face value.

Let me get to my written comments -- and I will bounce from topic to topic here. Hopefully, you can follow me.

My first comment is concerning your definition of a PCB mixture. We see a problem in the disposal in that the minute that a material is no longer 500 parts per million, it is no longer a PCB mixture and no longer under the rules.

We can see where somebody would have a lot of incentive to dilute their materials below the 500 part per million level, simply to cut their disposal costs substantially. In the rules of the state of Michigan address this problem and wrote their definition of what they call a PCB contaminated material as either a PCB product or material containing any concentration of PCB if that PCB resulted from the disposal of PCB, or any method other than those specifically approved in the rules.

The effect of that rule, as we understand it, is to say, in essence, if you decide to take your PCB contaminated material and dilute it, then automatically it has got to be disposed of as a PCB material regardless of what the

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concentration is.

I think that you should address that problem in your rule.

The second subject, the preparation of transformers and containers for disposal. In subpart, your subsection C, double "i" and E double "i", the rules as written call that transformers and containers be, quote, "first drained and flushed internally, if necessary, so that in transformers no more than two percent of the dielectric volume measured to the fill line remains, and in the case of capacitors -- of containers, remaining PCB chemical substances and PCB mixtures can constitute no more than five-tenths percent of the total volume of the container."

I regard those as rather loose requirements and in comparing those to the decontamination requirement in Annex IV where you have very explicitly spelled out exactly what procedures must be necessary and I suggest that in view of doubts as to the long term safety of landfills that you consider more stringent or explicit requirements for transformer container disposal.

I would like to call your attention to the Versar report to the EPA that has been quoted so much, the one entitled "PCB's in the United States, Industrial Use and Environmental Distribution".

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In that report, if I may read from it, it states, "The most difficult problem in the achievement of thorough draining of askarel from existing transformers, much of the liquid is held in the insullation of the transformers by capillary action. Simple draining of the transformer only removes 80 to 90 percent of the liquid."

Therefore, it will be necessary to flush each transformer two or three times with a liquid which will dissolve the remaining askarel."

Now, in this section they were addressing the problem of can they change transformers over to a new fluid and put them back in service. However, this does give an indication that simple draining is not adequate to fully -- to get all the PCB's out of a transformers.

We would like to suggest in this regard that your rules be a little more explicit and requires at least one flush with a solvent before a transformer or container is sent to a landfill.

Okay. Let me address the problem of landfill. I would like to first call your attention to a recent paper. It was by doctors Murphy and Rzeszutko entitled "Polychlorobiphenyls in Precipitation in the Lake Michigan Basin". This paper was presented orally in Chicago about a month and a half ago and I was able to obtain a prepublication copy of the paper.

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And the interesting thing in this paper is that Dr. Murphy took the initiative to actually take gas samples of the vapors coming off an old landfill in Chicago and he found PCB's in the vapors coming off this landfill and I averaged his results and came up with 3240 nanograms per cubic meter.

Now, this compares to 14,000 nanograms per cubic meter measured in the Monsanto incinerator and it compares to 2473 in our own emission tests of burning PCB's in our cement kiln. This data is very preliminary, but I think it indicates that we should not only be concerned about what gets in the water out of landfills, but we should be concerned about any loose PCB's in landfills are going to eventually vaporize and get in the air.

MR. PEDERSEN: Could you supply a copy of that paper for the record?

MR. BLACK: Unfortunately, Dr. Murphy was kind enough to give me a marked up prepublication copy and I don't know if he has finally published the paper or not. As a courtesy to me he sent me the thing for my own information. It may be available by this time. I could certainly check back with him if you would like.

MR. PEDERSEN: If you would.

MR. BLACK: Yes. Okay.

We think that this business of vapors coming off

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landfills is quite serious and it again says that you should be very cautious about what you approve for landfill. I noted in other remarks said in these hearings that landfills are okay because the soil absorbs the PCB's and holds it very nicely.

I also heard that California is a beautiful spot for the landfills because California doesn't ever gain water and that things are very reliable in California. I am talking off my written remarks right now, but I am speaking as a person who has lived in California for many years and I personally observed that California is probably the worst state in the union as far as nature rearranging the landscape in terms of wind storms, in terms of floods, in terms of earthquakes.

And I am deeply concerned as a private citizen that anybody can tell us that a landfill is absolutely secure. So I am taking the position again that I don't feel landfill is a long term satisfactory solution to the problem as long as incineration facilities are available.

Okay. My last group of comments concerns your requirements in Annex I, paragraph 764.4 concerning incineration and this is a list of various observations on those requirements.

The conditions that you put forth set two specific combinations of temperature and dwell time and these

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apparently came directly out of the ANSI standards. However, I look back in the ANSI standards and found that the ANSI standards proposed these conditions as examples of things -- of sets of conditions that are known or expected to work.

I think that you should recognize that those are examples. The process of thermal destruction of a material could happen with potentially an infinite set of temperatures and dwell time combinations and I would expect that the dwell time would be some exponential function of the temperature.

Furthermore, the presence of oxygen has always puzzled me because it is not necessary for a thermal degradation reaction. I am sure what oxygen was originally requested for was to burn up the organic fragments that are created once the PCB is destroyed.

I would feel a minimum oxygen requirement is appropriate, but you should recognize that one and a half to two percent oxygen in the gases coming off will be very wasteful for any organization that tries to operate in that way in terms of energy use.

Using your approach of representing unburned organics by the carbon monoxide concentration, published literature shows that in the typical combustion system the carbon monoxide concentration in the exit gases remains

cp11 constant above a range of about .3 to .5 percent oxygen. It is in this area that I feel that the minimum oxygen level should be set.

So, specifically, we recommend that the incineration conditions published in your rules should be characterized as suggestions or examples, that the exact conditions of any proposed facility should be compared to these examples, but emphasis in a final decision should weigh strongly on the results of a burn test and ability of the facility to guarantee on a regular basis the conditions of the test.

And, secondly, that a minimum oxygen requirement should be set in the range of .3 to .5 percent unless experimental evidence can justify a higher level.

In a second area in subparagraph A3, it is required that the flow rate of PCB's to incinerator be recorded every 15 minutes. I would like to suggest that continuous recording is practical and desirable in that area.

In subparagraph A5, the minimum temperature desired may be different than what is proposed in your rules as they are now written, as I have just argued. It is recommended that a minimum temperature be set as an approval condition that is related to the conditions of the trial burn and not necessarily be a specific number that is written in the rules.

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However, in the rules you could include an absolute minimum that is required with any facility, such as 1200 degrees centigrade or 2200 degrees fahrenheit.

Preferably A5 should read as follows: "The flow of PCB's to incinerator shall stop automatically whenever the incinerator temperature drops below that specified in approval conditions."

Okay. In subparagraph 6iii, a variety of emission tests is called for. All such tests may not be appropriate for a given facility, in particular, item B is intended to demonstrate complete combustion by measuring carbon monoxide. Monitoring for an combustible is more thorough and probably easier in many situations.

Demonstration that this value is below a certain maximum, such as a thousand parts per million, should suffice.

Item C is carbon dioxide and the need for testing carbon dioxide is not at all clear to us. Carbon dioxide emissions will vary with the quality of the fuel and the waste material burn.

A change in incineration conditions will not show up clearly in carbon dioxide measurements. In our own process substantial carbon dioxide is admitted that is not derived from combustion. We do not see the need for

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carbon dioxide measurement if oxygen and carbon monoxide or combustibles are tested.

Item D. NO_x emissions would presumably have to meet local emission limits on an incinerator system. However, we do not see any reason otherwise to test for NO_x.

In subparagraph seven, continuous monitoring is requested for oxygen, carbon monoxide and carbon dioxide. These gases form a chemical equilibrium equation and, at a given temperature, specification of the concentrations of two will establish the third. Oxygen and carbon dioxide -- or, as I suggest, combustibles, are the most sensitive to conditions.

All three measures should not be needed.

In subparagraph 8iii, it is recommended that the wording be changed to combustion temperature, dwell time or excess oxygen fall below those specified in the approval conditions for the facility.

In general, I would like to suggest that facility approval should lean very hard on the results of test burns and the capability of the facility to duplicate the conditions of the test burn consistently over time. Some degree of latitude should be left here for the judgment for the approving regional administrator.

Now, I would like to go to several areas where I feel there are ommissions in the incineration requirements

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epl4 1 where you are leaving room for an unsatisfactory operation.

2 In my opinion, it is not sufficient enough that a
3 facility demonstrate it can meet your requirements and have a
4 successful trial burn. The public has to know that once
5 incineration is in operation to burn PCB's that it is going
6 to do so consistently in the proper manner.

7 I also would suggest that the waste material
8 storage system, once it has had PCB's introduced into it,
9 you will never know whether the PCB's are cleared out of that
10 system in the end.

11 So, one suggestion I have is that once a facility
12 is approved that it is required that it always operate at
13 the conditions that are sufficient for PCB burning. If the
14 EPA does compromise on this point, it will open the door
15 for an inscrupulous operator to relax their incineration
16 conditions and simply explain they aren't burning PCB's at
17 the moment.

18 And you will find it impossible to police such a
19 problem unless you have somebody on hand who is constantly
20 sampling and testing what is going into that incinerator.
21 If, however, you require that the incinerator operate at all
22 times at the conditions necessary that are laid out in the
23 permit to burn the PCB's, it is a simple job for an inspector
24 to simply see that the temperature, dwell time, oxygen, and
25 so on have been recorded and that they meet the minimums that

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are required.

Another subject is the minimum dwell which is referred to very sketchily in the proposed rule. There can be two problems with dwell time.

The first problem is that the draft can be excessive which means that you will pull PCB vapors through an incinerator too fast and they will not have adequate dwell time.

The other problem which is not addressed at all in your rule is the fact that an incinerator system could lose draft completely, which is really more likely, in my opinion. For instance, a failure would make you lose draft immediately.

If you do lose draft, your incinerator is long under vacuum and any PCB vapors or liquids that are being injected into the incinerator would simply be vaporized and be emitted through every seal and opening in your incinerator.

So, it is suggested that when a facility is reviewed for approval that the reviewing authority look specifically at these two problems. First, that the draft ban is physically limited from pulling excessive draft. This could either be a capacity limitation on the fan or speed control which includes shut-down that is a positive limitation.

Ideally the test burn should be run at full

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fan capacity;in such a way you know that they can never pull more draft than they ran in the test.

Fortunately, a lot of good engineering data is available on any specific bans so you know pretty much what a fan is doing.

Secondly, an absolutely positive shut-down control should be in place in case of a fan shut-down or any other potential cause of draft loss or positive pressure in the incinerator.

Another problem that I do not see addressed in your rule is that there are no guidelines or comments on the approval of facilities for receiving and handling the PCB liquids. In our investigation and our conclusions we feel this is probably one of the key issues, that PCB's, because of their toxicity, require much more precaution than the normal industrial waste liquid requires and we suggest that every practical precaution against spills, run-offs and drainage, loss of liquid, spill control and so on is a very important part of the proper facility.

This includes facilities for spill prevention and clean-up, too.

Secondly, we are talking about a facility that has good security. I am sure that you have all known of vandalism incidents where there has been major environmental damage due to somebody getting in the wrong facility.

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We feel that these are the big challenges in incineration, in fact, particularly any new incineration facility to look at these things as well as whether you can actually burn the material.

That pretty well summarizes the remarks I had to make.

CHAIRMAN WIRTH: Thank you very much, Mr. Black. Questions, Dave.

MR. WAGNER: I will pass.

CHAIRMAN WIRTH: Okay. Harold.

Would you like me to start with one general?

In the beginning I wasn't clear in your very opening statement whether you interpreted the regulation to mean that one could only get approval for incineration of PCB's in an incinerator-type facility operating at these temperatures and other conditions.

Is that correct?

MR. BLACK: Yes. That is the way that I read the rule.

CHAIRMAN WIRTH: Well, referring to 761.40, the paragraph A, subsection one, -- combustion -- it was the intent, I think, of this proposal to allow the approval of alternate systems providing they met the objectives of what the specific incineration requirements were designed to do and I am content there was waivers on

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page 26574 under subsection five of incineration that the burner operator of an incinerator may submit evidence to the regional administrator that operation of the incinerator will not present an unreasonable risk of injury to health and the environment and so on.

It was the intent of that paragraph to allow the approval of other techniques as they were developed, improved or demonstrated as capable of destroying PCB's as effectively and as safely as the incineration criteria specifies.

My question is do you read this some other way? Do you feel that the regulation as it stands would not allow the approval of a kiln?

MR. BLACK: Of course, I didn't participate in the writing of the rules so I really don't know what you intended.

I hoped that you had intended that. I didn't read --

CHAIRMAN WIRTH: We intended that you not interpret that intention?

MR. BLACK: No. I don't see it in there. I see it as it is written as that you have got two sets of criteria to achieve, otherwise, you would have to ask for a waiver and what is involved in a waiver, one can only infer.

CHAIRMAN WIRTH: Do you feel that the word waiver or the implication that it is a waiver will be a difficult

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thing -- increase the difficulty of getting approval? In other words, the public would be convinced you are getting an exception to something that you should conform to?

MR. BLACK: Yes. Yes. I feel that way. As a matter fact, what you are really concerned about does the incinerator proposed destroy PCB's?

CHAIRMAN WIRTH: Yes.

MR. BLACK: You are not really concerned about temperatures and all those other things except that they give you an idea as to whether your incinerator destroys PCB.

CHAIRMAN WIRTH: Okay. If you feel the waiver method is inadequate of providing a mechanism for approving other types of incineration, do you have any suggestions on how else we might mechanically handle it in this regulation to broaden that approval or broaden the ability to have other incineration-type facilities?

MR. BLACK: Yes. My suggestion is that you write the regulation, particularly A1,to say combustion criterias shall be comparable to or shall be similar to -- something like that, rather than this shall be either of the following. Have the same effect as. There are probably many ways you can word that.

CHAIRMAN WIRTH: Can we write it to a performance objective, a percent of PCB's destroyed?

MR. BLACK: That would be an interesting way of

cp20 doing it. I don't know if you have got the data that is necessary to do that, though, intelligently, but that is for you to decide.

CHAIRMAN WIRTH: We attempted so.

MR. BLACK: Yes.

MR. SNYDER: I think that the word comparable raises a series of disputes as well. I think some of the language that you are using, very much specification-oriented language, which engineers play with at times, sometimes we get bitten -- the yellow mousetrap that we thought we were getting doesn't do the job.

And one of the things that we attempted in writing the criteria was to be specific when we thought we had some information with that degree of specificity would provide for adequate destruction of PCB's.

And in the absence of any other hard data, I would say another number is equally as good, we were reluctant to open it up. Even though we recognize based on some preliminary information that cement kilns, for example, offered some very interesting alternatives and one of the reasons that the waiver section is there is to avoid shutting the door to new technology.

The question -- some of the questions really seem to relate to how we can talk about specific incinerator oriented criteria and then talk about another set of criteria

cp21 that is oriented to kiln until we have either a hard recommendation on what kinds of things we ought to have in for kilns or have a kiln approved, say, by a waiver procedure.

One of the things that interests me since it is evident that you represent the kiln cement company with potential for use of the kiln in this area, to approve any kind of a facility, particularly a new facility, is going to require some rather special monitoring, both to make us happy and to certainly convey to the public some usable information on the degree of destruction that takes place in that facility.

How do you feel about the complication, cost, at cetera, involved in setting up an adequate monitoring system for determining the emission of PCB's. I understand that it is not a terribly easy thing to sample for and maybe it is not too bad to analyze for once you have a sample and a reasonable form.

MR. BLACK: I don't know that anybody can practically monitor PCB's on a regular basis. Every study that I know of takes essentially a grab sample of the PCB's during your operation and takes them to a laboratory and you are maybe three or four weeks from getting a result back as to what you are actually doing.

I visualize that a facility would come to the

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EPA, would propose I would like to burn PCB's under the following conditions. I can operate at the following temperature, the following draft or dwell time, the following oxygen and so on. And let us plan an intelligent -- test to demonstrate that the PCB emissions are nil under these conditions.

And once that is done, the only other problem I see is the EPA assuring themselves that that facility will always be run under those conditions once it is approved.

MR. SNYDER: Would you foresee, an example that you just indicated -- I would think that a part of an intelligent monitoring program would be temperature conditions and any other kinds of combustion parameters that can be reasonably monitored and then trying to correlate that to the degree of PCB destruction that you attain.

In other words, the idea of these temperature dwell times standards that we see are a reflection of a belief that adequate destruction will occur and if we monitor those particular parameters, then we can feel fairly comfortable that we are going to get the kind of destruction we want.

So we put our eggs in monitoring things we know how to monitor, like temperatures, and not in continuous

cp23

monitoring of PCB's which technically -- I don't know that that can be done.

So we would have to do something similar to this in any kind of facility that wanted to do some alternate -- follow an alternate procedure.

MR. BLACK: Well, I see no problem with that. I think that where I see the problem is you named two different temperatures here -- 1200 degrees and 1600 degrees centigrade.

If I have a facility that I want to operate at, say, 1400 degrees centigrade, I don't read that that is specifically allowed in here without a waiver. And, furthermore, if I were you people and asked to approve that facility, I would want to know all the other data involved and then have it in actual tests to see that it does work.

MR. SNYDER: Because you want to know why you want to propose that temperature -- why you felt comfortable with that temperature.

MR. BLACK: Sure. Right.

MR. SNYDER: And try to transfer some of that comfort to us.

MR. BLACK: I am not saying here your data is meaningless.. It is anything else but meaningless, but it is, as I say, two sets of conditions that are picked out of

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potential infinite number of conditions that should be adequate.

MR. SNYDER: But it is potential. In other words, I don't know of any technical information available that would give us a plotted curve with any degree of surity, that says you can take a pick of the two and get the desired effectiveness. I think that we would often do that as engineers in terms of coming up with design curves, but there would have to be enough information to do that.

MR. BLACK: I can speak from personal experience. I have gone to permitting people and ask them to approve a facility strictly on the fact that theoretically we have far surpassed the conditions that are necessary and have had to still demonstrate good stack tests to even get ourselves heard, let alone approval.

MR. SNYDER: Is this for PCB's or other --

MR. BLACK: For PCB's.

MR. SNYDER: Maybe what we ought to do is -- let me check my notes to see what questions we have about some of these specific engineering factors and I think we have a lot more -- some other areas that we would like to get into.

We can try to stick to some of these engineering parameters and then we can enter into the --.

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CHAIRMAN WIRTH: Claire, do you have any questions?

MR. SNYDER: I just have one question.

You did make a recommendation of continuous recording of flow rates rather than every 15 minutes. Were you referring to -liquids or solids or both?

MR. BLACK: Liquids.

CHAIRMAN WIRTH: Okay. I might make one point on your comments on decontamination. Again, the rule here was intended to lay down an objective to reach in decontaminating a transformer. It was not to allow no fusses, necessarily. The point was that now I thought the rule adequately recognized that in order to come anywhere near that level, two percent of the total PCB's remaining in there, one or two or more flushes are necessary, even if you can achieve that.

And that in our wording we intended to state that if you achieve 98 percent removal, by whatever method, that would be considered adequate for chemical waste landfill.

Do you really recommend -- I must ask you this -- does the rule not make that clear? Do you really recommend that in addition add one flush?

MR. BLACK: Yes. That was my recommendation.

I found it sort of an interesting contrast between your two rules. One on landfilling and the other

on decontamination. That one specifically spelled out the procedure that anybody in the shop can follow and know that they have followed the rules.

Your one on preparing for a landfill, you are putting in what is a very, theoretically, a very desirable objective, but one that is practically impossible to really measure and the guys in the shop, I think that if you really -- I think what you will find is that people will drain what they can out of transformers or drums and say, well, that is as good as we can and that is it.

And if you come back to them and say, hey, that is not 98 percent. That is only 88 percent. They say, well, gees, how do we know.

MR. SNYDER: You think that there ought to be a cookbook as far as --

MR. BLACK: Yes. I think that that is the kind of thing -- you know, maybe you need a little research. Maybe you need to set up a shop and drain a few transformers or something. That is the kind of thing where I think the rules could call for a specific procedure and be more effective in the long run.

CHAIRMAN WIRTH: I think the point was there that we were not aware of the specific procedure that you could follow at the moment to assure that 98 percent removal, is

cp27 1 that not correct?

2 MR. SNYDER: We did not have a cookbook
3 procedure in hand at the time. I think there were
4 several kinds of procedures that seemed possible and the
5 purposes of saying what we did was to get comment and
6 I think we appreciate it.
7 I have really two general questions and you can
8 sort of sort out how you would like to respond to them.
9 One relates to the whole idea of cement kiln as a PCB
10 disposal source. It was indicated yesterday in somewhat
11 glowing terms.
12 I would like you to indicate what you think
13 is involved in terms of modifications, et cetera, in order
14 to use a cement kiln -- you be the judge of the detail
15 if you feel it necessary to convey the information to
16 us. I am thinking in terms of the kind of modifications
17 you have to make, that sort of thing.
18 What kind of problems might be associate with it?
19 And then following that, an indication of the problems
20 and difficulties that you have had in attempting to
21 obtain approvals and when encountered.

end 4 22
23
24
25

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WITNESS: Okay. First question is what's involved in the cement kiln? The burning problem is basically trivial. If you squirt liquid PCBs in the flame of cement kiln they are going to be destroyed. This has been demonstrated and we demonstrated it ourselves. It's no problem. The problem really is that a cement operation is a thousand miles different from a waste material receiving and destruction operation.

So, you've got to add the facilities to a normal cement plant to be able to receive liquid waste materials, either in bulk or in drums, to be able to handle them to be able to store them, to be able to train your people to operate with them safely and to be able to pump them to your cement plant.

Now, that involves substantial investment if you're going to do it right. Now, if you're going to do it, the quick and dirty way, if you're going to haul in an old gas station tank and drive a truck over an empty into it, and simply pump to pump out of it, you can do it pretty cheaply. And, you know, you're going to get what you pay for. In my opinion, it is our position, that if you're going to get into this thing, particularly PCBs, that you should have an ultra clean system, one that is designed to take care of spills that has no liquid escape to the environment whatsoever;

that has ways of protecting you from leaks and so on and so forth. And, this is a bit of a technical challenge and also a construction problem that involves some time doings.

Burning it is no problem. Handling liquids is a major problem. Now, the second question was, what have been our difficulties in getting into this thing? I should say, that probably the political problems involved are probably eclipsed. The enginnering technical problems involved. We solved all the technical problems over a year ago. The political problems are still with us. In our particular situation in Michigan, the authority for Air Pollution Control has been delegated to a county organization. And we applied in April of 1976 for a permit to do this. It was clearly not covered in the regulations at the time. The county authority took until November of 1976 to issue us a permit, to even run a test. The test was completed in December of 1976. We reapplied for a permit in February of 1977 and at this date, we are just now at the point of scheduling a public hearing. We expect the public hearing to be every difficult. We have neighbors who go to extreme lengths to try to block anything.

We have had politicans who have made, tried to make political careers on damming the local industry. And, we regard as a very serious situation. And, I might say in that regard that it's a problem with the EPA, possibly may be able to help that right now.

If, I'm not sure what they could do. But, if, at least they should recognize that unless some responsible agency gets in and tries to pay the way for some of these things, that the local people will stop them forever.

The Wayne County Authority could care less about the national politics. They're concern only about local politics and if they see that they are in trouble locally, that's the end of it as far as what can be done.

MR. PEDERSEN: How densely settled is the area around your facility?

WITNESS: We're in a, an area zone for manufacturing. Our immediate neighbors are all in homes that are probably 50 to 60 years old in non-conforming use areas. There is probably within a half of mile of our plant, perhaps 200 to 250 homes.

MR. WIRTH: You say your neighbors object that's been residential not your manufacturing?

WITNESS: Yes. I assure you that our neighbors have lots to object to. We back on to the Detroit sewage plant which is the biggest in the world. We are surrounded by Allied Chemical and their coat plant by a rendering plant, by oil refineries, by, I could go on forever, power plants.

VOICE: I don't know the answer to that. And if you have any answers, I'd sure like to hear them.

MR. SNYDER: I take it that some of these difficulties

have cooled some of your commercial artists or are they in the PCB business or are you still plugging away at it?

WITNESS: Well, we haven't backed off of it yet, but as I see it right now, there is a need of Michigan. You know, we've been working very closely with the state of Michigan for over a year. They have no place to send liquids for incineration that's even reasonably close. And, the need is there. Our willingness is there. If we don't go ahead, it will be because of the local regulations. With the possibility that, well, I won't add anything more to it than that.

CHAIRMAN WIRTH: Do you have another question? Does anyone have a question before I take a question from the audience? A Mr. D. Hutchinson of the American Electric Power Service Corporation has asked three questions, I guess depending on the answer to the first. Has Peerless owned or operated a chemical waste landfill?

WITNESS: No.

CHAIRMAN WIRTH: The other two then are all relative to assuming a yes answer on the first. Are there any other questions? Mr. Ward of General Motors. During your test burn program, did you analyze the off gas for organic compounds other than PCB?

WITNESS: No, we do not. I might add that the Canadian study that has been published did analyze for other gases, so that kind of information is available, but not from our facility.

CHAIRMAN WIRTH: Can you give us any information from your memory on that report?

WITNESS: Yes. They found carbon tetrachloride, methelyne dichloride and chloroform, I believe. Methelyne dichloride was found in the fractions of a part per million and I believe the others were found in the fractions of parts per billion,in all cases, very very small. I'm speaking from memory in that. Of course, that report is available.

CHAIRMAN WIRTH: Carbon tetrachloride, carbon methelyne dichloride, and what was the third?

WITNESS: Chloroform.

CHAIRMAN WIRTH: Methel cloroform.

WITNESS: And, I don't know whether that's the only three they look for.

MR. SNYDER: Did you have some difficulties with PCB admissions relative to having PCBs in water that you were using as feed supply in your process?

WITNESS: Yes. I wouldn't characterize them as difficulties, though. We discovered in the course of our investigation that the Rouge River, which is a heavy industrialized river in the Detroit area is contaminated. We just tested it and found it is contaminated with not only PCBs, but DDT, DDE, and just name any bad actor and it's there in small quantities.

We tested, our process, in the cement process. We

call it the wet process. And, what that really means that the raws material that goes into the cement kiln is a suspended slurry of solids as contrasted to a dry process which is a just fine dry dust going into the kiln, This water which we evaporate to the tune of maybe 50 tons an hours out of the kiln, is used for the process for making the slurry right out of the Rouge River. And we did find in our missions microgram quantities of PCBs for which we accounted for coming out of the water. We found about, I'd say about half of what was going in came back out our stack, evaporated out of the water.

And, I would expect that. The PCBs are so stable thermally, that in a counter current heat exchange, such as a rotary kiln, where you are putting it in the cold end, you would expect it to vaporize and leave the kiln before you would expect it to be destroyed thermally.

MR. SYNDER: How would that differ from the injection point that you would use if you were going to destroy PCBs in the kiln deliberately?

WITNESS: Well, the only satisfactory way,is that you treat the PCBs just as a fuel. And you put an auxilliary nozzle in and you point them right into the hot part of your flame. And they see 3000 degrees Fahrenheit immediately and then start cooling from there. And 10 seconds later, you're down to maybe 2000 degrees Fahrenheit. And you can be pretty

sure that the PCBs are gone by then.

MR. SYNDER: So, are you saying that the destruction of PCBs, when you add them in as a fuel, and dispose of them, is a more effective process than your ability to deal with PCBs as a contaminate in your water supply?

WITNESS: Oh, absolutely. We're talking in the water now. We're talking about very very small quantities of PCBs.

MR. SYNDER: The little devils are everywhere?

WITNESS: Yes. So, I think that hardly anybody has tested for PCBs and has failed to find them almost any place in the environment.

CHAIRMAN WIRTH: If there is no further questions we'll take a strict five minute break.

(Whereupon, the hearing was recessed for five minutes.)

Are the reporters ready? The floor is yours Mr. Philipbar.

WITNESS: Thank you. I certainly appreciate the opportunity to talk to you people today. My name is Bill Philipbar. I'm president of Rollins Environmental Services. And, we've gotten some written testimony here as well as some other testimony that I will go over as we go along here.

Rollins Environmental Services has been in the

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hazardous waste management business since 1968. We operate three hazardous wastes treatment facilities, have done so for over seven years. These facilities located at Bridgeport, New Jersey, Baton Rouge, Louisiana and Houston Texas are treated and dispose over 10,000 different waste streams during this period, including a fair number of PCB bearing materials.

These plants, all have high temperature incineration, high energy venturi scrubbers. We have chemical and biological treatment as well as secure chemical landfills at our two southern plants. Each of these plants have 40 to 50 man persons that work for us, including about 10 to 12 professionals. Control is the name of our game. Everything that comes in the plant. The is really before any thing is even shipped. A sample comes in, we analyze it, determine how we're going to treat it then each shipment that comes in, we resample, reanalyze, to make sure we're getting what we think we're going to get.

While I haven't been here for the last couple of days, I've heard that people have said that we are a dominate force in the industry, and we are. We got in seven years ago, when we shouldn't have gotten in. We have a very dynamic person that John Rollins who founded the company. We're part of a RLC Corp which is a 200 million dollar company. Matlock Trucking is one of the main portions of the company.

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John Rollins jumped into this business with an 18 million dollar investment and three plants in 1969 and 1970. And we've sat there for the next seven years with a minimal amount of business going through the plants. The reason that we are dominant, is because the business didn't warrant, other investments, other people investing in the industry.

I strongly feel that with 94580 RCRA and these regulations there will be other people and other people in this field quite quickly. The other people predominantly in the waste field such as Browning Ferus, Waste Management and others are and have been waiting on the sidelines to see what was going to happen for some time. I feel that they will be in this industry with facilities providing they can get siting. That's one of the industry's real problems at this time.

In general, the proposed regulations govern the marketing disposal of PCBs we feel are workable, and will tend to control the segment of the PCBs from improper handling and from release of PCBs to the environment. High temperature incineration is a viable way of destroying PCBs and PCBs contaminated materials. As I say, we have had seven years times three, 21 years experience running incinerators. We burn VCM, PCB, you name it. And, we've had a number of tests over the years to prove that our combustion efficiencies are such that they will handle these particular products and will

keep them out of the environment.

There is present sufficient incinerator capacity to burn all of the anticipated volume of liquid PCB mixtures that will require disposal in any given year, figuring about 10 million pounds per year of liquid PCBs coming into the waste area. Our present incinerators, as far as liquids handle approximately 60 million pounds per year per incinerator. So you see, 10 million pounds is a relatively small portion of our total capacity and there are other incinerators in the United States that could handle and do handle liquid PCBs.

We anticipate that there will be about 60 million pounds of capacitors and from 5 to 10 million pounds of non-liquid PCB materials that will require incineration after July 1, 1979 under these current proposed regulations.

CHAIRMAN WIRTH: Is that per year?

WITNESS: Per year. The way we figure that out, we feel that based on 30 weight percent PCB in a capacitor, and assuming the 200 million pounds of large high voltage capacities which would give you like 60 million pounds of total capacity of weight, and 70 million pounds of PCB in the low voltage capacity, the large low voltage capacities, and also figuring the highway capacities and the small appliance capacities in there, you come out with about 1.2 billion pounds. I assume maybe 70 percent of this would reach an incinerator. And, that's probably high, I think.

I do feel the logistics as I get into later is going to be a real problem.

If 70 percent of this number which is below 800 million pounds total, reach an incinerator and figure that 1/15th of this will reach incinerator every year assuming that capacities were even keeled manufactured over the last 15 years, it comes up with about 57 to 60 million pounds of capacitors, including PCBs. That would require destruction. Just looking at our facilities and not taking in any other capacity, RES has the capacity to handle about 40 million pounds per year of non-liquid material. We have about 15 million pounds of that at this point that is not being utilized and if the demand materializes, the, 15 million pounds so it's 25 percent of the total number that we feel are going to appear on the market.

We finally believe that if the demand materializes for the additional lime liquid incinerator capacity, that the private sector will refund, and that additional incinerator capacity will be constructed. The major problems that we see that enforcing the proposed regulations are one, whether individuals with a small number of capacitors and transformers including PCBs will circumvent the regulation and dispose of these materials in dumps of sanitary landfill.

We continously get calls from a person who has one capacitor and he's out in North Dakota somewhere. And,

he doesn't quite know what to do with it. He can send this common carrier at this point to us but I would guess that as we go along, and regulations going before us, and you need special placarding etcetera, that common carriers on an LTL shipment will not accept few capacitors or a drum or two of liquid PCBs.

The logistics of collecting large number of capacitors, spread over a wide geographic area, another real problem. To facilitate this collection, it is proposed that local transfer stations be initiated, by either local or private contractors or by the Federal state or municipal agencies. And after local collection a truck route could be established by a hazardous waste management corporation to collect the PCB materials at the local collection points.

We would be willing to work with anybody who is interested in the collection, local collection, to form some kind of a milk run between cities to pick up either capacitors or drums of PCBs. We've already initiated or started to initiate such a run with one of the major electrical companies who have 10 or 12 service stations, service shops that are handling PCB materials. And, we plan to send the truck around to 10 different cities actually. And picking up five drums here, a couple of capacitors there and running them into one of our facilities.

Actually, comments on the individual parts of the

proposed regs such as in 761.10, PCB chemical substances, again we feel that these materials should be incinerated and we feel they are of sufficient incinerator capacity to handle all anticipated liquid PCBs at this time. This is not including the Peerless's or other cement people who might possibly get into this business.

Contaminated rags, sorbents clothing can be incinerated. And incinerator capacity is available or can be made available to handle the anticipated volumn of this type of material. We handle this now on a fairly routine basis. Any contaminated rags of sorbents of clothing we ask that they are packaged in 40 gallon fiber packs and we incinerate the pack and all. The pack goes right into the kiln and the fiber pack as well as the contents is incinerated.

Contaminated soils, sludges, dredge spoils can also be incinerated but the peak potential volumns and infrequent requirements that would be generated with major spills or with contamination of city municipal soil plant sludges would necessitate large standby incinerator capacity. And, we don't feel that this seems economically feasible or environmentally necessary.

Most of this material, usually has a fairly low concentration of PCB and would lend itself to disposal in a chemical waste landfill. The PCB articles, the proposed regs for PCB transformers are workable as proposed, draining these,

washing them out, landfilling the holes or reusing the holes and burning the liquid. It has been proven that the PCB bearing capacitor, after shredding can be safely and effectively incinerated.

The EPA sponsored TRW tests that our use of the facilities show 99.999 percent, PCB destruction when incinerating shredded capacitors. This particular test, there has been some question on this. The shredding was not done by us. TRW had these shredded. We have since looked into a shredder that would handle, or a 450 KBR capacitor and smaller, and we have come across one that we feel would do the job getting the capacitor shredded to the point as far as the size of the pieces etcetera. That could be easily incinerated in an incinerator such as ours.

The shredder is in the neighborhood of 200,000 dollars including all the working equipment would have to be under a vacuum so that any vapors would be pulled off and either sent to a carbon absorption or through the incinerator itself.

Skipping down to logistics of collecting and transporting PCBs again, we feel again that this is going to be the toughest problem. I'm sure that the major power companies are responsible and they will collect as well as possible and send to an incinerator or to a landfill, whatever is going to be required. It's the other piece of

apparatus with PCBs that are spread throughout the United States I think is going to be a very very difficult problem. in getting people to conform to these regulations.

Section 761.20, marking; these marking requirements from the transporter and disposal point of view seem effective and workable. Over into the incineration portion, 761.40; the combustion criteria set up for liquid PCBs of 1200°C with two seconds dwell time, three percent excess oxygen or 1600°C, withdrawal time one and a half percent and two percent oxygen are workable. I think the point that was brought up in the previous program spectrum, that these are just two points in a curve and perhaps other points could be established on this curve. The percent oxygen should be a minimal percent and it really should be two percent or greater, or three percent or greater.

The combustion efficiencies of 99 percent are fairly attainable. The measurement of concentration of CO_2 minus CO over CO_2 is a measurement, it is a formula that has been used for many years in incineration and other combustion chambers. With something like that, you have to define the amount of excess air or oxygen in order to make that a meaningful equation. The measurement of rate and quantity of PCBs on a 15-minute interval is acceptable. I really feel the liquids should be measured on a continuous basis. And, this is certainly easy enough to do.

The continous measurement of temperature is certainly a necessity. The original testing of an incinerator should be at the proposed operating temperature and dwell times. And these are the two criteria that we feel which should be used to insure that you're getting the correct combustion. The monitoring of the stack is outlined in part 6 of this reg. And we feel is unrealistic at this point. The continous monitoring, rather part 6 is realistic. The continous monitoring in part 7 is not realistic, as we know of no reliable instrument to measure oxygen CO and CO_2 in a wet atmosphere.

In our type of incinerator, we're using a high energy venturiscrubber. You have a great deal of moisture coming out of the stack. And, we would be glad to measure this if there was an efficient instrument to measure. Incinerator operations should never be shut down unless there is really something wrong with it. You should stop feeding PCBs in any incinerator of these types. The shutting down of an incinerator is a massive operation plus it just plays havoc with the lining, the refractory. And, if you were starting and stopping this incinerator every few hours or even every day, the incinerator of costs, would be just sky high. You'd begin patching up your refractory on a regular basis. You just can't do that. You can stop feeding PCBs and feed other fuels and then correct your problem. But it's

the whole idea of economical and incineration operation is to keep your incinerator operating. It would just be, you just couldn't operate an incinerator if you were up and down.

On the non-liquid PCBs, the requirement of mass air emission was an extremely difficult one to measure on a continuous basis. A continous material vouch would have to be determined which makes this refill an impractical requirement. Again temperature and dwell time should be used as the criteria for burning efficiency.

The maintenance of data and records, this requirement seems like a workable and an acceptable one. The approval of incinerators under part 6, the approval of persons covering, you're actually approving certain people, this is ambiguous to us. In any given incinerator operation which is 24 hours a day, seven days a week, there are as many as 20 people that might be involved in the operation of approving each individual person or approving the plant manager or process superintendent, really what to whom does this apply?

In a chemical waste landfill, we are in agreement with the provisions of this section as they apply to engineering and operation of a secure chemical landfill. We happen to operate two chemical landfills. These particular regulations I think, coincide fairly closely with the Texas Water Quality Board and we happen to operate one in a secure chemical landfill in Texas meeting these particular requirements. And,

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they're good requirements.

The storage and disposal, it is felt that the time requirements of October 1, 1977, to be in compliance with the regulation, should be expense tended until July 1, or possibly, or January 1, or possibly July 1 of '78 in order to get completed what is required under these regs. The decontamination procedures are fairly restrictive. Gas chromatographs or other sophisticated instrumentation would be required to determine the levels of PCB in a wash solution. Which is, I don't think the intent of the regulations a procedure where fresh solvent would be used for two wrenches and additional fresh solvent utilized for a third or fourth wrench, I think would probably meet the flushing requirements and eliminate the analytical work.

We feel that the incinerator costs of 39 million, the operating costs, 39 million dollars, that's outlined in the regs are high. Basically, because these are based on the utilization of purchased fuel. We feel that in order to economically run an incinerator, you should be using waste fuel and our experience has been that we have gotten enough waste fuel to do the job. So that 39 million is probably double what we would anticipate as incinerator costs.

We're looking right now in pricing. We're between 10 and 15 cents a pound on liquid. And, if you had to purchase the device for getting the capacitors in a form that

they could be shredded in a form that they could be incinerated plus probably carbon treating your scrubber water etcetera. This might drive the price up to 20 to 25 cents a pound That's all the other bookkeeping that is required here.

The capital cost for incineration for an incinerator of this size that we're talking here is probably closer to 8 million than 5 million in the background book. So, that you could probably get an incinerator on stream by 1979. And, if you started right now, you probably could. I think that time would probably go another year before you had, well it really would be up to us anyway before we determined yes, now is the time to go, got our permits at a given facility, the facility where we are now, if we can get the permit, and get the equipment etcetera. There can be up to a year and a half two-year lead time on some of the equipment. We haven't gone out and really asked so, we're not firm on those dates.

If incineration, this is another point that was made before, if incineration is the desired means of disposal, a time limit has to be set on landfilling or there will be no private investment going into new incinerators. If you have the either/or, people are going to the less expensive landfill over incineration. And, private industry would not be in a position to justify new incinerator capacity.

Some of the other problems in either incineration

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or landfill is the allowing of interstate shipments of PCBs and any other wastes for that matter. We are running into problems at Wilsonville in Illinois is having a problem; New Jersey has a law on it's books where you cannot bring in wastes. This is mainly a municipal wastes but it could be broadened I guess if people felt strongly enough about it.

This particular New Jersey law went up to the Federal Supreme Court was bounced back to the State Supreme Court on the grounds they should be looking at it in light of RECRA. And, I understand that the state has already looked at it and they've said that they're going to continue the ban, although, I'm not a hundred percent sure of that.

MR. PEDERSEN: I think that's right. I talked to our attorney who handles RECRA and that's what she said.

WITNESS: We in the past, have always been exempt from that particular law because we were considered a treatment plant rather than a disposal facility, land disposal facility. Local acceptance of new facilities. I think anytime we get into new hazardous wastes, plants whether it's for PCB or any other hazardous material, local acceptance is going to be the most difficult problem. As far as our three plants, I wouldn't envision problems in expanding at either Baton Rouge or Houston. There could possibly be a problem in New Jersey because you have to be in a farm area, relatively close to a town. And people

are always I think a little nervous having a hazardous wastes facility in the back and although we've been relatively good neighbors over the last seven years.

As far as RES expansion, we after suffering these seven or eight years, we do see the light at the end of the rainbow as far as a business in hazardous waste management and we have four proposed new facilities on the drawing boards in various stages of production, various stages of planning rather. And, we hope to go ahead with all four of these. We certainly would entertain the expansion of our facility, of our incinerator facilities at our present location if the money is there to justify them.

CHAIRMAN WIRTH: Thank you very much. Okay questions let's start with Mr. Pedersen.

MR. PEDERSEN: Yes, I have a number of questions relating to the availability of facilities in time for the burning.

You say in your statement that if the demand materializes for the additional amount liquid incinerator capacity, the private sector or you believe that the private sector will respond and that additional incinerator capacity will be constructed.

Well if we promulgate the regulations as proposed, we will have created your demand, at least in part within a couple of months or so. And, what specifically do you have

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in your plans to do if we should do that?

WITNESS: We personally have looked at, we have no hard plans at this point. We have looked at the possibility and done some very preliminary engineering on another kiln in the New Jersey locaion that would add probably 10 or 15 million pounds per year of capacity. We have looked at a possibly another incinerator in Houseon. But in order to justify an incinerator, we also need, besides the PCB, these should be solids in our minds anyway, we require other waste materials.

Well, right now, we're in the throws of trying to put together this whole plan.

MR. PEDERSEN: If you were to say, let's go tomorrow with either of these expansions at your existing facilities,or to take another case, with a new incinerator how long, one of the ones on your drawing boards, how long would it take you in each case, to bring them on line?

WITNESS: We have not talked to any raw material suppliers at this point. So, it's a hard question to answer. I would say a second kiln at our New Jersey facility, you're talking probably 12 to 18 months. A totally new incinerator at use, you're talking probably 18 to 24 months. Assuming, I can get approval from the state agencies that quickly.

MR. PEDERSEN: Now if you factor in the probable delays an approval, what would your estimate be of how long

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it would take.

WITNESS: You're probably talking two to two and one half years on the Logan and up to three years in Houston.

MR. PEDERSEN: And, how much burning capacity would that add if you got those two in?

WITNESS: I would say you're adding another 30, probably 30 million pounds.

MR. PEDERSEN: And would you contemplate dedicating all of that to PCBs or would you have to have some other stuff to make it worthwhile?

WITNESS: We'd have 30 million pounds of PCB capacity, yes, of shredded capacitor capacity, yes. I think the liquids can be handled either in cement kilns or with our existing capacity, yes.

MR. PEDERSEN: But, and would you contemplate making those investments, those two expansion investments just on the basis of the PCB market that final regulations might potentially create?

WITNESS: The one in New Jersey, yes. The one in Houston, I would need a little bit, I mean we need some more study on that, quite frankly.

MR. PEDERSEN: About how much more study do you --

WITNESS: Oh, I'd say another three or four months. We just hired a business development manager whose total job is pointing toward expansion of our facilities really.

MR. PEDERSEN: Do you regard the market for burning hazardous wastes as a growth industry?

WITNESS: Oh, absolutely.

MR. PEDERSEN: But, not absolutely enough so that you will commit for those four new incinerators now?

WITNESS: Well, hazardous wastes can be handled in a number of different ways. Incineration is one of the unit operations. When I'm talking about hazardous wastes, I'm talking about the whole RECRA type --

MR. PEDERSEN: The redisposing of them in any manner?

WITNESS: Well, not in any manner, in a prescribed manner that would be, you know, regulations.

MR. PEDERSEN: Let's just talk about burning for the moment. Do you regard burning hazardous wastes as a growth industry?

WITNESS: Yes, I do. Providing regulations such as these come down the pike. Without this, no. This is a market that has to be legislated into being.

MR. PEDERSEN: Well, we have no more burning regulations under TSCA in the pipe for at least another six or eight months or so. I just don't know beyond that. Would that suggest that you would not be committing for these new incinerators until the Toxics Program had developed more?

And, I think RECRA is even further behind.

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WITNESS: I'm sure they are.

MR. PEDERSEN: So are you, can we conclude --

WITNESS: No, I'm not tied to the Toxic. RECRA is more important, I think, overall to us and we try to accept that.

MR. PEDERSEN: I'm just trying to get, I know you are.

WITNESS: And, I'm evading you because I can't give you a direct answer at this point.

MR. PEDERSEN: Well, perhaps you can set a lower bound as to how much more time are things sifting themselves out you think will be necessary before you will be committing to or not committing to these --

WITNESS: I would say in the next three to six months at the outset.

MR. PEDERSEN: Three to six months to commit to all of them, or to decide how many to go ahead with now and --

MR. BLACK: To decide how many to go ahead with.

MR. PEDERSEN: And --

MR. BLACK: And get started.

MR. PEDERSEN: I understand. And once you made that decision, how long from then until the things come on line?

MR. BLACK: Well, as I said, one depends upon how quickly you can get the state approvals.

MR. PEDERSEN: Right.

MR. BLACK: Then --

MR. PEDERSEN: Let's assume you can get them on demand.

MR. BLACK: You can get them relatively easily, if we can get them relatively easily.

MR. PEDERSEN: Right.

MR. BLACK: As I said before, it's like 18 months to two years on the kiln, and two to two and a half years on total incinerator.

Again, it depends on how quickly you can get delivery on these items, and --

MR. PEDERSEN: You're just surmising this without really knowing.

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MR. PEDERSEN: In your cancellation of 60 million pounds of solid, PCB capacitors to be burned, it seems to me that it pretty much assumes that we will not burn any of the small or HID or flourescent light capacitors.

MR. BLACK: That's correct.

MR. PEDERSEN: And it sounds to me like what you're saying is that it will be a tight squeeze, probably, to even get that much on line in the time of the proposal?

MR. BLACK: It probably is, yes, I would say it is.

MR. PEDERSEON: Well, turning for a moment away from Rollins to --

CHAIRMAN WIRTH: Just one question --

MR. PEDERSEN: Yes.

CHAIRMAN WIRTH: -- for clarification. Is there not some demand generated, apart from the federal -- the EPA regulation, is there any demand generated from let's say state requirements or the employ rather --

MR.BLACK: Yes, absolutely.

CHAIRMAN WIRTH: For the regulations.

MR. BLACK: I mean --

CHAIRMAN WIRTH: They don't normally --

MR. BLACK: Right, our business has probably doubled over the last year, year and a half, in anticipation of both federal legislation and what the states are

doing, individual states are doing, yes.

CHAIRMAN WIRTH: And just more consciousness on being environmentally --

MR. BLACK: Right.

And I think one little thing that really brought home the publications, the history of PCB's and Kepone, has struck home, I think, to the directors of various companies that this can be a very dangerous thing to play with, and you can come back and bite them.

PEDERSEN: That cuts both ways for a hazardous waste disposal company contemplating expansion, doesn't it? I mean, if people are so much more worried about these substances they would be a lot more worried about someone directing something that will burn them, in their neighborhood.

MR. BLACK: You mean a low -- absolutely.

MR. PEDERSEN: Yes.

MR. BLACK: No, this is a real problem.

You know, you hit it all the time in that the local people really dislike to have a sanitary land fill next to them, but at least for the sanitary land fill you're solving some of their problems.

With a hazardous waste disposal plant, you're not doing a thing for them. You're creating a problem for them and not solving any of their problems. Because,

certainly a good sized facility has to be a regional facility, it can't be a county or state, it has to take in a number of states, in most instances, in order to see.

And this is going to be a problem, it's going to be an ongoing problem for the whole, both RCRA, and this type of legislation.

MR. PEDERSEN: You mention on page two of your statement there are other commercial incinerators which should be able to handle additional volume. Now, as -- except for one passing reference, the only company that's described in any of the record documents, or the transcript to date, as being able to shred and incinerate solid PCB's is Rollins.

What other companies --

MR. BLACK: There's an incinerator that was started up in the last few months in El Dorado, Arkansas, Mell Bell is the president, and the name escapes me right now.

But in fact EPA is running a test on this particular incinerator next month or two.

MR. PEDERSEON: Do you have any other incinerators in mind --

MR. BLACK: Well, of course you get the GE incinerator at Lynn, Massachusetts.

MR. PEDERSEN: Is that for liquids only, or --

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MR. BLACK: I'm not sure. I think they have a limited solid capability.

MR. PEDERSEN: The gentleman from Versar says they are getting out of the business, he says they don't want PCB's.

MR. BLACK: And of course Monsanto, but Monstanto can't handle solids and they're getting out of the business too.

MR. PEDERSON: Okay, that's all for now.

Oh, several people have -- I take it you have some questions about your ability to get the necessary expansion permits, even, to bring new facilities on line in the next two years.

MR. BLACK: We haven't tried, so you know, it's hard to say. I'm just basing that on what other people have had -- those other people have had in getting new facilities started.

I would say in New Jersey this could be a problem, and I don't think any other two plants would be a problem.

MR. PEDERSEN: People have suggested that companies which have not been in the field for a long time and are not major national companies like Rollins, may have much more of a problem.

Do you think that that is a reasonable statement?

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MR. BLACK: Absolutely.

MR. PEDERSEN: A number of people have suggested that -- well, it does appear that you have a big dump on the market, and several people have suggested that Rollins might charge monopoly prices, or a little bit of monopoly prices, if it -- and that doesn't seem --

And certainly since the alternative --

MR. BLACK: I believe my attorney ought to be in on this one.

MR. PEDERSEN: Since the alternative for these companies will be to store the PCB's articles as they pile up, they might be willing to pay quite a bit to have them incinerated promptly. What is your comment on --

MR. BLACK: How can I say, you know, we're going to raise our prices?

MR. PEDERSEN: I --

MR. BLACK: We're a respectable company, and a major company. We hope to be in the hazardous waste management business for some time, and you know, you might have a short term gain and long term you'd be out of the business.

When other facilities do get on stream, you wouldn't be in business, really. The competition would take all the available business.

We desire a reasonable return on investment, and

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that's what we're looking for, which we haven't had, by the way, in seven years.

MR. PEDERSEN: That gives you something to make up for.

CHAIRMAN WIRTH: Do you think that market can ever be approached, other than this with less than a couple of dozen or some number of incinerators?

MR. BLACK: Now, what are you talking, the PCB market or the hazardous waste market per se, because I think it's hard to separate the two.

CHAIRMAN WIRTH: Well, yes, I think it is too, I just -- no, the hazardous waste business, or burning, let's say, in general.

MR. BLACK: We can see probably six to ten incinerators in the United States, about 25 to 35 good chemical landfills with chemical treatments, biological treatments, et cetera.

CHAIRMAN WIRTH: How many companies do you see in that business?

MR. BLACK: Probably five or six, seven, eight. It's a business, in my personal opinion, any way, the major companies are going to be dominant factors. You need money, you need a very high degree of technology, competent management, et cetera, in order to make it go.

I think the mom and pop outfits are going to, in

my opinion, are going to fall by the wayside. They're really not equipped to handle this type of hazardous material.

CHAIRMAN WIRTH: Would you hazard a guess as to when -- would you care to make a guess as to when, you know, you might see five or six companies, 25, 30 facilities, in 1980, '85, '90?

MR. BLACK: Gee, it's hard to say. From what I know of Browning Ferus and some of these other major people in the waste disposal -- and I think these are the people that are going to be in this.

They've made some start, and I think that in the next three to five years they're going to see, again, providing they can get the necessary permits, I think you're going to see these people in this business in a pretty good way.

You know, when you take the total hazardous waste market, and we've quantified that, or tried to quantify it for the help of EPA figures, and you're talking a billion dollar market.

And you know, people aren't going to sit around and let a billion dollar market go by the wayside because if it's properly handled there's money to be made in the market place.

CHAIRMAN WIRTH: What is it now?

MR. BLACK: Prior to being handled correctly--

CHAIRMAN WIRTH: No, in amount.

MR. BLACK: Well, you know --

CHAIRMAN WIRTH: Oh, okay, I'm sorry, it's a billion dollar market now.

MR. BLACK: It's a million dollar market if you were treating and disposing of these materials in the correct way. Now, I'd venture to say a very high percentage of materials are now still being -- hazardous wastes are still being dumped, whether it's --

CHAIRMAN WIRTH: Do you have any estimate in your mind at all what the proper treatment and disposal of these chemicals, what that market is?

MR. BLACK: That's what I'm saying, about a million -- a billion dollar market.

CHAIRMAN WIRTH: Billion dollar now.

MR. BLACK: Billion dollar with the amount of hazardous waste being generated now, if you put the pricing and the cost on to handle these materials (in a correct way), today it's probably a 200 to 300 million dollar market.

CHAIRMAN WIRTH: Okay, that's a number.

MR. BLACK: Arthur D. Little did a study for the EPA on that subject, by the way.

CHAIRMAN WIRTH: Can you give us any kind of a

guess when you see it might reach a billion dollar market?

MR. BLACK: I think within the next five years or so.

CHAIRMAN WIRTH: 1982.

MR. BLACK: In that range.

CHAIRMAN WIRTH: Okay.

Mr. Wagner.

MR. WAGNER: Yes, I had a question about the waste fuel. You questioned the operating cost of the -- shown in the support document, and if you read the support document, part of the reason for that relatively high number had to do with the projected unavailability of waste fuel in the future.

Would you say that you had access to waste fuel for another kiln in New Jersey, or do you think there would be enough waste fuel for those six to ten --

MR. BLACK: I think RCRA is going to produce enough waste fuel for those six to ten, yes.

MR.WAGNER: Of the --

MR. BLACK: Again, you know, waste fuel is someone's waste, and they're paying --

MR. WAGNER: Okay --

MR. BLACK: -- an incinerator in order to burn it.

MR. WAGNER: My understanding of it is you people, not only Rollins, but other people in your business,

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were using up all the waste fuel now available in this country --

MR. BLACK: Oh, no. You know, this is produced every day. Our incinerators are running probably 120 to 150 million pounds a year, on waste fuel. You know, only a couple percent of that is PCB's, but the rest of it is waste fuel.

MR. WAGNER: Yes.

MR. BLACK: You know, when I say waste fuel, this is all kinds of hydrocarbons; chlorinated, florinated, sulfinated.

MR. WAGNER: Do you think there's an unlimited supply of it?

MR. BLACK: You know, as long as you have a petrochemical and chemical industry, you have a pretty good size --

CHAIRMAN WIRTH: Is there a predominant compound in that?

MR. BLACK: It varies, according to where you are. In Houston, there are predominantly chlorinated hydrocarbons. In New Jersey they're all over the lot because there are a lot of smaller companies. Solvents, pesticide intermediates, right down the line. You name it and it probably comes into one of our plants.

CHAIRMAN WIRTH: Mostly what we normally think of

prochlor or trichlor carbon tet?

MR. BLACK: There's some of that. VCM, chlorinated benz-- you know, you can go right down Mirk's list and --

CHAIRMAN WIRTH: It's not one.

MR. BLACK: It's not one, no.

CHAIRMAN WIRTH: Okay.

Dave.

MR. WAGNER: What would you project the operating cost should be, if the difference between this number and what you would project solely the difference in fuel costs like --

MR. BLACK: A good part of it, yes. As I said before, between 15 and 20 cents a pound, rather, for liquid PCB's, is probably a good figure. Assuming that you're going to put in a carbon treatment to handle the -- any PCB residue in the wash water, excuse me, in the shredding the capacitors, you've got another $200,000.00 investment in the shredders, plus manpower running the shredder, power et cetera.

You're probably talking 20 to 25 cents a pound. Again, we haven't gotten to the shredder, and it is a very preliminary course.

MR. WAGNER: Let me ask you, you said a current charge for incinerating PCB's is 10 to 15 cents.

MR. BLACK: Yes.

MR. WAGNER: Why is the range for 10 to 15 cents?

MR. BLACK: It's --

MR. WAGNER: Depending on location --

MR. BLACK: No --

MR. WAGNER: -- or source, or what.

MR. BLACK: That's just the treatment, it's not the transportation cost. Transportation, by the way, is on top of all this. You can't really --you can't give a transportation rate because you don't know how far you're going to transport.

The liquid PCB's right now are 10 cents. Any capacitors -- we're just handling four capacitors in the incinerator right now. Fresh light balance, et cetera, et cetera, we're going 15.

We have the landfill and the chemical landfill, to the residue because there is some contamination on the -- and as it's shown in that one test, if you take the whole capacitor and incinerate it in our kiln, I think it's 500 parts per million, left on the capacitor itself --

MR. PEDERSEN: Are you saying that you are commercially burning these small capacitors right now?

MR. BLACK: On a very limited basis, yes.

MR. PEDERSEN: But whole and not shredded or shredded?

MR. BLACK: That's correct, I haven't got

a shredder.

MR. WAGNER: The shredder -- but your projections for -- your charges for shredding were 20 to 25 cents, which is almost double the --

MR. BLACK: Well the --

MR. WAGNER: -- other ranges.

MR. BLACK: We're going into -- and again, we haven't sat down and coursed out all of the both investment that we're going to have to make and a closed warehouse to store these things on labelling as they come in, on bookkeeping as far as keeping track of them.

Right now --

MR. WAGNER: Do you have an idea just in terms of tacking on the shredder, to get the additional cost, of recordkeeping and all that, costs associated with shredding.

That shouldn't add anything close to five to 10 cents a pound, should it?

MR. BLACK: No, I'm saying the whole -- that whole -- all the regulations, and again this is a ballpark figure, we figured it looks around a 10 to 15 cent increase, 10 cent increase.

Would you -- if you buy a shredder, would you think to justify its cost solely on its usefulness in shredding PCB capacitors?

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MR. BLACK: At this point that's the only use we could see for it.

MR. PEDERSEN: You don't see any other uses coming along?

MR. BLACK: No, no.

MR. PEDERSEN: One comment has said that a problem with PCB incineration requirements is that the supply would start off very high, and then it would drop, and would that supply pattern create a problem for you in amortizing your shredder investment, or would it create a problem for the industry in amortizing this investment that really isn't any good for anything but PCB's?

MR. BLACK: We'd probably try to write it over a relatively short period of time. How long, I don't know.

MR. PEDERSEN: You're talking, you put three shredders in, you're talking like a $600,000.00 investment.

MR. BLACK: Yes.

CHAIRMAN WIRTH: Dave, any other questions? Harold?

MR. SNYDER: I have a few questions.

You talked earlier about various approval problems, local approval, et cetera. How extensive a modification can you undergo in any of your existing facilities without involving some major local approval, in other words a building permit approval is not what I

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consider to be major, even though that may in some cases be the major club with any local authority could hold over somebody's head.

But just how much modification can you do, like can you add a shredder without major problems versus say putting in a new incinerator, which may require additional approval?

MR. BLACK: Well,we're adding in addition to our biological degradation system in New Jersey right now, and we hope to, and we have to get local approval for that. I really can't answer whether or not we'd have to get local approval for additional incinerator modifications. We certainly would have to get from the air people in New Jersey.

MR. SNYDER: You mean if you put an additional incinerator in?

MR. BLACK: Incinerator, or modify -- if we modified our present one you'd have to go through the air acceptance from the Air Board --

MR. SNYDER: They've given you certain kinds of activities you can conduct there, which --

MR. BLACK: Well, in any change in the configuration --

MR. SNYDER: Well, this is --

MR. BLACK: In New Jersey.

MR. SNYDER: Let's assume you're going to crush capacitors and feed them, would that be the kind of thing that --

MR. BLACK: Well, in New Jersey every piece of new equipment, the Air Board has to approve. Now, some things are a little different in Texas, I assume.

MR. SNYDER: Yes --

MR. BLACK: Louisiana is a little different there.

MR. SNYDER: Yes.

MR. BLACK: Okay. Although in Texas, the facility takes water board, water quality board, and the air board, -- they are quite strict, and yet they're very knowledgeable and they're people that I think you can reason with as far as, you know, showing them the job you're trying to do, et cetera.

MR. SNYDER: You talked about additional time to develop, construct, and modify storage facilities. What type of storage facilities do you now use at your site?

MR. BLACK: We in -- well, in liquid, all liquids, we have tank storage, we run close to a million gallons of storage, tank farms that are dyked, and you know, the usual tank farm you'd find in a chemical plant or a petroleum plant.

In drum storage, these are on concrete pads that have curving, and they're graded down to a sump, and

any rainwater, et cetera, we suck out of the sump to be tested, and suck it out of the sump, and based on the test determine what we're going to do with it.

MR. SNYDER: These areas are open to --

MR. BLACK: Yes, they are open. We have no closed storage, at this point. It's not a bad idea, I'm for the closed storage. In other words, rainfall, again, obviously deteriorates mild steel, and certainly fiber packs, et cetera.

MR. SNYDER: You made reference to some of the problems involving contaminated sludges in the soil, that might result in spills or pick ups, or what have you, and even though you weren't very specific in your comment about what level of contamination you might be talking about you indicated a problem in having standby incineration capacity to handle these --

MR. BLACK: Right.

MR. SNYDER: -- spurts of waste products. Do you foresee any possibilities of interim storage as a way to equalize the flow of your incinerator from sources such as spills, upsets, accidents?

MR. BLACK: Well, you know, this Louisville sludge problem, was it 10 million gallons or something like that, you know, that's a pretty good sized sludge.

MR. SNYDER: Hopewell's got a similar problem.

MR. BLACK: That's right. I would say that over the next five to eight years, the amount of incinerated capacity is going to be brought on stream, are going to be pretty well utilized on a day to day demand and I think it's going to be very difficult to handle the peak load that you have, on a practical basis.

And I think it probably should be incinerated, but I think you're going to have trouble getting the private sector to pay for incinerator capacity, and it's not going to be utilized. Even though it is difficult to project accidents, spills, although we really have an entire industry that is developed to handle certain kinds of spills, mostly oil up to this point, again based on -- possible.

It's a possibility. You'd have to sit down and work out the economics.

MR. SNYDER: Okay.

You indicated that you have two chemical waste landfills, one in --

MR. BLACK: That's correct.

MR. SNYDER: One in Louisiana --

MR. BLACK: One in Texas, one in Louisiana.

MR. SNYDER: Who approved those land fills?

MR. BLACK: The Texas water quality board, in

Texas, and the Department of Health in Louisiana.

MR. SNYDER: Do you believe that those land fills would meet the criteria that we've specified here in the regulations?

MR. BLACK: The Texas one certainly would, the Louisiana would probably take, or we take control system is not as elaborate as you're describing.

In both areas we have 50 to 100 foot of clay, and as far as the permeability, there's no problem.

MR. SNYER: How did you get 50 to 100 foot away from ground water in Louisiana.

MR. BLACK: We are.

MR. SNYDER: Did you find the only hill?

MR. BLACK: No, that could be a problem.

MR. SNYDER: Okay.

MR. BLACK: I'm pretty sure we could probably meet it.

MR. PEDERSON: Yes. Do you dispose of PCB's in these land fills?

MR. BLACK: Very small amount.

We have disposed of dirt contaminated PCB's, some capacitors, although a very limited amount, and all liquids we insert.

We have a standing policy that anything that could be incinerated is incinerated in our plants.

MR. PEDERSEN: How long have you operated these landfills?

MR. BLACK: Oh, in Houston probably -- well, we've always had some degree of -- we had land fills that we would take the ash from our incinerator and, you know, landfill --

MR. PEDERSEN: These particular landfills.

MR. BLACK: But landfills, to bring in outside materials and landfill, about a year and a half in Houston and about a year in Baton Rogue.

MR. PEDERSEN: And have you had any environmental problems to date with them?

MR. BLACK: And in both cases, anything we put in outside the capacitor or something like that we pretreat. We don't like to see liquids or sludges or anything like that go into a landfill that's not pretreated, in some way.

MR. PEDERSEN: If you were to go into the business of burning slid PCB's, could you use these landfills for the residue?

MR. BLACK: Yes.

MR. PEDERSEN: Assuming that EPA were to allow for both incineration of PCB's, and their disposal of chemical waste landfills,, and/or demands for both services, would you furnish them both?

MR. BLACK: Would you repeat that, please.

MR. PEDERSEN: Assuming that EPA were to allow for both incineration of PCB's, and their disposal and chemical waste landfills, and there were a demand for both services, would Rollins furnish both services?

MR. BLACK: Yes.

MR. PEDERSEN: What is your opinion of the suitability of land fills for PCB disposal?

MR. BLACK: Personally I'm against it, I feel that consideration is the way to go. I think landfill, you're putting it in for possible future problems.

MR. PEDERSEN: I have no more questions.

MR. SNYDER: Just one question on the landfill issue. With the experience that you had to date, what is the cost difference, and I mean cost in terms of customer, between putting it in the landfill versus incinerator?

MR. BLACK: Five to eightfold difference.

MR. SNYDER: Okay.

MR. BLACK: Landfill you're talking a penny and a half to two and a half cents a pound, in general.

MR. SNYDER: Would you foresee that any of the requirements that we have here would increase your costs in --

MR. BLACK: Somewhat in the whole operation, and raise those figures somewhat.

MR. SNYDER: Okay.

MR. BLACK: Incineration is an expensive situation, there's no -- high capital cost, you have to have lime or caustic in order to neutralize your acid gases. You have a lot of people involved, highly trained people.

MR. SNYDER: I do have one additional question, if I might.

CHAIRMAN WIRTH: Yes.

MR. SNYDER: You had indicated some possible confusion on approved personnel --

MR. BLACK: Yes, right.

MR. SNYDER: -- to operate the incinerator. I presume that the question was raised in the approval process where we have a heading which says persons approved.

MR. BLACK: Yes, correct.

MR. SNYDER: And in terms -- it talks about the owner who is designated or anyone who is trying to follow the score card here, that's 761.40 (d)-6.

And that talks in terms of the difference between owner and an operator, and an operator is the person who is operating --

MR. BLACK: I understand.

MR. SNYDER: -- like a leasee, rather than an actual owner-operator. It doesn't refer to the --

MR. BLACK: Actual operator.

MR. SNYDER: Yes.

MR. BLACK: He's the foreman.

MR. SNYDER: Yes, okay.

CHAIRMAN WIRTH: Okay, is that it, Harold?

MR. SNYDER: Yes.

CHAIRMAN WIRTH: Do you have any questions. Okay Bill.

MR. PEDERSEN: Yes, I was saving these for last.

If you were to, in your contracts for incineration PCB's, will you take over all responsibilities for the PCB's so that any lists of improper -- any legal risks of improper disposal will be yours?

MR. BLACK: We as a normal procedure, take title, as much as you can take title, of the waste when it's loaded on our truck and our truck leaves the gate, or the premises of the generator, and it's ours at that point.

As providing the material meets the specifications that are given to it -- it's not so much the PCB's but other wastes. If the specifications, they give us the wastes that we don't know that we -- it doesn't meet the specifications that were previously given us, then we will not responsibility.

MR. PEDERSEN: Under the regulations as I read them, and correct me if I'm wrong, incinerator wastes are

themselves PCB materials and must be burned again if they contain more than 500 parts per million of PCB's.

Is that a commercial risk you're willing to take to contemplate offering a contract for burning PCB capacitors?

MR. BLACK: Well, we would not go over burning some capacitors now, we would certainly stop that under the regulations because it would probably have more than 500 parts per million.

MR. PEDERSEN: What if they were shredded and burned.

MR. BLACK: I think we would be willing to take that risk.

MR. PEDERSEN: Are you familiar with the extraction process described by Aerovox yesterday?

MR. BLACK: I just glanced at it, I'm not really familiar with it.

MR. PEDERSEN: What's your opinion of it, just --

MR. BLACK: I really have no opinion.

MR. PEDERSEN: Okay, now let's turn to a long list of questions submitted by Mr. Hutchinson of the American Electric Power Service Corporation. A number of these request you to furnish data for the record. I think some of it may be in the TRW test reports on the capacitor burn, and to the extent it is you can just say

so --

MR. BLACK: All right.

MR. PEDERSEN: -- and to the extent it is you can furnish the material.

Rollins' comments in the first question, Rollins' comments in the EPA support document refer to a 99.999 percent PCB destruction when incinerating shredded capacitors and EPA sponsored tests at Rollins' Texas facility.

Would you furnish for the record in document form all of the analytical test protocols and other data utilized by Rollins from which this calculation was made. Would you summarize the basis for this calculation orally just as you can give us a brief summary, and the rest you can supply later.

MR. BLACK: Well, this is from PCB test burn at TRW, and we in this particular case the incinerator was burned -- let's see, I think 200 kilograms per hour of hammer mill PCB capacitors. Again, these capacitors were furnished us and I don't know what the sides were prior to hammer milling.

The fuel used, supplement refuel used, was, I think, number two fuel oil. The analysis for the hydrocarbon analysis of the stack, PCB analysis of the stack gases, PCB and hydrocarbon analysis of the scrubber

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water, and a PCB analysis of the burned metal left on the capacitors, and material balance. And I don't have those but material balance is worked around this. There are three possible sources of unburned PCB's, and it came out 99.39, greater than.

MR. PEDERSEN: Would you describe specifically the types and sizes of capacitors incinerated by Rollins in the above referenced tests, and I think the point of the question is, did you incinerate any large, high voltage --

MR. BLACK: No.

MR. PEDERSEN: -- capacitors? You didn't.

MR. BLACK: No, we did not.

MR. PEDERSEN: What is your basis for thinking that you can shred them and burn them?

MR. BLACK: Well, we have shredded a large, high voltage capacitor, and we've seen results of the shredding and the results were better than the material that was fed to the incinerator of the small capacitor, as far as size and the mulching up of the innard of the fiber portion of the capacitors.

MR. PEDERSEN: Do you have any data showing the incineration decomposition products of one, Aroclor 1242, two, PCB's generally, or three, contaminant PCB's such as chlorinated dibenzofuran.

If so, would you provide these data for the record

and would you summarize these data orally?

MR. BLACK: Well, they have an analysis of the liquid PCB's in these capacitors in here somewhere, and this is the only data we do have, along these lines.

This report, which is a draft -- I don't know, is this published.

MS. WELTY: It's in draft form. It's not been published to read.

CHAIRMAN WIRTH: Is it available in the record.

MS. WELTY: Yes, but it's still in draft form.

MR. PEDERSEN: But it is available.

MS. REPASCH: Yes.

MR. PEDERSEN: Do you have any data showing what happened?

MR. BLACK: Well --

MR. PEDERSEN: Do you have any data showing what happened to the foregoing decomposition product in the -- and in particular the extent to which they stand up in one, the ash, or two the scrubber effluent, or three the air.

If so, would you submit such data in written form for the record and could you summarize orally.

MR. BLACK: Again, the TRW report does outline PCB's. Now, whether or not they've broken it down by types of ice modes of PCB's, I don't know.

MR. PEDERSEN: Do you have any data showing the PCB loading in pounds or kilograms per day in PCB contaminated water discharges from the incinerator and allied operations?

MR. BLACK: Well, we do have the PCB's --

MR. PEDERSEN: But --

MR. BLACK: -- analyze the scrubber water, and it was I think 10 to 12 parts per billion.

It's in here.

MR. PEDERSEN: I see, but that is the data you have?

MR. BLACK: That is the data I have. Now, we do have -- we have checked our outflow and our scrubber water for PCB's, on a semi-regular basis, and we're probably in that range, one to two parts per billion, on a fairly regular basis.

MR. PEDERSEN: When you -- do you have any problems with installing an activated carbon system to get the scrubber water level down?

MR. BLACK: No.

MR. PEDERSEN: Would you have problems with that being a permit under the water act that said one part per billion PCB's?

MR. BLACK: No, I believe that's what it's going to end up with. No. We're already planning that.

MR. PEDERSEN: What are the flows in gallons per

day, or cubic feet per second scrubber, effluent, from the incinerator?

If you cannot answer with certainty the above, would you provide the data for the record?

MR. BLACK: Yes. I don't know offhand, I'm a couple times removed from that operation, really, but I can find out very easily for you.

MR. PEDERSEN: Does Rollins have installed systems for the continuous monitoring of air and water emissions of harmful substances, if so what substances are monitored?

Does Rollins have installed a system for automatically ceasing air emissions in water discharges when they exceed certain limits, if so describe it.

MR. BLACK: Well, we --

MR. PEDERSEN: And I think here we are moving somewhat away, maybe, from the specific capacitor --

MR. BLACK: We have an NPDES permit, and we meet our NPDES permit as far as water outflow in an oil free plant.

Now, when these NPDES permits were issued, people were thinking about heavy metals more than organic, and I'm sure when the next one comes around they're going to be moderately more organic along with the heavy metals.

But we do meet our NPDES permit on a regular basis.

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As far as stack emissions, we meet all of these state emissions. They are not monitored on a regular basis or a continuous basis, they are monitored on a test basis oh, probably once a quarter.

But we have not found any instrument that on a continuous basis would allow us to monitor either for hydrocarbons or for CO_2 or oxygen or any other parameters.

We have made a number of tests during burning various hydrocarbons, chlorinated hydrocarbons, and have always come up with very, very high combustion efficiencies.

CHAIRMAN WIRTH: Okay, there were two or three other questions that were already asked in the process of our questioning.

MR. PEDERSEN: Okay, we'll make some copies of this to give to you all.

CHAIRMAN WIRTH: Okay. Do you have one further question?

MR. SNYDER: Yes.

Earlier in your comments you made reference to mass air emissions standards that we put into non liquid PCB's, and you indicated the difficulties doing that on any kind of a routine basis.

Do you see any difficulty on doing that part of the approval process --

MR. BLACK: No, not at all.

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MR. SNYDER: -- in the incinerator.

MR. BLACK: This is done in this particular study, and I don't see any problem with that.

MR. SNYDER: You just don't want to do it?

MR. BLACK: Well, I think it would be -- well, you couldn't do it on a continuous basis, to my knowledge you couldn't do it, any way.

CHAIRMAN BIRTH: No further questions?

MR. GARRETT: I have something in the way of a comment to the panel. My name is Theodore Garrett, representing American Electric Power. Some of the answers in response to -- questions referred to the, as I understand the substance of his answers, were to the effect that according to the information that he's aware of in the TRW report, and it's our impression that all of the data that we're requesting does not in fact appear in that report.

I'd like to request that the EPA make any inquiry of TRW as to whether or not they have any data of the sort that are being presented in the first questions, that don't appear in the report, by the basis of the information requested.

MR. PEDERSEN: We will be glad to cooperate along those lines.

It seems to me that it would be more efficient

if we would use our good offices with TRW to facilitate Mr. Hutchinson's inquiry since he's the one who knows what he wants.

And if he can contact those people directly it would be more efficient than going through an intermediary.

MR. GARRET: Well, we don't have any power to subpoena those responses.

MR. PEDERSEN: I understand that, we will --

MR. GARRETT: We requested, and it's pretty clear from the questions. Now, it might be done a lot quicker if EPA were requested, particularly since time is running out on these hearings and --

MR. PEDERSEN: We will back him up, but as I say I think he should be the person who talks to them. And if there is any problem in cooperation, then the sorts of things you mention will be appropriate.

CHAIRMAN WIRTH: Okay? All questions answered? This hearing then is adjourned until 10:00 o'clock tomorrow morning.

(Whereupon, at 4:10 p.m. the hearing was adjourned.)