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Transcript of Proceedings

UNITED STATES

ENVIROMENTAL PROTECTION AGENCY

INFORMAL HEARING

ON THE DISPOSAL AND MARKING

OF POLYCHLORINATED BIPHENYLS (PCBs)

Room 3906

EPA Headquarters

Washington, D.C.

Wednesday

June 29, 1977

PAGES

1 thru 111

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Room 3906
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Wednesday,
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The informal hearing was convened, pursuant to notice, at 10:12 a.m. o'clock.

PANEL MEMBERS:

ALLEN PEARCE, AIR & WASTE MANAGEMENT

WILLIAM PEDERSEN, GENERAL COUNSEL

GEORGE WIRTH, CHAIRMAN, TOXIC SUBSTANCES

HAROLD SNYDER, ENFORCEMENT

DAVID WAGNER, TOXIC SUBSTANCES

APPEARANCES: For Versar, Incorporated:

DAVID BERKEY

ROBERT WESTIN

DR. MARVIN DRABKIN

For Tivian Laboratories:

L.M. ARGUESO

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P R O C E E D I N G S

CHAIRMAN WIRTH: I will open the fourth and what is expected to be the final day of the legislative part of the informal hearing on PCB labeling and marking regulations.

Today we will hear from Versar, Incorporated, who is here at the request of the Government, representing a considerable number of -- a considerable amount of the technical data that was collected and prepared in support of the regulation.

We then have Mr. L.M. Argueso and then Tivian Laboratories, and that will conclude then those scheduled for what is called the legislative part of the hearing and we will then as we said we would all week entertain requests for cross-examination.

Before we proceed Bill Pederson would like to make some announcements about procedures.

MR. PEDERSON: Yes, the first relates to the schedule for the remaining rule-making proceedings, where I announced yesterday that we were contemplating asking for any cross-examination requests to be in by July 7th, we would then rule on the 12th and we would begin cross-examination on the 14th, with reply comments due on July 25th.

And we asked for anyone who had a problem with

that schedule to speak to us. We have gotten one suggestion, which is that two days between a ruling and the beginning of cross-examination is not much time to prepare for it, unless you take the risk of wasting some work and start preparing before you know there will be a favorable ruling.

And in response to that, we think that we can rule on any requests by July 8th. In other words, the day after they are received.

Now, clearly, any documentation explaining what we did may not be able to be issued with one-day turnaround. But we think that we can tell people what the result is.

And with that one change, the schedule for the remaining proceedings will stand. The other point I wanted to raise may be somewhat small for this rulemaking, but I am raising it, because it is clearly going to come back again.

And that when the Electronics Industries Association testified they inquired as to the possibility of submitting some economic data, which, in connection with data they had already submitted, would disclose the production run of one of their companies.

As a comment in confidentiality. And I have talked to our people who handled trade secrets, and

we tend to agree, without knowing anything more about it than I have just said, that such data would -- is the kind of data that we would be inclined to regard as trade secrets.

And at that point Section 14-A-4 of the Act comes into play, which states, "The trade secret data may be disclosed when relevant in any proceeding under this Act, except that disclosure in such a proceeding shall be made in such manner as to preserve confidentiality to the extent practicable, without impairing the proceeding."

Although we would like to have the data at issue, we do not think it is the kind of dispositive data that we simply have to have.

And the language that I have just quoted poses quite a number of problems for us, as far as reconciling the protection with disclosure, which it seems to hope that we will do.

And rather than step off toward implementing that language in this rule-making in this case, we will just say that we would rather not have the data, unless it is submitted for the public record.

CHAIRMAN WIRTH: Thank you, Bill. We are ready to move to the first witness for this morning, Versar, Incorporated.

VOICE: The panel.

CHAIRMAN WIRTH: Oh, I'm sorry, the panel, yes. We have -- I'll repeat the introduction on the panel this morning, so you know who you are talking to and the interest represented.

We have Mr. Allen Pearce on my extreme right, from the Office of Solid Waste Management Programs, representing that office this morning. Mr. William Pederson, from our General Counsel Office, and myself, George Wirth, from the Office of Toxic Substances.

Harold Snyder from the Office of Enforcement, formerly with the Office of Toxic Substances, and has been involved with this regulation from its beginning, and Mr. Dave Wagner, of the Toxic Substance Office, responsible for economic activities.

At the far end is Mrs. Joni Repasch, the record and hearing clerk for the Office of Toxic Substances, including this particular hearing. With that, Versar, you have the floor. Proceed.

STATEMENT OF ROBERT WESTIN ON BEHALF OF VERSAR, INCORPORATED

MR. WESTIN: Thank you, Mr. Wirth. My name is Robert Westin, and I am principal investigator for Versar on the Environmental Protection Agency's contract 68-01-3259.

We have been under contract to the Environmental

Protection Agency under this contract since July of 1975 and since that time have been supporting the Office of Toxic Substances and other offices in the Environmental Protection Agency on technical and economic aspects of polychlorinated biphenyls.

During this time we have submitted approximately 23 reports to the Environmental Protection Agency, some of which have been published; some of which have been proprietary.

We have included proprietary information and were held confidential, as they were support documents for the Environmental Protection Agency, and a few reports where the status so far is not completely clear, but we hope eventually to have them published, once the question of confidentiality of the basic data is solved.

The report which we have prepared for this particular hearing is entitled, "Microeconomic Impacts of the Proposed Marking and Disposal Regulations for PCBs".

This report has been published through the National Technical Information Service, and is also available from the Office of Toxic Substances.

The report was also referenced in the background material distributed with the proposed regulation on the marking and disposal of polychlorinated biphenyls.

I have been asked to appear today not to present

any additional information, but to respond to questions regarding this report which have been brought up over the last three days of the hearings.

Therefore, I do not have any prepared documents or testimony to present to the Hearing Clerk. In order to save some time, Mr. Wirth, might I suggest that I run down some of the questions that I listed out of the last three days of hearings?

This might, perhaps, save time rather than having the panel ask the questions.

CHAIRMAN WIRTH: Okay, fine. I have one administrative thing that I forgot. Are there any additional statements of the remaining witnesses for today that you wish to submit for the record, or a copy of your own statement?

We would like to have that now so they could be reproduced and available to the hearing panel. Mr. Argueso, do you have any additional information?

MR. ARGUESO: I sent a letter in. I don't know whether it was received or not.

CHAIRMAN WIRTH: Yes, we have that letter.

MR. ARGUESO: There are some questions in it but we are here just to ask questions.

CHAIRMAN WIRTH: Okay, fine. Is Tivian Laboratories here?

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VOICE: Yes.

CHAIRMAN WIRTH: Do you have additional information that you would like to submit?

VOICE: I gave one to the --

CHAIRMAN WIRTH: Excuse me, I didn't --

VOICE: I gave one set to --

CHAIRMAN WIRTH: Fine. Do you have one for the entire panel on here? Do you have more?

VOICE: I have some --

CHAIRMAN WIRTH: Okay, we'd like four more, please. Joni?

(Pause)

CHAIRMAN WIRTH: I'm sorry; go ahead.

MR. WESTIN: I will attempt to answer at least most of the questions that were raised over the last three days, at least the ones that I noted myself.

Additional information if required will be supplied, answers to these questions may be given by Dr. Drabkin, sitting on my right, who is the principal author of the section in the economic impact report on incineration technology, and by Mr. Dave Berkey who is sitting on my left who is the principal author of the section on marking costs.

I may refer questions in these areas to these gentlemen. In responding to the questions in the comments

made on the economic analysis I think it would be important to keep in mind the limitations of this particular economic analysis.

That is, the report which we published was limited specifically to the disposal of marking regulations. There are a number of other reports cited in that report which summarize much of the previous work which we have done on the technology of the use of PCBs, on the disposal of PCBs on such items as wastewater treatment to remove PCBs, which in this case would be applicable to the scrubber water from incinerators.

Much of this information is available in the published literature. Because we are limited by time and by budget to analyzing the regulation as proposed or as anticipated to be proposed during the earlier drafts of the proposed regulation, there were a number of possible areas that we did not investigate.

For instance, the Environmental Defense Fund suggested that a bounty plan to recover used capacitors from the widely dispersed locations might be practical.

This was not presented to us in any of the earlier drafts of the proposed regulations, nor is it in the present proposed regulations.

Therefore, we did not investigate either the economic impacts nor the feasibility of such a plan.

The economic impact analysis was prepared simultaneously with the development of the proposed regulation.

As such, we kept in rather close contact with the Environmental Protection Agency to maintain an understanding of what the proposed regulation was likely to look like, so that we would be able to analyze these areas.

The draft regulation changed on a fairly frequent basis. We had a deadline for delivering the economic impact analysis, and this had to be done before the proposed regulation was put into a form to be published in the Federal Register.

Therefore, in a number of cases where we were not sure of the exact form of the proposed regulation, we ourselves invented reasonable alternatives, hoping to cover the range of what would be published.

These were alternatives both for disposal as to the requirements for incineration of various items and for the market.

These alternatives were prepared by Versar, based on our understanding of the rangeof thinking within the Environmental Protection Agency, and do not necessaril reflect the status of the proposed regulations at any specific time, except for the draft version which is included as an appendix to the report.

As you will note in the background information that was given out by the Environmental Protection Agency in support of the proposed regulation, the regulation as proposed did not agree entirely with either the draft regulation that's in the report or any of the alternatives that are in the report.

However, the Environmental Protection Agency has themselves commented on the applicability and the economic changes which may be resulting from these late changes in the draft proposed regulation.

The analysis that we performed dealt specifically with aroclors of the type manufactured by Monsanto. On the basis of previous questions by American Electric Power Service Company, by the Electronic Industries Association, and by the Dry Pigment Manufacturers' Association, there apparently may still be some questions as to the definition of PCBs in the proposed regulation.

That is, it may not be clear to everyone that this does not include biphenyls which are substituted with other than chlorine.

I might suggest, therefore, that the definition becomes slightly more technical, and, perhaps, more specific if the general type of compound were defined within the definition in forms such as capital C sub 12, H sub n, capital C small L, sub-10 minus n, where "n" is from two

to ten.

This, I think, would eliminate any possibility of considering dibenzo -- dibenzamine, diamino bichloro-bithenyl. As I said, our analysis dealt specifically with the primary uses of the arochlors.

As such we did not investigate the economic impacts of special disposal of contaminated sewage sludges other than to do a quick check with the published literature, and determine that, indeed, very little if any of the contaminated sewage sludge would exceed 500 parts per million that was in the draft of the proposed regulation we were dealing with.

And that, therefore, it would not -- this material would not be covered under these proposed marking disposal regulations.

Itshould be noted that in the preamble of those regulations the Environmental Protection Agency has stated its plans to regulate the disposal of sewage sludges under a number of other authorities.

Similarly, we did not investigate the economic impacts on dry dyes which may be contaminated with polychlorinated biphenyls, particularly the blue dye which was mentioned by the Dry Dye Manufacturers.

We reviewed the available information and determined that in almost no well-documented cases did the

level of polychlorinated biphenyls exceed 200 parts per million, and that these probably were the result of unusual practices.

We were assured several days ago by the Association that Quality Control procedures could guarantee that this level would remain well below the 500 parts per million.

And, therefore, we would expect no economic impact. Similarly, in dealing with the unintentional contaminant problems, we looked for a short time at polychlorinated terphenyls, which had been indicated in the literature as perhaps containing a significant amount of polychlorinated biphenyls as impurities.

The information is,in the literature, rather sparse. That is, the sources of the material are not always well identified. The analytical procedures are not always well identified.

Under a previous effort under this contract, looking at toxicity of various substitutes, in considering PCTs, perhaps, as a substitute for PCBs, we contacted Dr. James Allen of the University of Wisconsin to discuss the toxicity data which he had reported on polychlorinated terphenyls as being one of the few toxicological studies on terphenyls which have been published.

Dr. Allen indicated to us that the polychlorinated

terphenyls which he fed to the monkeys were commercial terphenyls, and that he had not performed an analysis to determine whether those terphenyls had been contaminated with polychlorinated biphenyls.

At our request Dr. Allen sent a small sample of the material, of the Monsanto polychlorinated terphenyls that he had used to feed the monkeys to us.

We tested this material, using our normal analytical procedures with gas chromatography, and found that this particular batch of polychlorinated terphenyls was contaminated with 0.56 percent polychlorinated biphenyls.

We reported this particular information to the Environmental Protection Agency in a monthly report for September, 1976, contract working reported, dated October 8, 1976, and submitted the same technical report to Dr. Allen for his use in December.

We also, attempting to gather more information on this unintentional contaminant problem, had several times contacted or written to Mr. Rey-Coquais of Proprodalec, who was representative of the source of the polychlorinated terphenyls which were being imported.

These contacts go back perhaps to last August, there have been two or three letters. We have never received any response as to the levels of terphenyls in the

polychlorinated biphenyls.

I have not pursued it really vigorously, realizing that the situation in Europe is likely to be more politically sensitive than the United States, since both the OECD agreements on PCBs and the EEC actions on polychlorinated biphenyls include polychlorinated terphenyls on the same action, consider them as polychlorinated biphenyl.

This is not the intention, as we understand it, of the present marking disposal regulations. However, it makes it rather clear to me that the Europeans are not enthusiastic about supplying information on this perhaps politically sensitive issue.

We felt in the case of polychlorinated terphenyls as we felt in thecase of the dyes,that the levels of PCBs where there is an unintentional contaminant that Quality Control procedures might, and perhaps might vary well reduce the level of below 500 parts per million where marking would be required.

But for the purposes of this regulation that even if the polychlorinated biphenyl concentrations exceeded 500 parts per million, in the PCTs, the only action that would be required would be special labels on the drums of the imported material.

Perhaps special labels on the items in this

case investment casting wax in which the polychlorinated terphenyls were used as a component, and, again, perhaps special disposal for the used wax from the Investment Casting Companies which use this material.

This has not seemed to us to be an item of major economic impact and the available information was not sufficient to allow us to analyze the economic impact since we did not know at the time what the levels of PCBs would be.

The analysis of polychlorinated terphenyls for PCBs that were indicated has not been widely reported, representative costs for such an analysis out of our lab would be somewhere in the range of $50 to $60, perhaps $70 per sample of material to determine the PCB levels by gas chromatography.

As an aside I may mention that Versar is currently under contract to the Environmental Protection Agency to provide support during the development of some forthcoming regulations on the manufacturing, importation and use of polychlorinated biphenyls.

We would anticipate looking again at the question of PCB levels in the terphenyls, in support of this next set of regulations, since the impacts may be considerably more substantial, and would hope that we might be able to acquire either more information or perhaps some

representative samples of material presently being used for analysis, to support this next set of regulations.

The economic impact analysis which we performed was limited to those direct costs which would be incurred in response to industry's action and society's actions in complying with the proposed regulations.

We did not, for instance, consider the indirect costs associated with voluntary action, such as what I understand from the AEP testimony is the voluntary labeling standard for large high-voltage capacitors, which has been instituted by the electric utilities, where these non-PCB capacitors are now marked with a special industry standard marking.

As this particular marking was not required by the proposed regulations and in fact is an industry voluntary standard, although it may be adopted in response to the requirements to differentiate between PCB capacitors and non-PCB capacitors for disposal, we did not include the costs of such a voluntary program in the total economic impacts as this particular item was not required by the proposed regulation.

We would anticipate that any such voluntary standard, although it would have an immediate cost, would in fact tend to reduce the overall economic impacts in that we would anticipate that such a voluntary program

would be instituted only if there were an economic return to those companies voluntarily getting involved.

As such, the economic impacts which we have presented may be over-stated, because voluntary actions on the part of industry, on the part of the consumers may, in fact, find an easier way to comply than that which we considered in the analysis.

A number of questions have been brought up by previous witnesses in these hearings. Mr. William Gerstner speaking for the Edison Electric Institute questioned the availability of incineration capacity, particularly citing in our report there were only three incinerators which we anticipated as remaining currently in business and remaining in business to handle PCBs.

These are the three Rollins incinerators that has been pointed out in earlier testimony here that both the General Electric incinerator and Monsanto incinerator have been operated as a convenience for the customers of these companies.

And that as soon as Monsanto and General Electric no longer have a need for destroying PCBs from their own operations they have indicated they will no longer accept PCBs from their customers for incineration.

The limit of three incinerators is specifically addressed to those currently handling PCBs and intending

to remain in business.

Previous testimony by Rollins indicated that there is an incinerator which has been built in El Dorado, Arkansas, which has announced its intent to accept polychlorinated biphenyls for incineration which is currently undergoing qualification tests supervised by the Environmental Protection Agency.

The state of Virginia has announced its intention to put a rather large high-temperature incinerator in the vicinity of Hopewell, Virginia, to incinerate a rather significant quantity of sewage sludge in that area which is contaminated with the chlorinated hydrocarbon, kepone.

Based on our knowledge of the probable design parameters of this incinerator and the anticipated fairly short time that it would be in use for handling kepone, we would anticipate that this facility might well be adaptable to future incineration of polychlorinated biphenyls, following the destruction of the kepone.

Similarly, there are a number of other incinerators in the United States which handle toxic substances which have not for various reasons previously advertised their willingness to handle polychlorinated biphenyls.

However, these facilities are in business, have the site and the permits to handle at least some

toxic materials and the upgrading of these facilities to handle polychlorinated biphenyls, including the necessary analytical instrumentation, the necessary material handling machinery for shredding capacitors might well be anticipated if a large market develops for the incineration of liquid PCBs or PCB capacitors.

This might, in part, eliminate the problem that we have heard about obtaining siting permission and the required permits for an entirely new toxic chemical disposal facility.

However, we did not feel at the time that we performed this analysis that we could rely on the availability of the El Dorado incinerator, the Hopewell incinerator or the upgrading of any of the current non-PCB toxic chemical incinerators.

Therefore, our analysis in the various incineration options was based on the construction of entirely new facilities, including the difficulties of site procurement, permit, obtaining proper permits and buying all new equipment.

Testimony from Rollins indicated that their present practice in destroying PCBs and in some cases PCB capacitors is to use high fuel value industrial waste as the fuel.

This is material which they presently obtain

either at zero cost or, in fact, are paid to dispose of by various companies which generate it.

Here again we do not feel that we could assume that adequate supplies of this low-cost fuel would be available and based our cost estimates for the incineration of PCB capacitors on the use of fuel oil.

As was indicated by Rollins, the result of this is to overstate the potential, or the probable cost of incinerating capacitors, by a factor of two, possibly by a factor of three.

Since, in our analysis, the fuel oil costs are by far the predominating costs item in the incineration of the capacitors.

Another item which affected our estimates of the incineration costs was our desire to go, to base our estimates only on that technology which had been demonstrated on at least the unit operation basis at what we considered a commercial scale.

Therefore, we based our estimate of the cost of incinerator facility very heavily on the tests of the incineration of whole and shredded capacitors at the Rollins facility in Deer Park, Texas, near Houston.

In this particular test it was required that the incinerator heat the shredded capacitors to the temperature necessary to destroy PCBs.

We have, during this hearing, been presented with information from Aerovox that it might be considerably cheaper to remove the PCBs from the capacitors by a combination of moderate temperatures and high vacuum, rather than to shred the capacitors and heat them to 2200 degrees Fahrenheit.

This, again, may have a significant impact on the fuel consumption and on the material handling, in this case, because there would be no requirement for high temperature rotary kiln which is a rather expensive item.

However, we do not feel that the technology suggested by Aerovox or a similar technology of perhaps a low temperature rotary kiln to vaporize the PCBs out of shredded capacitors at a temperature below that required to destroy the PCBs has been demonstrated at the level of commercial operation that has been demonstrated for the incinerator technology on which we base our estimates.

In all cases these developments of new technology, which have been presented earlier, would tend to reduce the estimated costs which we have presented for the incineration of shredded capacitors.

Mr. Gerstner, again speaking for the EEI, questioned the lack of competition among the various commercial incineration facilities.

We agree that only Rollins is in business

presently. We also suspect with the current level of ten cents per pound for disposal of liquid PCBs and contaminated items such as clothing, rags, have been based on a price established by Monsanto on a customer service basis.

We rather suspect that Monsanto has, perhaps, been performing this as a customer service and not making a fair return on their overhead in providing the service.

We would, therefore, not be at all surprised if the prices charged commercially for the incineration of liquids and light solids were to be increased in the range of perhaps 15 to 20 cents a pound, once Monsanto and General Electric ceased, or maybe considered subsidizing this particular service.

We do not see any great barriers to entering into the business of providing commercial incineration. Admittedly, Rollins has an advantage,based on seven years of experience and existing facilities.

However, the capital costs for getting into this business assuredly would be less than $10 million for installation, and we have estimated probably $5 million would handle it.

This -- well, it might keep out the Mom and Pop shop operations, would not present, for instance, an insurmountable barrier to a larger well-financed company, as for instance American Electric Power Service Company,

which would generate its own significant demand for the service, perhaps forming a subsidiary or joint venture to provide the service to themselves if, in fact, the cost of other commercial facilities became too far out of line.

Mr. Gerstner also questioned what he considered the undue cost of transportation to a limited number of incinerators, compared to a wider dispersed, more easily available number of chemical waste landfills.

We went into considerable depth into the incineration process based on various scenarios of locations of incinerators. We found that the lack of a great number of regional incinerators increases the total disposal cost of perhaps no more than one or two cents a pound, that is if they all had to be shipped to the existing three incinerators.

We do not, therefore, particularly in view of the much higher cost of the incineration itself, consider the additional transportation cost of acquiring the incineration to be a significant economic impact.

The American Electric Power Service Company questioned the comparable costs of landfill versus incineration.

We must emphasize what's previously been stated both by Peerless Cement and by Rollins, in that the incineration is in all cases going to be much more

expensive than chemical waste landfill.

Perhaps by a factor of three or four or perhaps even five. We would anticipate that if the suggested changes to the regulations were made to allow continued use of either chemical waste landfill or incineration indefinitely for capacitors, then no demand for incineration would ever develop.

The economic pressures would result in no installation of shredding machinery and no capability to incinerate capacitors.

Our analysis of the costs of incinerating capacitors assumed that the chemical waste landfill would not be available as an option. If, in case the proposed regulation is changed to allow the continued use of chemical waste landfills, the economic impacts indicated for years past 1978 would have to be lowered to what it would be in '78 when chemical waste landfills are available, as we would anticipate no incineration of the capacitors at any time.

Our economic analysis was limited in all cases to looking at the costs of thedisposal and the marking. We did not in this effort perform a complete risk analysis or risk-benefit analysis.

Such an analysis, in our opinion, would be very difficult, because of lack of some of the very basic

information required to analyze the risks associated with the use of chemical waste landfills.

We are not familiar with any information concerning the half-life of PCBs in landfill in the environment or in sediments.

There has been some information published on the degradation of some of the less chlorinated species in activated sludge plants.

Some of our own work has indicated that the co-evaporation of PCBs from water in an open system such as sewage treatment plants is very high. Versar questions the validity of much of this available information on the half-life of these materials.

We have found fugitive emissions vaporization from open systems to be surprisingly high, and in those cases where care was not taken to measure the evaporation rates, we feel that very little credence can be applied to the reported information on the disappearance of PCBs by natural occurrences.

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Begin Tape 2

MR. WESTIN: The estimating of the risks from the improper disposal of PCBs, as I mentioned, would be a rather substantial undertaking in each -- each application of PCB equipment would have to be analyzed separately for the risk of loss of PCBs for the potential dispersal or dispersion of PCBs.

A preliminary calculation of some information presented by Duke Power Company on the use of high voltage industrical capacitors might indicate the problems that might be faced in any such analysis.

Duke Power suggested that of their 103,000 high voltage power capacitors they experienced approximately 50 ruptures per year. And they also suggested that their own experience in draining capacitors by gravity draining removed approximately 50 percent of the PCBs.

They did not indicate, in this testimony, whether they were draining large capacitors which had paper solid dielectric film or a combination film and paper, although this might have a major impact on how easy it was to drain these particular capacitors.

If we assume, for instance, that 20 of these 50 units were pole mounted units, that is, out in an area outside of the substations where response to this bill might not be immediate where it might not be discovered immediately, and if we assumed that these capacitors would

lose, perhaps -- at least 20 capacitors would lose 30 percent of the PCBs upon rupture, this would be approximately six pounds of PCBs lost per unit or, perhaps, 120 pounds per year of PCBs lost from the pole capacitors and from the Duke Power system.

This does not initially seem like a great amount of PCBs. However, if this quantity of PCBs were to find its way into a fresh -- a body of fresh water, we have found that a level of PCBs in water of perhaps six parts per trillion as is presently found in Lake Michigan is sufficient to result in levels of PCBs in fish due to bio-accumulation such that the fish are no longer fit for human consumption according to criteria of the Food and Drug Administration.

This 120 pounds of PCBs would thoroughly and, perhaps, permanently contaminate a body of fresh water; for instance, a small lake 20 feet in diameter or 20 feet deep and a mile in diameter.

We are, of course, speaking in this case only of a small portion of those capacitors used by a utility which covers only a part of two of the less populated states in the United States.

The risks from improper disposal or, perhaps, delayed reponse to a spill incident when extended to all of the current uses of PCBs, might well be significant.

I made mention that the EPA apparently has addressed

this question of whole capacitor somewhat in its proposed regulations by requiring that a response number be applied to the power pole in a place where it is visible.

Due to the necessity for a fast response to a warning, people who might see it -- the uninitiated who might see a leak -- has the potential impact of not deeming it up immediately.

I wonder -- I agree with the utilities that suggest that their number might well be tied to the pole also, and personally wonder why this has not already been done on a widespread basis by the utilities.

Referring to the specific comments by the American Electric Power Service Company as they impact with the economic analysis, on page 3 of the formal submission by the AEP, it has been stated that "The voluntary restriction on open system, as is stated here, noninclosed uses of PCB by Monsanto and the voluntary ANSI handling and disposal guidelines have significantly reduced the dispersal problem."

This has been reflected in reduced levels of PCB in the environment. I personally am not familiar with any information which shows the level of PCBs in the environment, as a whole, have decreased.

Some of the hot spots which have occurred adjacent to manufacturing plants have been dispersed. I would be interested in receiving either through the record or directly

from AEP any evidence that they may have that the actual levels of PCBs in the environment have decreased recently.

It is, perhaps, beyond argument that these voluntary standards have reduced the amounts which are currently -- amounts of new PCBs which are currently entering the environment and, therefore, the rate of increase PCBs in the environment is lower now than it has been in the past.

On page 4 of the AEP comments, they suggest that it has been theorized, and this is having to do with the treatment of PCBs in the water from incinerators. They say "It has been theorized that activated carbon filtration will reduce the discharge levels to one part per billion."

I might refer the EPA to considerable testimony which was presented during the hearings on effluent standards from commercial companies which have a great deal of experience in carbon filtration systems, and their test results which shows that the levels of PCBs in any reasonably clean liquid, or any clean water stream, can be reliably reduced to less than one part per billion.

Again, on page 5 of this summation, the AEP has suggested the feasibility of burning large high voltage capacitors in a full-scale operation, including shredding preparations, have been demonstrated.

It is our contention that this has been demonstrat on a unit operation basis. That the problems in citing

a shredder adjacent to an incinerator and providing automatic material handling is well within these, as contrasted with the technique in Rollins of shredding capacitors in one location and trucking them to the incinerator, that this changes what has been reasonable engineering technology.

Rollins also indicated that they are confident that they will be able to buy, on the open market, an existing shredder which would hanle capacitors up to the 450 KBAR rating at, I believe -- as I recall -- a price of $200,000 per unit.

The AEP, in their submission on page 5, also questioned the completness of the economic impact analysis for incineration. In this, I will agree with them. It is a point well presented in that we, in all cases, did not investigate what we felt were the less demonstrated technologies which would tend to reduce the costs.

And, as such, I would say that the effects of the incompleteness of the analysis would be, perhaps, to overstate the cost of incineration by perhaps a factor of two as suggested by Rollins in their testimony.

On page 6 of the AEP submission, it is stated, "It appears that EPA has simply made a decision that it would be preferable to chemically to strike PCBs by incineration rather than to approve disposal in a chemical waste

landfill.

"Apparently, once the proposal to rely on incineration was made and evaluation and the possibility of developing facilities to handle the PCBs meeting disposal was developed."

I would like to assure the AEP that during the preparation of our economic impact analysis, and up to the time that this was submitted, we were not able to gain from the EPA any decision as to the actual level of incineration that would be required. This decision had not been made. That is why we, on our own, presented three different alternatives, hoping to cover the range.

And, in fact, EPA, after reading the economic impact analysis, made its decision based on both economic and technical data and proposed an incineration requirement different from any of those which we had been able to analyze within three weeks of the time it was proposed.

On page 7, AEP suggests that "The requirement for incineration, being made at a time when existing incinerators are going out of business is, perhaps, not a proper time to require the incineration."

That brings to mind the testimony that the incinerators which are going out of business have not primarily been in the business of -- commerical business of making money from incinerating PCBs, and that other

incinerators are being planned in the one case, or near to being in commercial operation.

The AEP, on page 9, discussed the requirements on disposal of transformers by draining 98 percent of the PCBs from the transformers, and suggested that the flushing would not materially increase the amount of PCBs destined for chemical waste landfills.

At the time that we prepared the economic impact analysis, we had obtained preliminary information through the Federal Railroad Administration of some tests being performed by Westinghouse in decontaminating a PCB transformer prior to refilling and operating its transformer with the silicon dielectric liquid.

Westinghouse, on the basis of its preliminary investigation -- preliminary information -- reported that in draining this particular transformer, it would move 904.2 pounds of PCBs.

Upon washing the internal part of the transformer with mineral spirits -- with 55 gallons of mineral spirits for one hour -- they removed an additional 19.2 pounds of PCBs.

An additional one hour pumping with 40 gallons of mineral spirits removed an additional 12.1 pounds of PCBs.

On the basis of this preliminary and, at this point,

oral information, we extrapolated these figures to show the 99 percent removal of PCBs was, in fact, feasible with a limited number of flushings.

Additional information, provided by Westinghouse, at a contractor briefing at the Transportation Systems Center in Cambridge, Massachusetts, indicated that after this, they had continued to work to decontaminant this transformer.

The next step, which I had not previously known, was that they filled the transformer with mineral spirits and pumped the mineral spirits through the transformer for 18 hours, thereby, removing an additional 95.6 pounds of PCBs or approximately 10 percent of the amount they obtained by the initial draining.

After that, they again flushed with lesser gallons of mineral spirits, removing two to five, and in one case, seven pounds of PCBs each time.

Upon drying it and refilling the silicones, they found the silicones were contaminated after two weeks of operation, with what looked like 38 pounds more of PCBs which were leached from the internal parts of the incinerator -- of the transformer.

I would like to, at this time, recant any evidence that I gave on the cost of decontaminating transformers to a level of 98 percent.

While such a performance requirement of the proposed regulation is preferable, I would assume, I would think, to a requirement specifying what has to be dona, I cannot, at this time, state that I would be assured of being able to achieve 98 percent removal with any preset number of flushes. I would not know how much -- would not know how to estimate how much such a decontamination level would cost, and I would have no idea on how to determine whether 98 percent removal of PCBs were, in fact, achieved without disassembling and shredding the entire transformer in order to extract all of the PCBs from the inside.

I would suggest that, perhaps, a requirement -- an alternate requirement of draining all of those PCBs from a transformer could remove -- might remove -- upward of 90 percent.

That filling and flushing or circulating mineral spirits for 18 hours might remove, on the basis of this Westinghouse experience, an amount of PCBs equal to 10 percent of that which was removed initially without regard to how much was left in.

This would indicate that such a flushing would result in a significant decrease of the amount of PCBs going to chemical waste landfills in the transformer which seems to be in conflict --

MR. PEDERSEN: I note that you are reading off some printed document.

Can you supply that for the record?

MR. WESTIN: The document I have I obtained from Cliff Gannett of the Federal Railroad Administration. It is xerox copies of the slides presented by Westinghouse at this FRA conference.

I regret the report by Westinghouse has not yet been completed. We are in constant touch with the Federal Railroad Administration, of course, to get whatever information we have since the available engineering tests are an actual flushing of decontamination of transformers are so scarce in the literature.

I will be glad to present this document which I obtained and represent it as what I received from Mr. Gannett and which he represented as being the information presented at this oral presentation and I will present that to the hearing.

CHAIRMAN WIRTH: Bob, could we take a little break. I think everybody has been sitting here for about an hour and 15 minutes, so I think --

MR. WESTIN: Fine.

CHAIRMAN WIRTH: -- we will take just about five minutes and come back.

(Recess)

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CHAIRMAN WIRTH: We will continue.

MR. PEDERSEN: Well, I would like to make a statement.

CHAIRMAN WIRTH: Oh, you wish to make a statement.

MR. PEDERSEN: Mr. Westin, I would just like to put on the record the substance of a conversation we had during the break.

In one sense, of course, we are very greatful for all of the information you have put on the record and it will be useful to us, and I don't wish to discourage you from going on and continuing in the vein that you have gone on in.

However, the embarrassment it poses for us is that we have taken some pains to set this thing up as a nonadversary proceeding.

And since you are EPAs contractor and are taking a very pointed issue with a large number of the points that have been made today, I just want to put on the record that this is not something that we have put you upt to; that you have not discussed your statement you have made here today with any member of the hearing panel or any other EPA employees. That these are Versar's views as it has reviewed what has happened today.

Is that correct?

MR. WESTIN: That's correct. I understand your

concern with any comments I might make which don't substantiate such things as the requirements for draining the transformers --

MR. PEDERSEN: We recognize you --

MR. WESTIN: No. As I stated, when I started, I am attempting to summarize the questions bearing on the economic impact analysis that were made during the last three days rather than waiting for the panel to ask them.

I hope that I anticipate most of the questions and, in this way, shorten the time required.

One last comment on the draining and flushing of transformers. There are a few limited number of transformers which do not have a drain valve on the bottom which makes draining practical. However, the technology for tapping into vessels such as pipelines or tanks is well known to chemical engineering and mechanical engineering.

And such an approach to installing a drain to what is normally a filled transformer and establishing what might be considered a cold leak, for purposes of draining, it would be -- in our opinion -- feasible and not unduly costly for this limited number of transformers.

To return to the AEP submission. On page 10, they suggested that the 500 parts per million cutoff point for spills is unworkable and unjustified, and suggested that good management practice might be anticipated instead.

For the purposes of the economic impact analysis, we based our estimates on 500 parts per million. I might suggest, as evidence of good engineering practice, a report "Study of the Distribution and Fate of Polychlorinated Biphenyls and Benzines After a Spill of Transformer Fluid," published by the EPA, Report EPA 904/9-76-014, which reports, in some extent, the cleanup procedures following a major spill of transformer fluid, the migration of the PCBs in the soil.

It is evident, from this report, that good engineering practice in this case reduced or removed the soil contaminated with levels down to a few parts per million rather than down to 500 parts per million.

It might well be the case that, as AEP has suggested, that 500 parts per million is a level of PCBs following an accidental spill which is higher than good engineering practice would allow to remain in the soil.

However, I would anticipate that the requirements for the cleanup after a major spill might come under the Water Quality Act or other legislation rather than under this disposal and labeling requirement.

There are, as pointed out in the proposed regulation, other provisions which also apply to spill cases.

AEP, on page 13, suggested that the reporting requirements would be burdensome and would not serve a

useful purpose.

I would, at this point, suggest that reference be made to the testimony by the Michigan Department of Natural Resources and their requirements for recordkeeping and, in this case, reporting, which far exceed in complexity and requirements that proposed by the Environmental Protection Agency and which have, at least in the State of Michigan, been found to serve a useful purpose.

The American Electric Power Service Companies Council submitted to the EPA, and gave me a copy, a list of what were termed unsupported statements in EPA's background documents.

Several of these refer to the economic impact report. The statements which I will address -- on page 1, it says "On page 1-3 of the economic impact document, the Agency states that there were no significant amounts of United States produced PCBs remaining in use in nonelectrical substances in 1976.

"This assertion is based according to footnote one on an unpublished Versar, Inc., report which has not been available to AEP and which a copy is requested."

This is a rather substantial report based, in great part, on an industry survey of open system uses of PCBs. The primary information on which we based this survey was responses to the EPA on a letter sent out under the

authority of Section 308A of the Water Quality Act.

As such, these responses to be held confidential by EPA and, in this case, by its contractors as everyone at Versar, who had access to these controlled reports, signed a confidentiality agreement.

This report was finished and submitted in September of 1976; according to the contractual requirements under which Versar is operating, EPA was to have reviewed this report and returned it within two weeks.

However, because of the difficulty in reviewing for confidentiality in such a large quantity of information, the report has not been returned to us.

We were informed early in May that the clearance of this report for final publication was imminent. As far as I know, it still is imminent.

I personally would like to get this thing on the road and get it out of my hold files. It's been dragging for awhile but I have certain problems with my contracting officer which I don't think this is the proper place to discuss.

The -- on page 2 of this document, AEP suggests that "The economic impact report on page 1-8 appears to question whether existing landfill facilities can meet the proposed requirements without modifications. We request that EPA furnish us with the basis for this statement."

I'd like to draw everyone's attention to the list of the -- in Appendix C -- of a number of current chemical waste landfills and the site information listed for each of these fills.

In a number of cases, there is evident lack of leaching monitoring and associated facilities which would otherwise be required under the proposed regulations. This is, at least, some of the available information on the currently used chemical waste landfills and their construction.

On pages -- AEP states "On pages 2-5 and 2-6, those pages estimate the capital engineering costs for indoor storage facilities. The basis for these costs is not explained as unrealistically low and we request that they be furnished by the Agency."

As referred to the report, itself, and to what maybe a little bit of turgid engineering prose in which we stated that, in part, the storage areas will require impermeable floors and dikes. Engineering construction costs of 1,000 to 5,000 dollars will be incurred in meeting these specifications for each major storage facility.

It was our intent to suggest that the 1,000 to 5,000 dollars was for the floors and the dikes in an otherwise secure and covered building.

In the economic analysis, we speak of both the capital costs and then a rent charge for the building of $3.00 per square foot per year which is representative of an allocated cost from an existing, though not specially built, warehouse with a rather extensive life which could thereafter PCBs are phased out for use for other purposes.

So, a combination of special capital costs for storing PCBs and a use charge for an otherwise general purpose facility.

It is our intent -- it is our feeling that the 1,000 to 5,000 dollars for the limited work required to convert an existing covered warehouse to requirements for PCB storage is a reasonable engineering estimate.

Going on to the testimony presented by the Electronic Industries Association, they, as did others --

MR. PEDERSEN: Mr. Westin, can we proceed to a couple of more of these unsupported statements points.

MR. WESTIN: Oh, okay.

MR. PEDERSEN: I know many of them have been covered elsewhere.

MR. WESTIN: Many of those were covered by Rollins.

MR. PEDERSEN: That's right.

MR. WESTIN: I wasn't anticipating that, but if you wish, I will --

MR. PEDERSEN: The last two statements on page 4, I think, are properly in your area.

MR. WESTIN: The next to the last statement states, on pages 4.5 and 4.7 of the economic impact report, estimates the number of containers required by utilities are making a number of assumptions, the basis for which is not explained. We request that the underlying data supporting these calculations be furnished.

If you will give me a moment to review these pages.

Apparently the calculations on pages 4.5 and 4.7 are presented in rather substantial detail as to the basic numbers of units to be disposed which were derived from our estimates earlier of total disposal requirements. The disposal rate which we've assumed is six percent a year initially and the approximate capacity of 55 gallon drums which, again, is an engineering estimate which may be off by a factor of 50 percent depending on the particular capacitors to be stored in the drum is the average -- is our best estimate at this time.

The significant cost of the disposal are in the incineration charges which are based by pound and which do not -- which are not directly calculated from this number of drum requirement although this does have a certain impact on the drum cost for the storage facilities.

MR. PEDERSEN: But if you say that there is an uncertainty factor in the number of drums required, even though the drums are relatively cheap, doesn't that affect the square footage of storage space required which is not so cheap?

MR. WESTIN: It's been our estimate, on the basis of a 200 square foot storage area, that this would be the area required to accumulate a normal truckload shipment and that the truck pickups would be scheduled in such a way as to not accumulate anymore because of the hazard of potential spills. It is our feeling that people would not normally accumulate more than an economically justified amount for shipment consolidation.

MR. PEDERSEN: So, even if more drums were required, they would just empty out the storage area faster --

MR. WESTIN: Right.

MR. PEDERSEN: In your assumption?

MR. WESTIN: Yes, that's true.

The final comment by AEP was that on pages 4.8 through 4.11, the Agency makes a number of predictions as to storage areas, number of vehicles required and transportation and labor marking costs.

The source of this data and the underlying assumptions does not set forth a request that it be furnished.

I think, in each case, the numbers are derived from the initial estimates of the number of units in service and the number requiring disposal or marking.

I will agree with AEP that there are a number of assumptions in deriving these numbers from the basic table of number units in service, and would like to point out that this, itself, is based on an allocation of known production or known usage of PCBs; and, as such, most of the figures have at least a 20 percent uncertainty factor.

For capacitors, in particular, there is no good source of information on production as each of the companies feel that its production data is confidential and, therefore, the total aggregate information on PCB capacitor production hasn't been available.

We have allocated, based on Monsanto's sales to the capacitor companies and assumptions as to the average PCBs in each capacitor, the number which will remain in service, that being the most straightforward approach to estimating this number of units.

Admittedly, they may be off by 20 or 30 percent. The only evidence that I can give that they are, perhaps, not wildly in error is that this information has been dissiminated throughout the capacitor industry and the users, and everybody, has said, well, to the effect that they don't particularly agree with the exact number, but they don't know

whether it should be higher or lower which makes us believe that it's probably as good as can be achieved, based on available information.

One second please.

It's been pointed out that much of the basic information on transportation and labeling costs, which we have used and which we did not document, was given to us by the EPA or Interagency PCB Task Group which received the information from one of its members; particularly, in this case, Ward Philgo (ph) of the Tennessee Valley Authority who based it on TVA's practices and their estimated costs.

If this information has not been put in the record, I can do so now. That is, Mr. Philgo's submission to the work group.

Would you desire it?

Seeing a nod of the head of Mr. Pedersen --

MR. PEDERSEN: If you would, please.

MR. WESTIN: I would ask that a copy be made and returned to us since this is apparently our only copy.

CHAIRMAN WIRTH: Let me ask Mrs. Repasch since she got here just in time.

We had a submission of, I think it's a couple page worksheet of Ward Philgo from the Tennessee Valley Authority.

Is that not in the record?

Okay. Will you submit it? I'm almost positive it is in the record and it is filed under workgroup meetings, notes and other collected information.

But if you would submit it, we will check and return it to you.

MR. WESTIN: I'm submitting it, Mrs. Repasch.

To return or to start on the Electronic Industries Association comments, they have suggested that a distinction drawn by differentiating between HID capacitors and small capacitors has minimal impact on the disposal.

Review of the proposed regulation suggests that the only impact that such a distinction has on disposal is that small capacitors disposal by households do not require special handling in a chemical waste landfill or incinerator, while HID capacitors, from the same source, would require such special disposal.

It is Versar's understanding that there are very few HID fixtures used in households and this change suggested by the EIA would have minimal impact on the effectiveness of the regulations on disposal of capacitors from the HID fixtures.

The other impact, which such a change would make, would be on the marking requirement under 761.20(a)(4) where it states that "Each PCB article, except small PCB capacitors contained in PCB equipment in inventory after

January 1st 1978, shall be marked before it is distributed in commerce with mark M(1)."

Advance Transformer Company testified as to the impact on them of having to go back and lable inventory of HID fixtures and ballasts. They suggested they recall something in the order of 100 to 150,000 dollars and represented themselves as being the major manufacturer of such ballasts.

I am not suggesting support either for or against the EIA suggestion that such marking should not be required. I'm merely, at this point, suggesting that these costs -- and I will ask Mr. Berkey to correct me if I'm wrong -- would be in addition to the marking costs which we estimated in the economic impact since we did not anticipate having to go back and open up the inventories of HID ballasts for marking after January 1st of '78.

So there may be an additional cost of two to three hundred thousand dollars industry-wide if this requirement for marking HID valves is kept in the regulations.

Advance Transformer also suggested that there were at least a small quantity of HID ballasts which are manufactured and are analagous to fluorescent light ballasts where the capacitor and the transformer are sealed into a can.

A. It was represented in the previous testimony that this was a small portion of the production.

My reading of the proposed rules suggests that in this case where the capacitor is sealed in a can as a fluorescent light ballast, the fluorescent light ballasts are considered as PCB articles and that the capacitors do not be removed.

I would suggest, that under this definition of PCB article, includes the fluorescent light ballasts and that might also be included by inference to cover the few HID ballasts which are made in the same unit construction in places where it's not possible to remove the capacitor.

So, under the definition of PCB article -- excuse me; that should be PCB equipment rather than PCB article -- where under the definition of PCB equipment, it includes as an example microwave ovens, television sets, fluorescent light ballasts and fixtures.

That provision, for clarity, might also be made to include those HID ballasts where the capacitor and the transformer are sealed into a can in a manner analogous to the fluorescent light ballasts.

I do not feel, on the basis of previous testimony, that this would have any significant impact on the economic consequences of the proposed regulation.

The EIA suggested, on page 3, that there was some factual assumptions as to the relative size of HID in small capacitors which were incorrect.

It was suggested, at that time, that I meet with Mr. Clark informally to discuss this. I have done this and, in general, agree that certain changes would be necessary on pages 1-4 and 1-5 of the microeconomic impact analysis report.

The average weights of various units are listed. In particular, the HID intensity discharge lighting capacitors on page 1-5 are listed as two pounds of PCBs and eight pounds total.

As Mr. Clark pointed out, the larger fixtures where I was, in making this estimate, anticipated that one large capacitor would be used, it's usually the case to use smaller capacitors.

And the item weight, the average item weight per capacitor, probably totals to one pound of PCBs.

The effect of this change would be to substantially reduce that portion of the incineration costs due to the incineration of HID discharge lighting capacitors.

Mr. Clark also suggested that the weight of the large low-voltage capacitors were seriously understated, these being used in industry water terminals for a power factor collection where we have suggested three and a half pounds PCB, 20 pound total.

The actual figure should actually be closer to 15 pounds of PCB and, perhaps, 40 pounds total.

However, he also suggested the number of such large high-voltage capacitors, given on Table 1-2, as eight million -- excuse me; large low-voltage capacitors is 20 million and is probably considerably overstated, perhaps, by a factor of two or three.

So, that the actual amounts of PCBs in such units and the actual weight of such units is within the 30 percent confidence that we have for most of these numbers; and that, therefore, the total economic impact ==

End Tape 2

Tape 3
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MR. WESTIN: The economic impact of having a fewer number of heavier capacitors would not be really too significant in the overall analysis.

I thank Mr. Clark for his comments on that, and we will defer to his 35 years of experience in the business.

Mr. Clark also suggested that the label, particularly the small label requirement should be modified to agree with the present marking, or to be feasible with the present marking equipment of the capacitor manufacturers to minimize total economic impacts our analysis of these marking costs of newly manufactured capacitors in 1978 was based on a telephone survey which indicated at that time that only two manufacturers thought that they would still be in business.

However, Ray Clark suggested that perhaps actually six manufacturers will be using it into at least early 1978.

Our estimate on unit costs were based on adaptation of the existing equipment to apply this mark, the application of a white background, of a black mark on a white background, rather than a black ink mark on an aluminum can would require an additional step for which they would need additional equipment.

And perhaps some consideration should be

given as to the utility of the white background in this case, if the black mark could be applied.

I would agree that the requirement of a white background may increase the cost of the application of such labels.

Mr. Berkey, do you have any idea as to what might be required to do that?

MR. BERKEY: To do what?

MR. WESTIN: Putting a white background on it.

MR. BERKEY: The tooling costs would be substantial. It amounts to retooling costs.

MR. WESTIN: Rather substantial, probably several times what we estimated for applying the basic mark. It was about $25,000 per facility.

MR. SNYDER: Do you have any information or experience with the use of ink as a marking medium, durability of it?

MR. WESTIN: Well, the inks that they're talking about are basically pigments in a resin, rather than what you would normally consider, pigments or dyes in a solvent as you find in a fountain pen.

As such these inks are rather close in concept to paints. In particular, in the case of the small capacitor is these marking materials being used on an item which is protected from the weather, either in air

conditioning or -- such item should well be good for the life of the unit.

This is the kind of material which could be applied by silk screen or by stamp. It's a rather thick, almost paint material.

It has considerable resin in it to hold the pigments together.

MR. SNYDER: The examples that we saw here in the hearing, the various exhibits that were brought to us, the shape of the cans, they were relatively large, flat surfaces on all of these capacitors.

In your experience is that the common form that most of these capacitors would be in, or perhaps to put it another way, are there some that would be cylindrical and would this complicate the application of either silk screen or an ink stamp and make a label, you know, an additive, separate item label more necessary?

MR. WESTIN: On the very small capacitors that get down close to the shape of an oval, there are essentially fat sides on the can, normally.

The application by -- of such a mark by, for instance, stamping, if provision was made to rotate both the stamp and the can to make contact across the entire area, it could be done on a curved surface as well as on a flat surface.

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The mechanical engineering needed to put on such a mark might be difficult. It's presently being done to mark such cans with manufacturers' information.

We were anticipating no new technology, no new methods required beyond that presently used by the manufacturers.

Currently some of the manufacturers who apply the size labels after the units are completed and tested. As I recall, one of the samples that was passed around did not have an ink marking at all.

It had the manufacturer's information embossed or stamped into thecontainer, although such a non-color marking would not meet the requirements of the proposed regulation.

I would anticipate it probably being a more permanent mark than could be achieved by any ink, paint or adhesive label application, and it might, therefore, be considered as a possible alternative, since this, again, might minimize tooling costs for the manufacturers as well as achieving the required --

MR. SNYDER: Your comment on not complying with the regulation, is that with reference to visibility of--

MR. WESTIN: The requirement for black on white and in this case it's no color at all; it's embossed. It would seem to be quite visible.

MR. SNYDER: Of course, if you were talking about an exclusion of the white background, if you were looking at natural aluminum colored can, and there was black ink, there's an element of contrast there.

And if you are talking about a grey can, I think you saw some gray cans, and let's assume for the moment a yellow, which would give a fair color contrast, and now you are talking about aluminum embossing.

MR. WESTIN: Well, perhaps a stainless steel rather than aluminum, but actual embossing in the metal surface of an unpainted can which, again, from the examples, seem to be rather visible, at least close up.

And long distance visibility I don't think is required for any of these items. My understanding is that the utilities have already established a voluntary program for the high voltage capacitor where the visibility from a distance of the label is required.

This is for the non-PCB capacitors. I think I've run out of things to say here, on this pile of stuff on the table, except any questions from the panel now.

CHAIRMAN WIRTH: All right, let's start with the panel. Dave?

MR. WAGNER: Let me just clarify those markings estimates: I didn't quite understand. The estimates were based on printing on the capacitor with no white background:

is that correct?

MR. BERKEY: The labels themselves?

MR. WAGNER: Your marking estimates were based on marking in the manner in which there was printing with no white background?

MR. BERKEY: No, they were based on black on white.

MR. WAGNER: Black on white.

MR. BERKEY: Actually putting a white background on. They were based on silk screen.

MR. WAGNER: Silk screen.

MR. BERKEY: Apparently, the manufacturers said the only durable type of label theycould make would be silk screen. Ink would not last, say, 20 years, the life of a transformer, whatever.

MR. WAGNER: Did you pursue the question of adhesive labels?

MR. BERKEY: Right. That's exactly what I asked him. It's a vinyl type adhesive label, with a white background with a black lettering silk screen on top.

That's the unit cost of a label is what I used.

CHAIRMAN WIRTH: It's an adhesive label.

MR. BERKEY: Right.

CHAIRMAN WIRTH: The vinyl made with silk screening process?

MR. BERKEY: Right.

MR. WAGNER: If I remember correctly we heard or we read comments from Electronic Industries. Their estimates of marking in that manner were five times or something the costs which Versar has said --

MR. WESTIN: What we are referring to here is Table 4-7 and the estimates of 27 cents each for label costs for container storage areas, vehicles, large low voltage capacitors, large high voltage capacitors, transformers, a cost of nine cents each for HID capacitors.

This label is not addressing the very small capacitors which Ray Clark was addressing, the very high volume ones where as I recall there was a calculation of like $25,000 per plant to modify existing marking equipment.

And we used that technology on these small cans. In that case you don't have a unit cost, you have a tooling cost. So for the large capacitors we anticipated using adhesive labels on the small ones.

We anticipated modifying existing manufacturing practices which as has been demonstrated by the examples, right now I'd give the black on white label for the small ones.

MR. WAGNER: Okay, what you're saying, though, is that estimates for the small capacitors of the sort

that Ray Clark brought with him did not involve an adhesive label.

MR. BERKEY: From a manufacturer's standpoint, he will retool. They won't bother sticking on -- this is probably inefficient, but from a user's standpoint the only way to go about it is sticking them on one at a time.

MR. WESTIN: This is where you are required to mark those which become available during servicing after they are in service, or marking those which are in inventory.

We anticipated using adhesive labels, rather than establishing tooling. The silk screen process, by the way, is how they make the adhesive label, not how they apply the mark to the can itself.

MR. BERKEY: I believe the only time the manufacturer will have to use an adhesive label is to label shipping cartons and so forth.

MR. WESTIN: Even there, a stencil might be satisfactory, and therefore lower the cost that we estimated.

MR. WAGNER: I think what I am trying to get at is, you know, where those numbers that Ray Clark submitted, werethey reasonable considering, you know, they required black on --

MR. WESTIN: I don't recall the numbers that

he submitted; would you refresh my memory?

MR. WAGNER: He gave examples of the one company, the costs would be $240,000, and not $33,000 to $50,000.

MR. WESTIN: That might well be, if they couldn't modify their existing equipment to apply it and had to buy new machinery, to apply a black on white mark.

For instance, if a company is presently embossing and you need a black on white they would have to put in a whole new unit operation, and it's not a matter of modifying existing equipment or retooling, but a matter of changing the manufacturing process.

And in that case the cost of several hundred thousand dollars might be quite reasonable.

MR. WAGNER: Okay.

CHAIRMAN WIRTH: Harold?

MR. SNYDER: I have a question, if you feel you have already commented on it this morning, you can so indicate.

Do you have any information or experience on the quantity of PCBs that can be gravity drained from the large high voltage capacitors?

MR. WESTIN: One has to remember that there are essentially three different kinds of large high voltage capacitors presently in use.

One kind, and the kind used up to perhaps ten years ago, had paper as a solid dialectric interweaving between the aluminum current-carrying elements.

This paper absorbed considerable quantities of PCBs, and in this case I would think that the amount that could be drained might be 20 to 30 percent at the most.

A more recent technology has been the use of plastic in place of the paper as the solid dialectric. This material does not absorb PCBs.

The PCBs in this case are used to surround the unit, to essentially impregnate the edges to avoid any discharge from the edges of the aluminum foil. The quantity of PCBs in these units might be somewhat less.

The ability of the PCBs to drain out might be somewhat higher, because they are not impregnated into a rather porous paper.

A third type, which is also currently in use, is a combination where both paper and plastic film are used as a solid dialectric.

And this would be an intermediate case. I don't know of any good engineering tests which have been run on draining PCBs from capacitors of these various types.

The figures which I have relied on from people in the industry who experienced ruptures have been the

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normal leakage wouldn't amount to more than about 20 percent.

The Duke Power Company, on the other hand, says they can drain out 50 percent, and I have no information as to whether either of these numbers are extreme, or whether they are both reasonable.

CHAIRMAN WIRTH: Do you have an opinion on the process described by Aerovox to remove the PCBs from the capacitor under vaporization and vacuum pulling, essentially?

Does the PCB leave the impregnated paper then, or --

MR. WESTIN: Apparently, the information that they presented in this hearing, which is the only information that I have on the process, suggested that they were removing 99.95 percent of all PCBs from the capacitor.

And in these capacitors most of the PCBs are absorbed in the paper initially. So, yes, in this case they apparently are removing the PCBs from the paper by a combination of moderate heat and high vacuum, a rather lengthy exposure through the vacuum, on the order of I think he stated 18 hours.

I would only comment that based on his testimony that apparently does get it out of the paper.

CHAIRMAN WIRTH: You are not first-hand

familiar with that process?

MR. WESTIN: I am not familiar -- I have no information other than what's been presented in these hearings.

MR. SNYDER: I have one other question at this point. You had made mention earlier about contamination from ruptured large high voltage capacitors and the possibility of obtaining additional information on that.

Do you have any information or experience on contamination that may exist in areas around transformer rehabilitation facilities or sub-stations or other areas where there is a fair amount of activity with electrical devices and PCBs, or in processes involving PCBs, such as refilling, that sort of thing?

MR. WESTIN: To my knowledge Versar has never been engaged in the sampling in an analysis program on such uses of electrical equipment.

And, therefore, any information which we may have in our files would be derived from other EPA studies available from the Environmental Protection Agency, and which you could obtain from your own files.

I have no first-hand knowledge that I could add to the available information.

CHAIRMAN WIRTH: Do you have any questions? Okay, we will take questions from the floor. We have questions from Mr. Hutchinson from the American Electric Power Service

Corporation. Mr. Pederson will ask them.

MR. WESTIN: Mr. Pederson, I have a copy of the questions here. Considering the time, now, a quarter after 12:00, and the fact as listed in our economic report, a number, there are a number of authors involved who are not present.

Might I request that we adjourn for lunch and give me a chance to contact these people and prepare better answers to the list of questions from AEP?

MR. PEDERSON: Fine. Wait a minute --

MR. GARRETT: I have one comment. My name is Theodore Garrett, counsel for AEP. I think the questions that are asked simply refer to things that he ought to know, basically provided in the report.

If there are items that he can provide later, he can certainly do so later on.

MR. PEDERSON: Let me suggest a compromise, which is that we will go through them before lunch, and after lunch we will give Mr. Westin a chance to state on the record any additional things he wants to say after having consulted with his people.

MR. WESTIN: Fine. You will have to give me a second here to check the list of references. In response to Question Number 1, which is --

MR. PEDERSON: Let me read them, just so we can

have it on the record.

MR. WESTIN: Okay.

MR. PEDERSON: Question 1. In preparing the April, 1977 "Microeconomic Impact Report" sent to EPA, did Versar utilize and rely upon any significant data whatsoever other than that set forth and specifically cited in the report with respect to chemical waste landfill?

MR. WESTIN: Our information on chemical waste landfills were obtained from a number of EPA reports which are listed in the references, and on the basis of a phone call to the operators of these landfills, the information which we received from these phone calls is summarized in Appendix C of the report.

MR. PEDERSEN: Next question. Has Versar undertaken scientifically and precisely to identify, quantify and analyze risks that disposal of PCBs into chemical waste landfills will result in any environmental harm?

MR. WESTIN: As I stated earlier, the scope of the analysis which we performed was an economic impact of thedirect costs of the proposed marking and disposal regulations.

We did not undertake a risk analysis, or a risk-benefit analysis.

MR. PEDERSEN: Is Versar aware of anyone else who has undertaken such a specific analysis of chemical

waste landfill? If so, is this analysis available in written form and would you provide it for the record?

MR. WESTIN: I would like to defer the answer of this to the Office of Solid Waste, which is familiar with all of the -- more familiar with the work that is being carried on than I am.

CHAIRMAN WIRTH: I think the question is to Versar.

MR. PEDERSEN: Well, we'll see if we can get something on the record.

MR. GARRETT: If I can make a comment, Pete. My general question was addressed to Versar, and if he doesn't know of --

CHAIRMAN WIRTH: Speak out, please.

MR. PEDERSEN: Do you know of any information whether or not you think the Office of Solid Waste Management might know more?

MR. WESTIN: I do not know of any study specifically with regard to PCBs in chemical waste landfills.

MR. PEDERSEN: Next question. Has Versar undertaken scientifically and precisely to identify, quantify and analyze economic risks of incinerations of PCBs?

MR. WESTIN: The environmental risks?

MR. PEDERSEN: Environmental risks; excuse me.

MR. WESTIN: In our estimate of the cost of

establishing an incinerator, we considered the cost of the safeguards which would be required to minimize the risks.

We did not carry forth a complete risk-free analysis of possible mishaps or the possible frequencies of any mishaps which might cause the release --

MR. PEDERSEN: What such safeguards did you consider?

MR. WESTIN: That is the requirement for analysis ofPCBs in the off gases or the stack gases, the safety precautions for shutting down such an incinerator and the activated carbon treatment system for assuring that minimal PCBs would be released with the scrubber water effluent.

MR. PEDERSEN: Is Versar aware of anyone else who has undertaken such specific analysis of the environmental risks of incineration of PCBs?

MR. WESTIN: The Department of Commerce several years ago published an environmental impact statement with regard to the proposed -- at that time proposed burning of chlorinated organic wastes on the incinerator ship, Vulcanis.

These were wastes obtained as I recall from Shell Chemical in the Houston area. In this environmental impact statement they addressed the question of the risks of unintentional release in general from an incinerator burning chlorinated organics.

Although in this case it wasn't addressed

specifically to PCBs. As far as I know that particular environmental impact statement probably is the most detailed investigation.

MR. PEDERSEN: Can you provide a copy of that statement for the record?

MR. WESTIN: I can supply a reference. The impact statement itself is available through the National Technical Information Service, and I will be glad to supply a citation.

MR. PEDERSEN: Do you have the citation at present?

MR. WESTIN: I do not have the citation with me. I will supply it for the record.

MR. PEDERSEN: Has Versar or anyone else undertaken a precise scientific comparative analysis and evaluation of the environmental risks of incineration as opposed to chemical waste landfills with respect to the disposal of PCBs?

MR. WESTIN: Not to my knowledge.

MR. PEDERSEN: Are you aware of any data of any instances where PCBs have been disposed of in a well designed operated and maintained chemical waste landfill meeting the technical and engineering requirements of EPA's proposed regulations, but not necessarily approved by EPA, and for which PCBs have escaped from the landfill, causing environmental problems? (Laughter)

MR. WESTIN: Let me read it and see if I can

put the process together.

CHAIRMAN WIRTH: We most certainly will allow a part answer to various parts of that question.

MR. WESTIN: I, personally, am not aware of any unintentional releases of PCBs from a properly operated chemical waste plant, although there was reference made a day or two ago to a recent study on air emissions conducted by -- in a study conducted by Dr. Murphy of De Paul University.

I don't recall at this time whether that was emissions from a chemical waste landfill or a sanitary landfill. I also don't recall at this time how applicable the evidence from a sanitary landfill would be to a chemical waste landfill.

CHAIRMAN WIRTH: I'd like to ask the following question: Are you aware of any problems associated with the incineration of PCBs from any properly operated incinerator, either approved or not approved by EPA, or whatever it may be?

MR. WESTIN: I do not know of any environmental problems from a properly operated and properly operating incinerator.

MR. PEDERSEN: What about the possibility of presumably the incinerator -- no incinerator will be operating properly all the time. What about those times when

you have some departure from operating specifications?

MR.WESTIN: The proposed regulations for incineration operation include quite a number of failsafe and monitoring requirements which, in my judgment, present adequate protection to the environment from any unusual operations.

MR. PEDERSEN: What about the comment that was made I believe by at least one witness that it is economically infeasible to shut down the incinerator, and instead you should shut down the PCB flow?

Do you regard that as a modification that has any bearing on the safety of the incinerator operation?

MR. WESTIN: Yes, very much. Since in a state of abnormal operation, one which might threaten to release PCBs, what we are attempting to do is prevent PCBs from being emitted by shutting off the flow into the incinerator, one accomplishes this with minimum damage to the incinerator itself.

Maintaining as high temperatures as possible throughout the incinerator would tend to minimize any emissions of PCBs following an upset, particularly if the flow in were shut off immediately.

Therefore, I don't think you would wish to shut down an incinerator and let it cool off.

CHAIRMAN WIRTH: There's two more AP questions. With respect to the Westinghouse transformer draining and

flushing data -- flushing data, that is -- which you discussed earlier, do you know the quantity of PCBs which were originally present in the transformer tested?

MR. WESTIN: I do not know the quantities of PCBs. I feel rather certain that Westinghouse did not know the quantities of PCBs in the transformer.

I am also rather confident that no manufacturer knows exactly how much PCBs is in any transformer, particularly since these things have a tendency to be maintained in the field and small quantities removed and put in.

Nor do I know of any way to determine, once the transformer is in service how much PCBs are in it.

CHAIRMAN WIRTH: In general, how accurately can the amount of dialectric liquid and the original amount of PCB in a liquid transformer be determined?

MR. WESTIN: Probably within two or three percent, by calculating the internal volume of the case, the fill level, and calculating the volume of the core in the copper dialectric from its specific gravities, from the weight of the material.

However, I wouldn't recommend that this be done on a transformer which has been filled with PCBs because of the probability of exposing people to unintentional contamination by the PCBs if the unit were opened up and measured.

CHAIRMAN WIRTH: Okay. Are there any other

questions?

This is from Andrew Melechinsky; is that correct, sir? Melechinsky, from Tivian. Can you cite any documented instances in which clear environmental harm has been done by use (not manufactured) or normal disposal of PCBs?

Can you cite any documented incidences in which clear environmental harm has been done by use or normal disposal of PCBs?

MR. WESTIN: I would suggest that the definition of normal disposal of PCBs has, in industrial practice, changed rather significantly over the past ten years.

Much of these PCBs currently in the lakes, which have resulted in substantial impact on the fishing industry, were done, were the result of what was at the time determined to be normal disposal of the PCBs.

We have in the past found substantial amounts of PCBs going into municipal landfills. There is considerable evidence of leachate and air emissions from these landfills of PCBs which would tend to add to the environmental load from the direct discharges which currently are seen in the fish, and in the other parts of the environment.

I think that the environmental harm due to the total accumulation of PCBs has been well documented. The particular source, in many cases, is difficult to determine. I think it is the opinion of at least myself and probably of

most of the other people who testified here that the entry ofPCBs into the environment should be minimized.

Any disagreement which has come about has been in the way in which it can be minimized effectively, or most effectively.

CHAIRMAN WIRTH: Okay, thank you. I might add one comment on that. Most certainly -- in Japan the determination of rice oil eaten by humans and the resulting health effects there was clearly an environmental harm documented and resulted from specific use of PCBs.

VOICE: Excuse me, again. I thought that was the manufacture.

MR. WESTIN: That was use, in a heat exchanger. There have also been reported epidemiological studies from Mobil Oil on cancer reportedly caused by exposure to PCBs which were used in a pilot plant in the forties and fifties.

And there, again, is the normal use of PCBs which has resulted in damage.

CHAIRMAN WIRTH: Okay, there's one more last question?

MR. PEDERSEN: Yes, this is from Mr. Rosenthal for the Electronics Industries Association. Earlier, you referred the hearing panel to testimony in the effluent proceedings in which testimony was given that carbon adsorption can lower PCBs content below the one part per

billion level.

Would you provide this hearing with the precise testimony references being referred to? Obviously, you don't have it in your head, but -- or maybe you do.

MR. WESTIN: One minute, please. The information, or a summary of this testimony at the effluent standards, is in the record for this hearing and it is cited as 42 CPR 653-2-6555, a Federal Register dated February 2, 1977.

That's a summary, and in that are references to the original documents and the testimony.

MR. ROSENTHAL: We would ask that the entire transcript of Mr. Rizzo's testimony be included in the hearing transcript, including his direct examination and cross-examination.

MR. PEDERSEN: Okay, we may -- since we are beginning to get that record into this record we may want to get more of it in, but certainly we will put that much in.

CHAIRMAN WIRTH: Okay, then. We stand adjourned until 2:00 o'clock, at which time Mr. L.M. Argueso will be our first witness, followed by Tivian Laboratories.

(Whereupon, at 12:40 p.m. o'clock the hearing was adjourned, to reconvene at 2:00 p.m. o'clock this same day, Wednesday, June 29, 1977).

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AFTERNOON SESSION

CHAIRMAN WIRTH: We're reconvening what will probably be the last session of the legislative part of the informal hearing on the PCB marking and disposal regulation.

We have one additional panel member, one substitute panel member this afternoon, Miss Cathy Gilmore from the Office of Enforcement, is sitting in for that office.

The next witness then is Lou Argueso, is that correct, sir?

MR. ARGUESO: Argueso.

CHAIRMAN WIRTH: Argueso. And the floor is yours, sir.

MR. ARGUESO: Thank you.

I didn't come with a prepared speech. My name is Lou Argueso, the company name is M. Argueso and Company, Incorporated, we're up in Mamaroneck, New York. I have with me Mr. Myron Koenig, K-o-e-n-i-g, who is our -- who is a chemist and also our technical director.

We are wax blenders and compounders, and we specialize in specialty waxes, some of which go in the investment casting business, some of which go all over. We also import and refine vegetable waxes such as carnaba, bee's wax, et cetera, that go in the carbon paper, polish

trade, cosmetic trade, et cetera.

The reason we're here, primarily, is not that we -- we're here to ask questions. I don't have a prepared statement because it's the first time I've ever been to any place like this.

But, this morning when Mr. Westin of Versar was talking he mentioned that polychlorinated terphenyls in his opinion, or their opinion, were not of major economic importance, as were PCB's.

This worries us because it would cause our company a severe economic impact, and our primary reason for being here is to ask a couple of questions and see if we can get a couple of answers.

As I said, we're a small company, we employ about 25 to 30 people, we're up in Mamaroneck, New York, that's 20 miles north of New York City, and I have read the proposed regulations and I think we would like to get some questions on record as a proposed to terphenyls.

We do not use any PCB's, we have never used any PCB's, and what is disturbing to us is in that proposed rules that we're talking about now, they talk about polychlorinated terphenyls.

We have used for many years polychlorinated terpheynls, we stopped purchasing from Monsanto is '71 or '72 because Monsanto went out of business on it, and since

then we have been purchasing imported, polychlorinated terphenyl. I keep stressing the word terphenyl.

We would like to know the difference between a terphenyl and a biphenyl. We notice in the regulations that you have a definition of a terphenyl, or rather, excuse me, a biphenyl, as a chemical bond of two benzene molecules into a biphenyl molecule with various numbers of chlorine atoms, et cetera, et cetera, and I won't go into it, it's on page 20564.

We do not believe that the material we're purchasing and using meets this definition of a biphenyl. We are buying a terphenyl.

We go over to the second page, and we see that a PCB mixture is defined as anything that contains greater than .05 percent of PCB chemical substance, or 500 parts per million.

And we also notice some reports from the Versar Company that there has been some work done by a Dr. Allen, and also some work done by Versar that would indicate that poly -- PCT's, polychlorinated terphenyls, quite possibly contain more than .05 percent PCB.

The questions we really have here today, I think, are how does one determine whether a polychlorinated terphenyl contains more than .05 percent biphenyl, how many samples have they looked at to determine these numbers,

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were the samples all Monsanto material, which I understand is correct. We were told this morning that it was Monsanto's 5460, which is a polychlorinated terphenyl, which is tested somewhere in 1973 or '2, so it must be '72 production.

The material we're concerned about is imported material, and we have a letter from our vendor, and I must be specific about this. We do not import the material, we buy it from an importer. And I have a letter from our vendor, two letters, which if you want I'll be happy to submit copies of.

CHAIRMAN WIRTH: We would like that.

MR. ARGUESO: The first one is dated in October of '75, and it says with respect to your recent inquiry concerning Tivaclor 60, which is a trade name for the terphenyl that we purchased. Tivian laboratories, who is our vendor, is currently engaged in importing chlorinated terphenyls, and this is presently manufactured to its, meaning Tivian's, specifications.

Those chlorinated terphenyls are chlorinated so that they are approximately 60 percent chlorinated. We insist that our subcontractor utilize chlorinated terphenyl of mixed isomers of no biphenyls present because of their health hazard.

The chlorinated terphenyl that we supply is chlorinated terphenyl and not biphenyl. Sincerely yours.

We have a second letter dated June 15th of 1977, we asked for this letter because we were coming down here today, again from Tivian laboratories. It says, Dear Lou, we certify that the amount of PCB's present in our Tivichlor 60 does not exceed 0.5 percent, which is the 500 parts per million that we were talking about.

The figures that we have from Tivian laboratories, I presume are going into the record. I'm sorry. Somehow I feel it's like the MacCarthy hearings. We're little country boys from up in Mamaroneck, and we don't really understand all this stuff.

Okay, getting back to the serious things, we question, does the imported material we buy contain more or less than .05 percent PCB's, has anybody ever tested the imported material, how many samples of it, who ran the tests, in other words is it current or old materials, are we basing ourselves on Dr. Allen's old tests or are we actually talking about what's coming into the country today.

What tests methods we use, are these test methods reproducable, in other words can several chemists take the same sample of terphenyl, run this test and know, or within reasonable experimental limits, can they come up with the same number.

If -- the next question we have is kind of

interesting. How do the EPA set a limit of 500 parts per million PCB to define a PCB as a PCB. We're extremely concerned about it because we manufacture products where the polychlorinated terphenyl, the PCT, is the only product we can use for some of these materials in our product lines.

We have tried to formulate out of our product lines, especially for the investment casting industry, the most polychlorinated terphenyls. However, we do make up a line of specialty materials which are known as tooling compounds, they are sold to help primarily the aircraft industry to do high precision machining of fragile parts that have to be held, and we are worried about how we're going to keep supplying this product to these customers.

I didn't come here to make a statement, I came here to ask a lot of questions and I guess I'm sort of running off at the mouth.

What I really would like to know is how did the EPA decide that .05 percent determines whether a product is a biphenyl or any other kind of a product.

Do you have anything to add on that? And if anybody can help me with answers to that, we would certainly appreciate it. And we're very serious about this. We appreciate morally what the EPA is trying to do. We are also concerned, being a small business company, and a

small amount of people in our position in the marketplace, and we're also concerned about what's going to happen to our customers.

If we were to purchase terphenyl that contained .1 percent, of PCB, and we mixed it with other materials that did not contain any PCB, at the rate of 50 percent or higher, of additive, we would come out with a product that contained under .05 percent PCB, which in turn we would ship to our customer.

And we're interested in knowing how these things might affect our business, whether we have to get into the marking of the packages, and what have you, that all you gentlemen have been talking about for the last four or five days.

I think we need some guidance and that's why we're here.

CHAIRMAN WIRTH : Okay, fine, is that your remarks then.

MR. ARGUESO: Yes, now if I could get some answers to them --

CHAIRMAN WIRTH: Okay.

MR. ARGUESO: -- it would help us tremendously.

CHAIRMAN WIRTH: Okay, give us a minute or two.

MR. ARGUESO: I appreciate that I've said a lot rather quickly.

MR. WIRTH: Okay, Mr. Argueso, I will attempt to answer some of your questions. I realize your need for this and your concern on this, I think it's -- we haven't discussed these things here because the nature of this hearing was that we were to hear argument or data, information submitted, for and against this particular regulation, or I guess I should say since the main discussion is why this regulation should not be promulgated as it stands.

And in some of the arguments -- or that it should be tightened up, or made stiffer or accomplish more things on one hand, and on other hands should be made looser and should be just done differently.

Let me start by overall framing some of the questions you've asked in your proper perspective relative to our regulatory requirement. A requirement comes from the Toxic Substance Control Act specifically on this chemical.

In addition to a marking and disposal regulation, the agency is required to promulgate additional regulations making certain definitions under which bans on manufacture, processing, use, distribution of commerce, will become effective.

I want to state again that not all of them are total, there are exemptions, there are other types of

administrative procedures allowed under those particular regulations. The law itself in fact bans manufacture in a totally enclosed manner, start January 1st of next year.

In fact it bans manufacture and processing use and distribution in commerce in other than a totally enclosed manner. The following year it bans manufacture and the following six months of July 1st, 1979, it bans processing and distribution in commerce.

And then there's exceptions allowed to that so that most of your questions, or some of your questions concerning what happens if I buy a terphenyl with .10th percent PCB, and blend it, et cetera, were all really properly addressed at the proposed regulation when it is available and the regulation on what we call the manufacturing bans, in general with that rubric on it.

I might point out that we will have a public meeting on that subject on July 15th here in Washington, and July 19th in Chicago. This is a public participation meeting, not too much different in format than this meeting though certainly less formal.

We do not have a proposed regulation at that time. A record is kept but generally the meeting is open to interrogate back and forth from government to industry, environmentalists, to whoever's interested.

And the basis of that entire meeting is for the agency to gather information prior to proposing the regulation. Now we expect that that set of regulations on manufacturing bans will be promulgated most certainly by January 1st of next year when the first one goes into effect.

So most of the questions relative to that are one, not in order in this meeting, and two, I can't answer them because we're not that far ourselves along in the development of the regulation.

I might say at that meeting we would most certainly ask you as many questions as you may ask us. Our questions would be, you know, are you in a position that we would take a ban on this amount of PCB, in manufacturing would this affect you.

You might also state that the law itself equates importing with manufacturing so that --

MR. ARGUESO: I understand.

CHAIRMAN WIRTH: -- whatever we do on manufacturing affects import. I realize you're in a position as to what do I do about business relative to these compounds over the next year or two years, and I cannot give you a definitive answer on that now other than let's say that most certainly they're all going to be definitions surrounding these bans, and that the Congress has already defined that

these bans go into place.

On the other questions, the regulation is not against terphenyls, it's in the discussion as a point at which because the discussion encompasses things that were discussed and considered for regulation, in the picture beyond what is actually proposed in the regulation.

So that you'll find mention of terphenyls in the discussion, they are a related compound, I think, by anybody's definition, of some sort of relation, and the point here is that the agency did discuss it, discussed it openly, and publically, and in its work with meetings in developing the regulation and are attempting in a discussion period as to define exactly what we did and not to withhold any information.

However, the regulation itself does not take any action against terphenyls. It does take action against polychlorinated biphenyls, and it essentially says that anything that has 500 parts per million PCB is a PCB. That's a starting point.

So that if you're in that position with a material, of one type or another, whether it be a waste material or any material, with 500 parts per million of PCB's, then the -- you're within the scope of the regulation.

Now, then, within that definition, it has sub-

definitions of the substance versus articles and equipment, et cetera --

MR. ARGUESO: Yes.

CHAIRMAN WIRTH: -- and all of those items, of course, are PCB's. The attempt there is to identify sub-categories for different regulatory type actions applied to it.

In general my comment is that if you have a material that does not have 500 parts per million PCB's, it is not subject to this marketing and disposal regulation, should this proposed rule be promulgated as written.

Concerning a third major question that you asked about, how did we select the 500 parts per million, I think in short it's an engineering judgmental point. The agency is not arguing that below 500 parts per million there is no health hazard. We're not arguing that point, we're not saying 499 is safe and 500 is unsafe.

We're saying 500 parts per million is what we think ought to be called a PCB for the purposes of marking and disposal. In other words beyond that you should take special precaution on disposal and marking rules should most certainly be considered if not applied.

Our discussion of how we picked that point is in the regulation on 26565. It is a point above which we most certainly think you have an identifiable PCB. It's not

a level that is general environmental contamination, although possibly some river bottom sediments may run that high, but generally at 500 parts per million you've had PCB's around at one reason or another.

The substance itself that has caused the level to be that high. Our other argument is that, of course, below that point, as one goes way below that point, he starts to hit the general environmental contamination level, and obviously we don't want to direct all of the water in this, nor all the soil and air, to some type of chemical waste disposal or incineration.

Much of the discussion through this hearing, or some of it is, you know, over the 500 parts per million, but it's in our case an engineering judgment for the reason that we have stated here.

MR. ARGUESO: Excuse me, Mr. Wirth. Is that a hard and fact law at the moment?

CHAIRMAN WIRTH: The 500 parts?

MR. ARGUESO: Yes.

CHAIRMAN WIRTH: No, it is the definition proposed in this regulation.

MR. ARGUESO: It's proposed.

CHAIRMAN WIRTH: The law itself, and not defined PCB.

MR. ARGUESO: Thank you, sir.

CHAIRMAN WIRTH: Yes, the law did not set -- in all cases it says take action against PCB and left it up to the agency, in its rulemaking procedure, to establish what that level should be.

So that particular point is most certainly one that is in order to comment on, to argue against or for, the number should be increased or decreased to whatever it may be.

Analytically I think it's fair to say that 500 parts per million is most certainly a level that is identifiable repeatedly handled, you know, with an analytical chemistry technique. The 500 parts per million.

It would be very difficult not to spot 500 parts per million in whatever a type of sample you are taking, using techniques that you would normally look for these types of organics.

MR. ARGUESO: Will there be a test method--

CHAIRMAN WIRTH: Yes, the regulations --

MR. AGUESO: -- stipulating how it's to be tested?

CHAIRMAN WIRTH: No, as proposed right now there is not a test method saying that if you use this standard test for determining whether it's a PCB or not, is not in this particular regulation.

There is reference to analytical procedures here for looking for -- trying to determine a level of

PCB's relative to emissions or effluents that may emanate from incineration or chemical waste landfills. And of course in those cases you'll be looking for much lower levels --

MR. ARGUESO: Right.

MR. WIRTH: -- to determine whether you have any environmental PCB leakage in the environment. And those would be much tougher types of analytical techniques that people would need guidance on for standards. In other words you'd be looking for parts per million there rather than 500.

And the agency has committed in this regulation that it would make available to its regional office standard analytical techniques. We have not done that yet but our research program will make those available at the regional office for their judgment of the acceptability of incinerators and landfills, and of course those techniques would be available to people applying to permits there.

But as far as determining 500 part level, we have not defined that technique in this regulation, although there are standard analytical techniques available to the agency. I think there is one on PCB's, and I think if a question came up, any one of the standard methods that were acceptable, I think would be accepted in determining whether the material you had is 500 parts per million or

not.

Again, that's a level that we believe is not easily mistaken.

MR. ARGUESO: So if I were to purchase an import of PCT terphenyl, and it contained more than 500 parts per million PCB, and they will have to be so marked upon importation as a PCB? The bags would have to be marked as a PCB.

CHAIRMAN WIRTH: That's correct.

MR. ARGUESO: Now, that's the only restriction at the moment. If this regulation goes through --

CHAIRMAN WIRTH: Yes.

MR. ARGUESO: -- that's the only restriction we have at the moment?

CHAIRMAN WIRTH: That's on marking. Now, if you use that to manufacture something --

MR. ARGUESO: Yes, sir.

CHAIRMAN WIRTH: -- that contains that compound at 500 parts per million, you would have to then mark that particular item.

MR. ARGUESO: Providing my end product --

CHAIRMAN WIRTH: Was over 5--

MR. ARGUESO: -- was over 500 parts per million.

CHAIRMAN WIRTH: That's correct.

MR. ARGUESO: But if my end --

CHAIRMAN WIRTH: Wait.

MR. PEDERSEN: And then if you were to dispose of something and that something you were to dispose of was over 500 parts per million, it would have to be burned.

MR. ARGUESO: Yes, I appreciate that.

CHAIRMAN WIRTH: Yes, that's correct, your end product would have to be marked if it was--

MR. ARGUESO: What is the time table on the importation portion of it. You said that importation is the same manufacturing?

CHAIRMAN WIRTH: On January 1st, 1978, the manufacturing and processing use and distribution of PCB's in other than a totally enclosed manner, is banned, in the law itself.

Now, of course, the question there is what's a totally enclosed manner. The law further goes on and talks about totally enclosed manner as any manner in which no significant exposure or risk -- I can never --

VOICE: Exposure.

MR. WIRTH: Significant exposure to PCB's occurs. So the agency essentially has to define totally enclosed manner, probably state what significant exposure is, and then that will in turn to start to identify various manufacturing, processing uses of distributions that were not totally enclosed, and hence that will define what is

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banned as of January 1st, 1979.

And of course there are various exceptions to that allowed.

MR. ARGUESO: Allow me one more question. I realize I've taken up more than my 30 minutes.

MR. PEDERSON: You've taken up a lot less time than many other people.

MR. ARGUESO: Thank you. If I have a stock on January 1, 1978, of material that contains more than 500 parts per million, inventory of particularly polychlorinated terpheynl, and it's in my inventory and it's one of my raw materials, and I'm going to mix it with something else to make my product, my finished product, will I be allowed to make my finished product or is that so called type of manufacturing banned also as of January 1, '78?

CHAIRMAN WIRTH: That wholly depends on whether your particular manufacturing process is defined as totally enclosed use.

MR. PEDERSEN: There is also a legal provision that could be read to permit you to use that, subsection 6 -- well, it says -- and the subsection says that the ban will not apply to distribution in commerce of any polychlorinated biphenyl, that such polychlorinated biphenyl was sold for purposes other than resale before two and one half years after the date of enactment of this

act.

In that -- that is language which I am not working on the ban regs directly, but I know that language is aimed at the question of inventories of the sort you describe, but I cannot say how we will interpret it at this time.

MR. ARGUESO: Okay, sir, thank you.

CHAIRMAN WIRTH: I might make one last comment, Mr. Argueso --

MR. ARGUESO: Yes, sir.

CHAIRMAN WIRTH: -- that in my opinion you most certainly have an interest in the second phase of what would be called a second phase of the PCB regulation as well as the first, but I think an equally important one and the second.

And we're not in a position to answer those questions ourselves right now. I'm not procedurally, I mean technically, and substantively, our work group has been meeting rather steadily for the last month on that particular issue just as soon as we finish this thing.

And the public meeting that I referenced will be the first major input that we hope to collect for that meeting, so I -- the bottom line is I think you have interest in this, and then we would most certainly welcome your comments at any time at your appearance at any of

these public meetings that we have on this particular issue.

MR. ARGUESO: Thank you, very much, and thank you for the time you've extended me.

CHAIRMAN WIRTH: Okay, I think maybe we could then go generally for some questions.

Since you're here that means everybody gets to ask you a question.

MR. ARGUESO: Oh, they didn't tell me that.

CHAIRMAN WIRTH: Yes, once you sit in that chair you're subject to that.

MR. WAGNER: Yes, I'm reading this letter from Tivian laboratories that you put into the record, and it intimates that the product you're using or the one that you mentioned in its use does not exceed 0.05 percent PCB.

MR. ARGUESO: That's what it says.

MR. WAGNER: Yes, do you think there are any end products in your inventory which do exceed .05 PCB. Do you not know or do you know or --

MR. KOENIG: Let's answer the question in a slightly different direction.

MR. WAGNER: Okay.

MR. KOENIG: This particular product that we're purchasing through Tivian laboratories is the only chlorinated material that we use at all. So there's no chance of our using any other product that might be a chlorinated

biphenyl, terphenyl, or any other type of chlorinated organic compound.

MR. WAGNER: So if in fact Tivaclor 60 does not have a concentration PCB, you don't have a problem, that's correct.

MR. KOENIG: That is correct. The problem is how do -- is a letter such as that sufficient documentation--

MR. WAGNER: I'm not a lawyer.

MR. KOENIG: I know you're not a lawyer, we hope that that's sufficient and we're just trying to find out how much testing may be required of us at our end.

CHAIRMAN WIRTH: Well, you're asking an enforcement question, and I think that's very difficult to answer right now, although one of our enforcement attorneys just walked in the room.

MR. WAGNER: Well, I think he answered my question that he doesn't use it.

CHAIRMAN WIRTH: It's an enforcement question.

Right, so what you're going to be asked for is to demonstrate whether you're breaking the law or not once this regulation is promulgated.

The point here is to establish the regulation, and then once that is in place it's another question as to whether you're conforming to it or not. I think we can reasonably state that you are only expected to take

reasonable precaution that you're not breaking the law, as you are against any other law that exists, and in that sense the courts, for your protection as well as our protection also, we make an -- the agency or the government makes an accusation that you're violating the law, it's up to them to demonstrate it.

VOICE: That's the government's --

CHAIRMAN WIRTH: And then it's up to them to prove that you are, and then there's also the question of, you know, whether it was intentional or unintentional, or whether it was reasonable or not. So that whole issue is an enforcement question, to be honest.

But I want to caution you again that when I say 500 parts per million we're talking about for labelling and marking purposes, manufacturing use, distribution and commerce is another issue and I hope nothing I've said today is to be interpreted that the 500 parts per million level is fixed throughout the rest of the PCB action necessarily.

I'm not indicating it isn't, either, I'd like to be on record as not indicating one way or the other. We still have that issue to resolve.

Okay, any other questions? Any questions from the audience.

Okay, thank you, very much.

MR. ARGUESO: Thank you.

MR. KOENIG: Thank you.

CHAIRMAN WIRTH: With that we will proceed and call the next witness. I will introduce the other member of this panel from the end, of the enforcement program, Mr. Ted Wadzi-antich.

If you will sit in the enforcement chair for the rest of the afternoon.

The next witness is Tivian Laboratories. If you will state your name.

MR. MELECHINSKY: I am Andy Melechinsky, I am president of Tivian Laboratories, Incorporated, we're located in Providence, Rhode Island. Now, we have a problem because of the concern that you saw just a little while ago.

Where because of government interference in our affairs, or put another way, because the government sticks its nose in our affairs, we have our customers concerned about something which should be of no concern at all.

And of course the reason is that the government has gone too far and he knows as well as us that the government can go a lot further. This can cause a fantastic problem because the basic thing is how much harm are PCB's causing. How much harm have PCB's caused.

And as a matter of fact, the environment, both

Environmental Protection Agency itself has said on the first page of the earlier report, which I have not been able to read thoroughly, I didn't have it, but they state the record did not contain sufficient evidence upon which responsible and defensible rules could be promulgated.

These are the words of the EPA itself. Why? Because as I asked this morning, and by the way I did get a very indirect answer, what harm have PCB's caused. Documented, true harm in use. And I don't mean industrial accidents in Japan, which could be explained away many, many ways.

First instance. I happen to be an ardent foe of floridation in public water supply, yet when I point out that floridation, floride itself caused several deaths from spontaneous breakage of rib cages in hospital patients on dialysis machines, the proponents of fluoride will immediately say, well, that was an accident, it was something we didn't anticipate, the situation has been corrected, so you can't call that a harm caused by fluoride. Which makes sense in a way.

And I would ask the same question here, again, what harm has been caused by PCB's, or is likely to be caused by PCB's. Now, we're not even getting to PCT's yet, which are even less toxic, admittedly, if there is toxicity involved in PCB's.

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And as a matter of fact this has bothered me throughout all of these hearings, I've had to attend several. I presumed that when the Congress got ready to pass the law banning PCB's that by golly, somebody had some sort of hard evidence that they were causing harm to somebody somewhere and that evidence would be released somewhere along the line so that we could then say, well gee whiz, they had cause for doing that, some sort of cause, whatever it happened to be.

And I've been waiting for that other shoe to drop, for months now. I'm still waiting. It's a good thing I didn't hold my breath. What harm has PCB's caused to anybody in normal use? How do you know that PCB's are harmful?

I'd like some definitive, some documentative, hard evidence on that. I think we're long overdue considering that Congress has already passed a law on the subject banning them, and probably in violation of law, as a matter of fact I know in violation of law because they violate many other provisions of the supreme law in the toxic substances control act and other acts.

But why at least not have something that was presumed to be dangerous, something that we could put our finger on as dangerous. Why are we discussing -- I've listened all day to ways and means of disposing of this

stuff, and questions about will it get out of leeching systems and all because it seems to be so horribly dangerous.

I will promise you that if you'll get a drum of PCB's here, hang it from the wall, I'll gladly take a shower in your PCB's and not worry the slightest bit about whether they do any harm to me or not.

And here you are wasting thousands of dollars trying to control this non dangerous substance, and then scaring people who might have small quantities of it in still another product, which is not related, chemically. There is no real relationship between a PCB and a PCT, if you'll take the trouble to look it up.

So the question has to come, just where is the danger, especially when again in your own studies you say, well since you can't find any sufficient evidence upon which responsible and defensible rules can be promulgated, you then go to laboratory studies in which you use 100 to 500 parts per million of PCB's in order to conduct tests on animals, from mice on up to pigs, and probably others, to find possibly some lesions under certain conditions, and complete ignore the fact that if the animals were given the equivalent amount of fluoride as dumped into public water supplies, that they wouldn't last for these two years that tests went on, they would be dead

in a matter of hours if not days.

I don't know if somebody wants to take the trouble to calculate, but I can assure you the same amount of fluoride put into the diet of the test animals would have killed them off long since.

And I can also assure you, and I shouldn't have to prove it to your satisfaction, that where this morning we were discussing perhaps 20 pounds that might have escaped and gone into the ground, had a tortuous path to get into the public water supplies or rivers, fluorides are being dumped directly into the public water supplies by the ton, which means that for a proper test you would have had to use not 500 parts per million but something in the area of grams rather than parts per million in order to make an accurate test on the relative toxicity of fluoride and PCB's.

What I'm trying to tell you is that we can have in our public water supplies and our rivers and our lakes and our streams, much larger quantities of fluorides than we do PCB's, and the question arises, did anybody take the trouble to see how much of that there was, for instance, in the fish that you took out of the water.

How many parts per million fluoride were in those fish where you found what, six parts per billion of PCB's. Did anybody take that trouble to find out how much fluoride was in those fish, and then say, well if we didn't die from

the fluoride in much larger quantity, why in the world should anybody think they might die from the PCB's. And if the PCB's don't harm us, why is anybody concerned at all about PCT's.

Which means I shouldn't even be in this regulation, as you must see. Presuming the regulation itself, to be constitutional, which I believe you'll find it is not. And I'd like to go into that if I may because it's so very very important and it seems like so very, very few people know what the basic law is on this subject.

The basic law on this subject is called the Constitution of the United States of America, and that law states that the president gets his authority from that Constitution and is bound by that Constitution.

It also says that the Congress that passed this dumb law also gets its authority from the Constitution and is bound by it. I challenge you to find anywhere in that Constitution where Congress can pass a law ascertaining the guilt of somebody in advance if they happen to have PCB's on their person or on their premises, that they've done some harm automatically and therefore must start burning them up at fantastic expense.

I'd like to have you show me that in that Constitution of the United States of America, which is the only authority that the Congress has, and is the only

authority that it operates under, and is bound by.

And the Supreme Court, which supposedly upholds the congressional laws, is also gets its authority from and is bound by that Constitution. Which means that all three branches of our government get their authority from and they're bound by that Constitution.

Okay, now, the $64,000.00 question. Where does the Constitution get its authority from. I'll tell you. From me, from you if you were acting in your capacity as a U. S. citizen, and from the corporations which the Congress is trying to destroy today through this unreasonable, irresponsible legislation.

The Constitution gets its authority from us, we the people, the first three words. We're the authority for that Constitution. The president and the Congress are under us, and the Supreme Court is under us. So they're supposed to start paying attention to what we want, and what we want in Tivian is for you to prove conclusively that PCB's are a clear threat to somebody at Tivian or somebody that we do any business with.

The burden of proof is not on us, the burden of proof is on you. You've got to satisfy a jury that we either have done harm or that we're going to do harm, clearly to somebody, before you can even think of regulating us and forcing us into a position where we have to spend

all of this money to come here for a hearing, which is wasting even more money, both the taxpayers and the businesses who are gyrating to the unreasonable antics of government once again.

Let's get back to that Constitution and see what kind of authority it has for you. The Constitution says this Constitution shall be the supreme law of the land, not something enacted by Congress, and not a legislative hearing by the EPA. This Constitution shall be the supreme law, and that supreme law says that the right of the people to be secure in their persons, their houses, their papers, and their effects against unreasonable searches or seizures shall not be violated.

This hearing today is an unreasonable search, a massive fishing expedition trying to determine from us what we're capable of producing and then set the levels of what you consider safe on the basis of what we are giving in this hearings.

You're not trying to find by yourself what's truly dangerous, you're trying to have us tell you. You're trying to convict us out of our own mouth, which the Fifth Amendment does not allow, nor does the Fourth.

The Fourth says from all searches and seizures you shall be secure from unreasonable, and we're the ones who determine what is unreasonable under Amendment 4.

And then on top of that it says, should there be a crime, an actual crime, under amendment 5 we still can't be required to testify against ourselves, and that's what these hearings are again.

When you bring the people in from industry and say, well what can you tolerate, what can you put up with, what are you willing to do, so that we won't breathe down your back.

Once again you're conducting a fishing expedition and you're laying a threat on all of us in order to force us to gyrate to your unreasonable rules. And I think you know that.

Let me go a little further, if I may. That also says in that Constitution when you want to do this you have to convince a jury. We have a right to counsel, we have a right to have the witnesses against us, which I very seldom see.

And we have the right to have attorneys in our favor, and we don't have to hire them, nobody's been offering us any attorneys to take the brunt of all the legal research that we have to do here.

It also says in amendment article 13 that we shall not be subjected to involuntary services. What are all these tests if not involuntary services. When we're satisfied that our product is safe, when nobody has ever

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raised any question as to whether our product is safe except those who want to control us.

Where are the labs you're supposed to furnish if you think there's something wrong, and not force us to spend our money for that kind of research, and then the burden of proof is on the government, not the citizens, not the corporations.

So here you have it, just part of it. The Constitution of the United States says that citizens innocent, of any wrongdoing, until the government proves otherwise, to the satisfaction of a jury. Not to the satisfaction of the EPA, to the satisfaction of the jury.

And I've looked in this regulation and I don't find anywhere in here where they say we're going to convince a jury that somebody's done something wrong before we start to bother them.

I don't see anywhere in here where they say we won't get these subpoenas unless there's been a crime committed. You mentioned subpoena several times. Don't you realize that subpoenas are unlawful unless issued as a result of an actual crime being committed? What's the crime?

What has Tivian laboratories done which has been of any harm to any United States citizen anywhere? I think you should tell me that, so that we don't have to

come here worried about whether you're going to cut off our business and drive us out of business. I think it's very important that you tell us this.

Especially when you seem to know less about chemistry than I do, and I don't know all that much, although I know, I think, quite a bit, because Dr. Antelman, the chairman of our board, funnels all of the information on this issue to me, for me to read, and I read it diligently.

And I assure you once again that I've been watching all this time for that other foot to drop. I've been looking for that hard evidence, that documented evidence that PCB's are truly a threat to we the people of the United States.

I haven't seen any of that evidence, as yet, and I would urge you to send us some of that so we can start analyzing it and see if it's worthwhile, if you've got any. From what I've heard today, you don't have any.

So, we go back now to what Mr. Argueso said, and that is, he wants to know how you're going to determine that this is truly a danger. What procedures are you going to use, what test equipment.

Repeatability. Are we going to be able to check for ourselves that this is indeed a fact that it's dangerous at that particular level.

I think it's very important we know that, otherwise I suggest you amend these regulations so as to get you off our back because we're not going to take very kindly to a continual harassment of Vivion Laboratories, Incorporated.

Thank you.

CHAIRMAN WIRTH: Any questions?

Any questions from the audience?

Okay, thank you, Mr. Mel-chinsky.

MR. MELECHINSKY: Thank you.

CHAIRMAN WIRTH: That being all of the witnesses heard that were scheduled, and no further questions, the legislative hearing will be concluded after I make the last comment.

We do have prepared a letter for each of the participants that I would like the participants, at least one representative of each of the participants to pick up today and receive.

This is only for the purpose of limiting our work on mailing it. If you do not I will mail it to you and we'll also phone call you, but it's a relatively simple letter I'd like to read into the record, concerning the rest of the schedule.

It is, This is to advise participants in the informal hearing for the proposed rulemaking on polychlori-

rated biphenyls, PCB's, marking and disposal of a date change in the rulemaking schedule.

According to 42 F.R. 26564, dated May 24, 1977, requests for participation in the cross examination portion of this informal hearing are due no later than two days after the close of the legislative part of the informal hearing.

The legislative part of the informal hearing closed on June 29, 1977. The Environmental Protection Agency's hearing panel has ruled to extend the time for requests for cross examination to July 7, 1977.

Therefore, participants in the legislative portion of this informal hearing may submit written requests for cross examination and the requests must be received by the record and hearing clerk, Office of Toxic Substances, EPA, no later than close of business July 7, 1977.

Enclosed is a copy of 42 F.R. 20640, dated Thursday, April 21, 1977, "Procedures for Rulemaking Under Section 6 of the Toxic Substances Control Act," which specify the rules for compliance to participate in cross examination.

The EPA's hearing panel will rule on each request on July 8, 1977, and you will be notified of its decision. The cross examination will commence Thursday, July 14, 1977. Each participant will be notified as to the time and place.

In addition to the above changes, the date for submitting reply comments has been extended now to July 25, 1977.

Written requests for cross examination and reply comments are to be addressed to Joni T. Repasch, 401 M Street, S. W., Washington, D.C., 20460.

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If there are further questions, please contact me at (202) 426-9000.

Signed, Joni T. Repasch, Record and Hearing Clerk.

With that, I thank everyone who has taken the time and effort to participate in this hearing, and the legislative part of the hearing stands adjourned.

(Whereupon, at 3:05 p.m. the hearing was adjourned.

end tape V

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