MAR 11 REC'D

MINUTES OF MEETING

ON

PROPOSED PCB EFFLUENT STANDARDS

February 28, 1974

Monsanto Company
St. Louis, Mo.

PCB-ARCH-EXT0376402

Chairman: Mr. W. B. Papageorge
Manager, Product Acceptability
Monsanto Industrial Chemicals Co.

Objective:

The purpose of the meeting was to share information, experiences and impressions to help each of the participating companies in taking appropriate actions which are mutually supportive and effective in persuading the Administration of EPA to modify the proposed PCB Effluent Standard.

PCB-ARCH-EXT0376403

PARTICIPANTS

PCB STANDARDS MEETING

February 28, 1974

CERTIFIED BALLAST MANUFACTURERS

Mr. N. R. Clark	Universal Manufacturing Co.

E.I.A.

Mr. Arnold S. Doty	P. R. Mallory & Co., Inc.
Dr. E. M. Moore	Electrical Utilities Co.
Mr. Rudy Carlson	Electrical Utilities Co.

GENERAL ELECTRIC COMPANY

Mr. James S. Nelson
Mr. Stuart Richel
Dr. Edward L. Simons

JARD COMPANY, INC.

Mr. Richard Rollins

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

Mr. A. M. Salazar

WESTINGHOUSE CORPORATION

Mr. H. Sheppard
Mr. N. H. Smith

PCB-ARCH-EXT0376404

MONSANTO COMPANY

P. G. Benignus	Market Manager
H. S. Bergen	Business Director
D. B. Hosmer	Utilities and Environmental Protection Director
R. H. Munch	Senior Science Fellow
W. B. Papageorge	Manager, Product Acceptability
W. W. Withers	Attorney
C. Paton	Product Manager
W. R. Richard	Manager, Research and Development
J. R. Savage	Manager, Manufacturing
E. S. Tucker	Research Group Leader
P. L. Wright	Manager, Toxicology

PCB-ARCH-EXT0376405

AGENDA

PCB EFFLUENT STANDARDS MEETING

February 28, 1974

9:00 AM	1. Welcome - H. S. Bergen
9:10 AM	2. Introductory Remarks - W. B. Papageorge
	a. Brief Review of Proposed Standard
	b. Critical Action Dates
	c. Objectives of Meeting
	3. Discussion Topics
9:15 AM	a. PCB Characteristics - Realistic Definition chemical, physical, biodegradation
9:45 AM	b. Sampling and Analytical Methodology
10:15 AM	Break
10:30 AM	c. Toxicity Acute Chronic
11:30 AM	d. Bioaccumulation - Biomagnification
12:00 Noon	e. Dilution - Stream Size
12:30 PM	Lunch
1:15 PM	f. Proposed Effluent Standard
2:00 PM	g. Control at Manufacturing and Use Sites Current losses Background
2:45 PM	Break
3:00 PM	h. Economic Considerations
3:30 PM	i. Action Plans
4:00 PM	Adjourn

PCB-ARCH-EXT0376406

MINUTES OF PCB EFFLUENT STANDARDS MEETING

1. Mr. Howard S. Bergen, Jr., Director, Specialty Products Business Group of Monsanto Industrial Chemicals Company, welcomed the participants.

2. Introduction - W. B. Papageorge

Mr. Papageorge summarized the timetable past and future on toxic pollutants:

July 6, 1973 - Toxic Pollutants list published

September 7, 1973 - Final toxic pollutants list published including PCBs and 8 other chemical classes (e.g. cyanide, mercury, DDT, cadmium, etc.)

December 27, 1973 - Proposed Effluent Standards published

January 18, 1974 - Filing date for status as participant at proposed EPA Hearing on Standards

January 25, 1974 -

(i) Prehearing Conference with EPA

(ii) NEMA, Monsanto, G.E. and Westinghouse recognized as participants.

(iii) A total of 38 objectors expressed an interest. They represented industry or trade associations with the exception of the Michigan Water Research Commission and two powerful environmental groups (Environmental Defense Fund and National Resources Defense Council).

(iv) Presiding officer made it clear that Hearings will be strictly for cross-examination of participants' testimonies in affidavit form only.

PCB-ARCH-EXT0376407

March 15, 1974 - Written testimony by 38 objectors to be submitted in affidavit form.

April 8, 1974 - Hearings open for cross-examination and rebuttal evidence. CN^-/Cd/Hg - first three. PCBs are 7th (third from last).

Mid-May, 1974 - Hearings completed. (Evenings/week-ends may be used.)

June 25, 1974 - Final standards published - effective in one year.

It should be noted that others who are affected by these standards can still comment by March 25 to:

Dr. C. Hugh Thompson,
Chairman-Hazardous and Toxic Substances
Regulation Task Force
Office of Water Protection Agency,
Environmental Protection Agency
Washington D. C. 20460

Industry representatives still wishing to comment and who need more background information can contact any of the industry participants (see attached list) or Mr. W. B. Papageorge of Monsanto (314-694-4051).

Mr. Richel (G.E.):

(i) Made a plea for greater industry participation. Comments can still be made up to March 25 with sound excuse for tardiness.

(ii) EPA at January 25 prehearing Conference were reluctant to expose themselves to cross-examination. Dr. Hugh Thompson to be available for cross-examination at Hearings.

(iii) Many objectors had common interest (e.g. environmentalists). EPA suggested a common counsel for this group.

(iv) On each of first 3 pollutants, EPA would offer 2 witnesses.

Mr. Doty (P.R. Mallory) asked about bearing of economic factors on standards.

Mr. Richel (G.E.) stated:

(i) Law is clear-economic factors are not relevant in establishing standards.

(ii) EPA is somewhat of a split personality on this. The

PCB-ARCH-EXT0376408

Presiding Officer at the Prehearing Conference ruled that economics are relevant. NRDC (National Resources Defense Council) objected and was over-ruled.

(iii) Industry can and should therefore introduce relevant economic data. EPA would be wise not to expressly refer to such data in the published standard otherwise NRDC could go to court and EPA over-ruled.

Department of Commerce

It was pointed out that Sidney R. Gallier, Deputy Assistant Secretary for Environmental Affairs at the Department of Commerce wrote Monsanto on January 15 asking their views on the proposed effluent standards. Copies of Dr. Gallier's letter and Monsanto's response were circulated at the meeting. Industry should contact the Dept. of Commerce. Their legal counsel (Mr. Morland) has been active on the side of industry in other environmental hearings.

Mr. Salazar (NEMA) pointed out that the PCB Task Force had recommended a standard for PCBs of 0.01 ppb in the main body of water. (EPA was a member of that task force). ANSI C-119 proposes to use this Task Force recommendation and print this as a standard of 0.01 ppb in main body of water.

Mr. Sheppard (Westinghouse) queried if plant effluent standards could be set to meet 0.01 ppb.

Dr. Simons (G.E.) said this implied an acceptance of ANSI C-119 by industry.

There seemed to be some doubt on this.

PCB Characteristics

Dr. Tucker (Monsanto) presented hand-outs on:

(a) Monsanto's proposed definition of PCBs

(b) Comments on EPA's proposed analytical methodology

(c) Monsanto's pre-publication paper on biodegradation of PCBs.

(a) Definition of PCBs

1-4 chlorobiphenyls do not have long residence time. PCBs up to tetrachlorobiphenyl are not of concern on environmental persistence or biomagnification. Dr. Tucker proposed the following definition:

PCB-ARCH-EXT0376409

"Polychlorinated biphenyls (PCBs) means materials containing the biphenyl group which is chlorinated and which have been shown to persist and rapidly bioaccumulate in the aquatic environment. These chlorinated biphenyls are identified as those components having gas chromatographic retention times greater than 54, relative to p, p-DDE = 100, under the standard conditions recommended in the EPA PCB test method."

Mr. Sheppard (Westinghouse) said Monsanto's proposed definition was relevant to persistence but was it relevant for standards directed toward toxic materials? Are persistent materials non-toxic?

Mr. Wright (Monsanto) stated the proposed effluent standard had two parts:

(i) acute limits directed to toxicity of materials and specifically limits PCB concentrations on that basis.

(ii) daily load in effluent - based solely on bio-magnification (relevant to persistence).

Dr. Simons (G.E.) pointed out that section 307-A of the proposed standard refers to persistence as being a critical factor to be considered.

Dr. Tucker (Monsanto) stated we were badly hurt if all PCBs are regarded as persistent and if biomagnification factors of 200,000 are used. Researchers other than Monsanto have found bacterial degradation of PCBs and that PCBs have been found to undergo metabolism in both aviarian and mammalian animals.

Mr. Nelson (G.E.) asked if proposed PCB definition would exclude Aroclor 1016.

Dr. Tucker (Monsanto) Aroclor 1016 would be excluded for the most part (98.9% is lower than pentachlorobiphenyl). Aroclor 1242 would be excluded to 65% or better. Aroclor 1254 however would not be excluded.

Mr. Papageorge (Monsanto) pointed out that of the factors listed as being critical in determining which pollutants made the EPA list of 9/7/73 only biomagnification appeared relevant to PCBs.

Dr. Simons (G.E.) agreed.

Mr. Wright (Monsanto) stated that an acute toxicological level is defined in the EPA Basis & Purpose document as ≤ 10 ppm (96 hour LC-50). He also believes that differences in toxicity among PCBs are minor until chlorinated as high as Aroclor 1260.

Mr. Nelson (G.E.) stated that words should be used in a discourse on definition to properly screen us on acute toxicity.

In reference to a comment that Aroclor 1254 would not be excluded by the proposed definition, Dr. Tucker (Monsanto) offered the opinion that transformer fluids were easier to recover than capacitors.

(b) Analytical Methodology

Dr. Tucker (Monsanto) stated the EPA's proposed method for PCB analysis was being submitted to ASTM. He thought the method was well written and capable of detection to ppt (parts per trillion) but it was untried and the quantitative accuracy is in question. The method was not submitted for round-robin testing before EPA adopted it. Monsanto has found that by spiking distilled water with 500,000 ppt or 500 ppb of PCBs we get values for PCB that vary by ± 55%. The EPA, however, claims a capability of detecting absolute values at 50 ppt. The EPA method ignores interfering substances.

Mr. Clark (Universal Manufacturing) said that with a proposed upper limit for PCB discharge of 0.0648 lb./day the sensitivity of the analytical method would vary "all over the lot" depending on the size of the water "reservoir" into which the PCBs discharge.

Mr. Sheppard (Westinghouse) commented that if the analytical techniques on determining PCB levels are so difficult, how valid are the determination of toxic values for PCBs.

Mr. Clark (Universal Manufacturing) asked if analytical techniques differentiate between different chlorine levels. Dr. Tucker (Monsanto) said it would depend on the PCB mixture. Aroclor 1242 could probably be identified quantitatively in a mixture with Aroclor 1260 but addition of Aroclor 1254 to the mixture would prevent identification because Aroclor 1254 contains PCB homologs that overlap both Aroclor 1242 and 1260.

Dr. Munch (Monsanto) said that the proposed EPA method does not use high resolution and hence handicaps identification of individual peaks.

Dr. Simons (G.E.) mentioned that after EPA set automotive emission standards (NIOX) the analytical methodology was found faulty and the standards were delayed. In this case, EPA is not setting the effluent standard on analytical methodology but

PCB-ARCH-EXT0376411

on factors such as toxicity and persistence. The methodology is relevant in enforcement and monitoring. This then leads to the possible argument that the effluent standard is correct and justified on the basis of toxicology et al, but is not enforceable due to lack of an accurate method for absolute value determination of PCB discharge.

Mr. Richel (G.E.) pointed out that EPA won't buy an answer to that argument which seeks to raise the effluent standard to a level that can be accurately measured. Mr. Savage (Monsanto) felt strongly, however, that this dilemma needed to be in the record. Others agreed.

Dr. Tucker (Monsanto) said ASTM would hold a round-robin on the EPA method and that Monsanto would participate. He will send the name of the ASTM contact to the participants so that they can decide if they want to join the round-robin test.

Mr. Sheppard (Westinghouse) said he was not prepared to accept that the proposed EPA method for determining quantities and types of PCB in samples and animals was accurate enough so that toxic limits could be defined on the basis of PCB levels of questionable accuracy.

Toxicity

Mr. Hosmer (Monsanto) stated that the original EPA publication on Water Quality Criteria came from a publication by McKee and Wolfe for the State of California. The McKee/Wolfe volume was well done and EPA did not change much of it. There is now a new 2-volume EPA edition extracted from the work of 10 committees of the National Academy of Sciences.

The toxicity of PCBs is related to salmon egg studies and Monsanto doubts the validity of this. Monsanto has made their feelings known to Dr. Thompson of EPA but he thought the criteria were sound. Since then Russell Train has been sued by NRDC and other groups on the grounds that the toxic pollutants list is not long enough and the proposed standards are too lenient.

Mr. Wright (Monsanto) went through the rationale used by EPA in arriving at a PCB discharge maximum of 0.0648 lb./day. He also showed how the standard could be changed and yet be consistent with published data on PCBs. Details follow.

(a) FDA set arbritary proposed tolerances:

5 ppm in fish for human consumption
5 ppm in components for animal feed
0.5 ppm in complete animal feed

PCB-ARCH-EXT0376412

(b) Monsanto would not disagree with these tolerances.

(c) FDA has presented - acute toxicity limits (point sources)
- chronic toxicity limits (daily load)

Acute toxicity limits:

96 hour LC-50 studies for PCBs show:

~280 ppb in fresh water (bluegill)
~10 ppb in coastal or seawater (pink shrimp/oysters)

Published data based on materials leaving an outlet and going into a body of water. Acute limits have no direct relation to chronic limits.

Chronic toxicity limits:

The EPA equation is:

Chronic limit X water flow rate X safety factor = gm/day discharge

In Marine organisms the chronic limit is set as

$$\frac{0.5 \text{ ppm}}{30,000} = 0.0167 \text{ ppb}$$

In fresh water the chronic limit has been determined by using 0.5 ppm as toxic limit for salmon eggs and a 200,000 biomagnification factor. This gives a chronic limit of

$$\frac{0.5}{200,000} = \underline{0.0025 \text{ ppb}}$$

The biomagnification level of 200,000 is based on unpublished data from Stalling & Meyer (Fish Pesticide Lab, U. S. Dept. of Interior, Colombia, Mo.). Dr. Simons said that in response to repeated requests by G.E. to the Columbia Lab the only reference they have been given is a Stalling & Meyer paper presented in Carolina in 1971 and which contains no mention of a 200,000 factor. Mr. Wright (Monsanto) stated he has seen only one literature reference to an accumulation factor of ~200,000 and that was in the hepato pancreas of a pink shrimp. If the PCB level was calculated on the basis of the total shrimp then the accumulation factor was only 22,000. Other references give accumulation factors of 1000-75,000 for whole tissues of various fresh water organisms. Accordingly, Mr. Wright proposes that a biomagnification factor of 30,000 and not 200,000 be used. He also proposes that we retain the chronic limit of 0.5 ppm without debating the salmon egg issue.

PCB-ARCH-EXT0376413

This would lead to a discharge level for PCBs:

$$\frac{0.5}{30{,}000} \times 10{,}000 \text{ (flow rate)} \times 0.5 \text{ (safety factor)} \times 5.4 \text{ (conversion into lb./day)} = 0.459 \text{ lb./day}$$

This compares to the proposed standard of 0.0648 lb./day.

The safety factor comes from the EPA's Basis and Purpose document supporting the proposed effluent standards. It is supposed to take account of non-point sources of PCBs and is the same as 6 of the 9 toxic pollutants proposed for EPA standards. Monsanto's Medical Department feels this safety factor is arbitrary and confers no real toxicological benefit. If deleted, the revised Wright PCB discharge level would be 0.918 lb./day.

One of the most critical parts of the discharge equation is the water flow rate. A significant number of dielectric PCB manufacturers have plants on rivers where the flow rate is under 100 cfs or 1% of the EPA cut-off flow of 10,000 cfs. Several plants discharge into sewage plants which in turn have treated liquid flowing into rivers or streams with very low flow rates. For a river with 100 cfs flow the EPA maximum discharge would drop to 0.000648 lb./day or 0.162 lb. in a 250 work-day year. Even a revised standard of 0.918 lb./day at 10,000 cfs would only be 0.00918 lb./day at 100 cfs or $\sim$2.3 lb. per 250 work-day year. Clearly this is a staggering target to have to meet.

Mr. Doty (Mallory) pointed out that in the present language of the EPA standards municipal sewage systems are not considered point sources.

Mr. Richel (G.E.) was of the opinion that where a plant discharged into a sewage system without treatment and hence into navigable waters the plant could have to comply with effluent standards on toxic pollutants. Mr. Papageorge (Monsanto) felt we should not be complacent and regard discharge to sewage plants being the answer to problems. Mr. Hosmer (Monsanto) stated that 10,000 cfs represents the largest flow the EPA will consider on the grounds that all industry would move to the largest river. The opposite of that argument is that it encourages small plants on every stream in the country.

Mr. Sheppard (Westinghouse) raised the issue of sedimentation. Since it appears that all the experiments to establish toxic values were run without sediment effects being considered, the real-life values were questioned. PCBs attach themselves to sediment. Furthermore the sediment moves down river and so PCB would be dispersed from the point source. It was pointed out by Dr. Richard (Monsanto) that Aroclor 1254 is soluble in water up to 50 ppb and that in time partitioning between sediment and

PCB-ARCH-EXT0376414

water could take place. Mr. Wright (Monsanto) agreed that the discharge limits were extreme cases in the absence of sediment considerations and this was worth study and incorporation into arguments against the proposed levels.

Dr. Simons (G.E.) queried whether we were correct in concentrating our attacks on the criterion of toxic effects of mammals eating fish and ignoring the possible argument that fish per se must be protected. Mr. Wright (Monsanto) said the proposed standard says both. In salt water, standards are proposed that would protect the species that eat organisms containing PCB. In fresh water, if 0.5 ppm in salmon eggs correlates with <5 ppm in salmon then we are protecting salmon. He also said that the chronic limits and biomagnification limits he was proposing would protect the species themselves. We should, however, beware of arguing for higher levels in fish because we could draw EPA and FDA into conflict. The FDA levels in food, fish etc., are temporary tolerances and any arguments against their validity could lead to a reduction in these tolerances.

Mr. Savage (Monsanto) queried whether raising the level in organisms could cause possible danger to predators.

Dr. Simons (G.E.) quoted from page 39 of the Basis & Purposes document which states that the body burdens of birds and mammals should not increase over present levels. Page 51 of the same document cites a Nat. Acad. Sci. report which gives 2.0 ppm PCB as tolerable level in flesh of whole fish. $\frac{2.0}{200,000}$ = 0.1 ppm PCB is given as tolerable level in water divided by a safety factor of 5 to give a maximum PCB concentration in water of 0.002 ppm. Thus EPA accepted 2 ppm PCB level in fish but got to water concentration of 0.002 ppm by using a high level of 200,000 for biomagnification and an arbitrary factor of 5.

If we were to revise the proposed EPA standard by:

(i) using 2.0 ppm as chronic limit in fresh water species instead of 0.5 ppm;

(ii) substituting 30,000 instead of 200,000 for biomagnification factor;

and

(iii) ignoring safety factor of 0.5

then the maximum permissible discharge in lb. PCB per day would be:

$$\frac{2.0}{30,000} \times 10,000 \times 5.4 \simeq 3.6 \text{ lb.}$$

PCB-ARCH-EXT0376415

For the plant situation on a river with a flow of only 100 cfs the discharge would be 0.036 lb/day or 9.0 lb. per 250 work-day year. These levels are still far below the 5 lb./day given in ANSI C-107.

It is therefore apparent that other aspects of PCBs must be highlighted in order to get away from PCB discharge levels as low as even our "revised" proposals.

Aspects to concentrate on are:

(1) Definition of PCBs that excludes biodegradable homologs.

This could exclude 90% or better of Aroclor 1016 and 65% or better of Aroclor 1242. On that basis, discharge levels would be as follows:

PCB Type	Stream Flow (cfs)	Discharge (lb.PCB equivalent/day)		
		EPA	Wright	Simons/Wright
Any PCB	10,000	0.0648	0.918	3.6
Any PCB	100	0.000648	0.00918	0.036
Aroclor 1016	10,000	0.648	9.18	36.0
Aroclor 1016	100	0.00648	0.0918	0.36
Aroclor 1242	10,000	0.194	2.75	10.8
Aroclor 1242	100	0.0019	0.027	0.10

(2) Try to change stream flows from the present value of the flow rate in cubic feet per second (cfs) expressed as the probable low rate occurring during a 7 consecutive day period once in 10 years at the effluent point.

If the average flow rate over a period of time (to be agreed on) was used, the lowest flow rate in the equation could conceivably be raised by a factor of 10 from 100 to 1000. In the Simons/Wright version for a standard the Aroclor 1016 discharge could be raised to 3.6 lb./day at 1000 cfs flow and Aroclor 1242 to 1.0 lb./day at 1000 cfs flow.

(3) Magnitude of PCB Point-Sources

It is possible that EPA and environmentalists are totally misinformed on the number of plants still using PCBs. In the U.S. today there are:

PCB-ARCH-EXT0376416

1 PCB manufacturing plant

~18 capacitor plants using PCB

~27 transformer manufacturing plants using PCB

In the past there were probably 1500-2500* plants using PCBs. Only 2-3% of these plants continue to use PCB today.

* (Subject to closer checking if necessary)

In the past ~97% of plants using PCBs purchased ~40 million pounds of PCB per year. Monsanto's PCB sales policy has therefore

- reduced number of using plants to ~2-3% of previous total.
- eliminated ~40M lbs. PCB sales per year.

The EPA standard would limit PCB discharge per plant to 0.0648 lb./day or ~3.2 lb./day across the U.S. (~50 plants). This equates to ~800 pounds in a 250 work-day year. Since fish have survived throughout the 40+ years that PCBs have been produced and widely used, the standard proposed by EPA seems far too drastic.

Turning again to the Simons/Wright proposal we can estimate the effect in terms of annual PCB discharge into water across the U.S. at 1000 cfs:

			US Total per	As Persistent PCBs		
Discharge As	Discharge (lb./day)	No. Plants	250 days (pounds)	Discharge (lb./day)	No. Plants	US Total
Any PCB	3.6	*1	900	1.2	1	300
Aroclor 1016	3.6	18	16200	0.36	18	1620
Aroclor 1242	1.08	4	1080	0.36	4	360
Aroclor 1254	0.36	23	2070	0.36	23	2070
			20,250			4350

* Plant is on river in excess of 10,000 cfs.

Using this technique an argument can be made in favor of the ANSI C-107 proposal of 5.0 lb./day.

PCB-ARCH-EXT0376417

Proposed Effluent Standards

Dr. Simons (G.E.) summarized the points he felt had to be dealt with in trying to change the proposed standard:

1. Higher persistence of higher PCBs versus alleged lower acute toxicity

2. Background levels of PCBs

3. Written testimony of participants and correlation

Toxicity

EPA Basis & Purpose document (page 50) states that 96 hour LC-50 to fish cannot adequately measure toxicity of PCB. Where is time demarcation between acute and chronic. Chronic effects can be either lethal or non-lethal.

Why are PCBs on the list on toxic grounds?

LD-50 for PCB is such that it is not considered toxic to humans.

For protection of aquatic life the Nat. Aca. Sci. set a 96 hour LC-50 of 10 ppm or less.

In proposing a definition for PCBs, Dr. Simons (G.E.) felt we should stress:

(a) lack of persistence of homologs below tetra-chlorobiphenyl.

(b) chronic toxicity does not arise for the lower homologs because they are non-persistent.

(c) ignore acute toxicity - no real differences between Aroclor 1016, 1242 and 1254.

Participants need to consider: Do we have the best definition?

In the tentative EPA analytical method we should take note that in the table on p.3-22, the percentage of PCB was not controlled.

Mr. Carlson (E.U.C.) pointed out that in its present form the standard could saddle present PCB users with all other discontinued uses. Dr. Richard (Monsanto) pointed out that FDA and Boxboard Manufacturer's Association had agreed on a protocol that protected recycle paper users from just such a situation. Mr. Bergen (Monsanto) asked that copies be circulated to participants.

PCB-ARCH-EXT0376418

We need to word our definitions to exclude residuals. Participants should exchange proposed drafts on wording regarding residuals by March 7.

G. E. stated we should not approach the hearing on the basis that things can't be done. Rather take the proposed standard and point out what it means in real life. In G.E.'s case they use X M lb./year and yet can't lost 0.5 drops per day. Stream flow rates make the matter worse. This is a point on which Dr. Thompson should be cross-examined.

Of the participants present, 5 plants discharge into sewers with outlets into rivers (very small except in 2 cases). Three plants discharge into small rivers.

No one at the meeting could cope with the EPA standard as it is proposed. Only Jard expressed an opinion on what level they could live with. (Jard stated 27 lb. Aroclor 1016 per day. This would be 2.7 lb. PCB by our proposed definition.)

PCB-ARCH-EXT0376419

Participation at EPA Hearing

Definite participation:	Monsanto G. E. Westinghouse
Undecided:	Electrical Utilities Jard NEMA
No participation:	Electronic Components Mallory

Objectors of record could adopt non-responding company as witness.

G.E.'s testimony will fall into the following areas:

- Explanation of why PCBs are used
- Consequences of ban on customers
- Inadequacy of EPA/Nat. Acad. Sci. statements
- How standards would apply to G.E.
- Inadequacies of the Standard
    - definition
    - methodology
    - logic behind the standard

Other contributory actions:

- Involve Federal Energy Office (e.g. Aerovox letter on motor-run capacitor contribution to ease energy crisis.)
- Involve F.E.O./other agencies along lines of petrochemical producers' PEG report.
- Power Systems Group of IEEE will circulate a position paper on PCBs (technical aspects) in the dielectric industry to Congress, EPA, FEO and Dept. of Commerce (target date: April).

PCB-ARCH-EXT0376420

Action Plans

1.	(W. B. Papageorge)	Circulate to participants copies of FDA/Boxboard Manufacturers protocol on PCBs in recycle paper.
2.	(Participants)	Exchange drafts on testimony regarding PCB residuals/background levels with each other by March 7. (Monsanto contact should be W. B. Papageorge.)
3.	(Participants)	Submit to W. B. Papageorge their thoughts on proposed PCB definition (to exclude 1-4 chlorine homologs).
4.	(Participants)	Communicate with each other on how best to handle sedimentation phenomenon (as raised by Mr. Sheppard of Westinghouse).
5.	(E. S. Tucker)	Send out name of ASTM contact for participation in round-robin on proposed EPA analytical method.
6.	(Participants)	Write to Dr. Galler of Commerce Dept. opposing EPA standards. (See Galler letter to Monsanto and Monsanto response.)
7.	(Participants)	Those who have not responded to EPA can still write Dr. Thompson by March 25.
8.	(A. Salazar, NEMA)	(a) Get feedback from Sangamo/McGraw Edison on the proposed standards. (b) Determine role NEMA will take on affidavits/testimony at EPA hearing.
9.	(W. B. Papageorge)	Obtain PEG report and send to Mr. Nelson (G.E.).
10.	(Participants)	Involve F.E.O. in EPA Hearing along lines of Aerovox letter to Secretary Simon.

PCB-ARCH-EXT0376421