

SUBJECT: PCB SPILL

When: December 6, 1974, at about 5:30 P.M.

Where: Near the Erie, Pennsylvania plant of Transportation Systems Bus. Division.

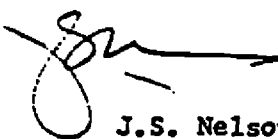
How Much: A substantial portion of the 710 gallons contained in a locomotive-type transformer being transported by truck.

Type of Accident: It is reported that the bed of the truck was iced over. The transformer shifted, its restraining chain gave way, and the transformer fell to the ground. Pyranol ran out for some two hours. Notification by the driver was not as prompt as called for.

Terrain: The Pyranol ran into a drainage ditch connected to a creek that drains eventually into Lake Erie. Because of the density of Pyranol, it is anticipated that most of the spill will collect along the bottom of the tributaries, and will not be extensively dispersed in the lake (2000 ppm was measured at the confluence of the ditch and the creek sometime over the weekend).

Emergency Measures and Notification: Erie contacted Transformers at Pittsfield (Dobbins, Thayer) and Rome (Bob Arnold) for advice; notified EPA and other authorities. Electric Mutual informed by Dobbins, as was also E. Simons. Marv Phillips of EPO also was in communication with Erie over the weekend. (I don't know what specific containment/clean-up measures have been instituted.)

Source of above information: Telephone call from Lorne MacMonagle, Manager - Product and Systems Safety - Transit Vehicle Products Department, and Division Product Safety Representative, Monday, December 9, 1974.


J.S. Nelson
12-9-74

JSN:cas

NEEL 000402

LR-118

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431

D	I	A	L
C	O	M	M
8*229-2287			

SUBJECT

COPIES: F.S. Rothe

DECEMBER ACTIVITIES REPORT
James S. Nelson

December 23, 1974

Mr. J.F. McAllister
Office

REDACTED

NEL 000403

J.F. McAllister

- 2 -

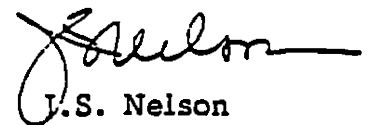
December 23, 1974

2. PCB Spills Experience

Last month we reported on a PCB spill in Georgia. There has been another spill at Erie, on December 6. A locomotive-type transformer, containing 710 gallons, fell from a truck. This makes two "major spills" in 1974, agreeing with the annual number predicted in the Task Force Report - Pyranol Transformers, published last February.

REDACTED

JSN:cas


J.S. Nelson

782251

NEL 000404

LETTERBOOK

J.S. Nelson

1975

NEL 000405

782252

To Dr. E.L. Simons

Date 1-3-75

Ed:

You may wish to compare the attached transcript to the advance copy you obtained from EPA. Kindly give me a call if there is any discrepancy.

Ward will publish this material, together with the Toxaphene section, in the next Env. Reporter.

J. S. Nelson

NEL 000406

Start of Page 39

(4) The total daily weight of PCB's discharged into a/an:

(a) stream, lake or impoundment, embayment, or a Great Lake shall

not exceed 0.00086 times the receiving water body design flow in

$m^3/sec.$ to give Kg/day or 0.000054 times the receiving water body

design flow in cfs to give lbs/day. Unless there is more than one

discharge point in the immediate vicinity, in which case no facility

shall discharge in excess of 0.24 Kg/day or 0.54 lbs/day regardless

of receiving water flow.

(b) Estuary or coastal water from any facility subject to this subpart shall

not exceed 0.00086 times the receiving water body design flow in

m^3/sec to give Kg/day or 0.000054 times the receiving water body

design flow in cfs to give lbs/day unless there is more than one

discharge point in the immediate vicinity, in which case no facility

shall discharge in excess of 0.24 Kg/day or 0.54 lbs/day regardless

of receiving water flow.

I. Toxaphene ...
(not transcribed)

NEL 000407

8*229-2287

J.F. McAllister - Fairfield

January 9, 1975

Mr. Tidal Henry
Electric Mutual Liability Insurance Company
715 Lynnway
Lynn, Massachusetts 01905

Dear Ty:

We understand that you have been researching the law relative to PCBs and desire background information to aid you in understanding and characterizing these materials. As you may know, polychlorinated biphenyls (PCBs) are a class of compounds produced by the chlorination of biphenyls. PCBs manufactured in the U.S. are made only by Monsanto and sold under the trade name Aroclor. Various users have their own trade names for PCB formulations, i.e., Pyranol (G.E.) and Inerteen (Westinghouse). You will also encounter the term "askarel", a generic, non-proprietary word used to identify these nonflammable insulating liquids. Monsanto identifies its Aroclor formulations with a type number, e.g., Aroclor 1242, Aroclor 1254, etc. In most cases, the first two digits represent the molecular type and the last two digits the average percentage by weight of chlorine. These various compounds have different physical, chemical and biological properties.

Because of their relatively nonflammable nature (and the nonflammability of arc-formed gases) and other unique properties, PCBs are widely used by the electrical industry in the manufacture of capacitors and transformers. Capacitor manufacturers and some transformer manufacturers use formulations which are almost entirely made up of PCBs (with very small additions of antioxidant compounds or scavengers of various kinds). G.E. Pyranol transformers use a large fraction (e.g., 40%) of chlorinated benzenes as a diluent.

The Environmental Protection Agency has identified PCBs--without distinction as to degree of chlorination--as materials to be controlled under Section 307 of PL 92-500 as toxic pollutants. Proposed standards were announced in December of 1973 and withdrawn after vigorous opposition by several objectors.

NEL 000408

Mr. Tidal Henry

- 2 -

January 9, 1975

EPA is about to try again with a new proposal. The EPA has also listed PCB as a material to be controlled under Section 311 of the same act, in their advance notice of intent (39FR 30466). The National Institute for Occupational Safety and Health (NIOSH) is also requesting information as to locations where employees are working with PCBs and certain other information related to the use of these substances. We have been told that NIOSH has some information in animal studies which is being interpreted by one researcher to indicate that PCBs are potentially a carcinogen.

We have assembled some reference documents that will aid you in becoming conversant with the principal issues:

1. The Use and Disposal of Electric Insulating Liquids, a NIPCC report representing an early effort (authored by the undersigned) to place the PCB use and disposal problems in perspective by comparison with petroleum.
2. Excerpts from PCBs and the Environment, by the Interdepartmental Task Force on PCBs. The pages reproduced concern primarily the chemical and physical properties.
3. Testimony on Behalf of the General Electric Company as an Objector to the Proposed Toxic Effluent Standards for PCBs - 40 CFR 129 (March 1974).

The Farnsworth testimony included in the third reference (and also assembled by yours truly) should aid in understanding what's at stake here, and why we are resisting pressures to give up on the use of this material.

You may have additional questions after immersing yourself in these documents. If so, we'll do our best to steer you toward reliable sources of information.

Very truly yours,


James S. Nelson, Consultant -
Product Environmental Compatibility

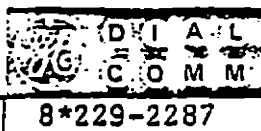
JSN:cas
Enclosures

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PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



SUBJECT

BUSINESS ROUNDTABLE SURVEY

COPIES:

J.F. McAllister-Fairfield w/attach.
F.S. Rothe " " "
E.L. Simons - Schenectady" "

January 24, 1975

Mr. Stephen K. Galpin
Manager-Community and Government Relations
Fairfield, Connecticut WI-B

Dear Mr. Galpin:

Jack McAllister is on the west coast, and has asked me to provide Product Quality Staff Inputs to your Roundtable survey. I have seen the contributions of RECO's Environmental Protection Operation. Most of these, quite properly reflect the impact of existing regulations on Company facilities/activities. One, at least, has potentially an important product impact--I refer to the proposed standard for PCBs as a toxic pollutant effluent. If not further modified, the proposed standard could shut down the manufacture of PCB capacitors and PCB transformers. Dr. Simons did not address the subject of spill control, presumably because your request is for items focusing on a specific regulation, and in this case the problem is partly the lack of regulations. We have added a note on this subject to complement the overview you are creating. Similarly, our inputs on "burden of proof" and "product safety record keeping" concern proposed or threatened regulatory actions, rather than existing. We trust these notes will also be helpful.

The Conference Board has also instituted a project in support of regulatory reform. They are seeking to build a picture of the cost of product changes necessitated by environmental imperatives. Since it appears likely that this office will be involved in assisting the Conference Board effort, we should appreciate the opportunity to review your results for pertinent information.

Very truly yours,

James S. Nelson, Consultant-
Product Environmental Compatibility

JSN:cas
Enclosures

782257

NEL 000409

Manager-Community and Government Relations
Fairfield, Connecticut 06431

"SPILL CONTROL"

Name of Regulatory Agency	Specific Nature of Regulationx Regulatory Practice
EPA Environmental Protection Agency	Assuming authority for which there is no statutory basis; anticipating regulations not yet promulgated; establishing a strong "federal presence" to influence actions of state agencies; and, in summation, over-reacting to spills of certain chemicals. In the case of spills of polychlorinated biphenyl (PCB), EPA has acknowledged that no federal statute applies to spills on land. The Federal Water Pollution Control Act contains provisions governing "hazardous substances" which have been identified formally as such. PCBs have not been so identified (although proposed for such designation).

Further information on the incident described, and similar occurrences of more recent date, may be obtained from Transformer and Distribution Equipment Division and Transportation Systems Business Division.

<u>Why Regulation is Unnecessary</u>	<u>Estimated Cost to GE per year</u>
<u>Why the Practice is Objectionable</u> The practices described are "government by men, rather than law". There is danger, under such loose procedures, that the threat to public health and welfare may be exaggerated and that those responsible (or wrongly held responsible) for a spill may be put to excessive or unnecessary expense. These abuses are, in fact, occurring: Item - On March 5, 1973, some 1500 gallons of polychlorinated-biphenyl formulation were dumped by an independent truck driver from a GE-manufactured transformer (near Kingston, Tennessee). PCBs are known to be materials of low mammalian toxicity. Yet, EPA (Region IV) demanded by telegram, that GE assume responsibility for immediate clean-up, daily sampling, and site monitoring. An EPA official from Washington DC appeared on the site and influenced the State of Tennessee to require digging and soil removal until roadside soil would test at no more than five parts per million. For comparison, EPA has set a standard of ten parts per million for food-packaging.	On an actuarial basis, an average of two significant spills per year may occur. Costs for the incident cited have been estimated at about \$ 3/4 million, so annual costs could be in the region of one to two million.

Prepared by:

J.S. Nelson

Name

Consultant - Product Environmental

TitleAddress

Date 1-1-74

8*229-2287

JULY ACTIVITIES REPORT
James S. Nelson

July 30, 1975

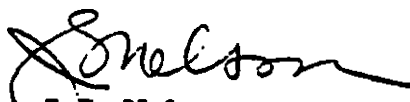
Mr. J.F. McAllister
Office

REDACTED

2. PCBs

The latest government agency to undertake a study of PCBs is the Energy Research and Development Administration. ERDA has engaged the National Bureau of Standards to make a study of the importance of PCBs in energy conversion, possible alternatives, etc., and their representative is meeting with the Capacitor Products Department and the Transformer Distribution Equipment Division in the near future. Both the Product Quality Staff and the Environmental Protection Operation (RECO) are involved.

JSN:cas


J.S. Nelson

NEL 000411

20 Armitage Drive
August 16, 1975

0-12

Mr. J. P. McAllister
Staff Executive

Dear Jack,

I have reviewed your draft Annual Report for the Year 1974 and find myself pleased at the organization and content. I do have a few suggestions to make, mostly of a proof-reading, rather than a substantive, nature:

p.6: Second to last paragraph, change "environmental schedules" to "environmental groups" (or "organizations").

p.7: The phrase "\$900 M" appears ambiguous to me, as "M" could stand for either 1000 or 1,000,000.

p.8: In the second to last paragraph, reference is made to information that will not be available "until sometime after June 13, 1975". In view of the date of submission of the report, I suggest getting E.I. S. to supply alternative language.

p.9: In the third paragraph, change "insulated liquids" to "insulation" or "insulating" liquids.

In the fourth paragraph, it would be well to recognize the participation of the Product Quality Staff in the EPA public hearings on PCBs. I suggest inserting the phrase, "in conjunction with P&S" after "EPC".

p.10: Suggest changing "succeeding" to "successfully negotiating permits" or some other substitute. (Third bulleted paragraph.)

p.19: Change "visits" to "contacts" (end of first paragraph) to recognize that most of this type of evaluation is conducted by telephone and correspondence.

p. 21: Is "Compliance Management Operation" (1st par.) a correct designation? I fail to recognize it. I think I intended to show Corporate Legal here.

Appendix: Remove the "1" here and in the reference to it, p.13 inasmuch as there is no other appendix.

In the second-to-last paragraph (Synr. Equip.) the reference should be to eliminating asbestos in coils and covers.

I hope these comments will be helpful.

NEL 000412

In closing, let me add that I have decided to extend my vacation to the end of the week, borrowing the three days from time previously scheduled for a year-end vacation. Thus, (unless some emergency requires my presence sooner) I will plan to be back in the office on Monday, August 25. I shall assume that this arrangement will be satisfactory unless I hear otherwise from you.

Yours very truly,

J.S. Nelson

NEL 000413

8*229-2287

AUGUST ACTIVITIES REPORT
James S. Nelson

August 29, 1975

Mr. J.F. McAllister
Office

IV. PRODUCT ENVIRONMENTAL COMPATIBILITY

1. PCBs

On August 1, PQS was represented at a meeting with a representative of the Energy Research and Development Administration, Capacitor Department people, and RECO to assist an ERDA study to evaluate the economic and engineering importance of PCBs and their possible alternatives. A similar discussion with an EPA contractor is scheduled in September. These efforts at dispassionate appraisal are going forward amidst a background that includes proposals in Wisconsin and Michigan to ban PCBs outright, and headline-making disclosures concerning PCB levels in fish caught in the Hudson River.

REDACTED

NEEL 000414

Mr. J. F. McAllister

- 2 -

August 29, 1975

REDACTED


James S. Nelson

JSN:cas

NEL 000415

782263

26 77

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



SUBJECT

New York Times
Editorial on PCB

COPIES:

J.F. Young
J.F. McAllister
J.F. Repko
E.L. Simons

September 15, 1975

Mr. Michael M. Masterpool
Manager - Corporate Public Information
Fairfield

Dear Mr. Masterpool:

The following notes may be helpful in preparing a Corporate position with respect to the New York Times editorial, "A Failure Here" (9-10-75).

- Dumping. "Dumping" a substance is getting rid of a substance unceremoniously or irresponsibly--hardly an appropriate term for the residual discharge experienced after the application of sophisticated technological controls to processes and waste streams.
- Highly toxic. It is incorrect to refer to any of the domestic commercial formulations of PCB as "highly toxic." This is a term that has been rigorously defined by the United States Environmental Protection Agency, in conjunction with the Food and Drug Administration and the Department of Transportation (Reference: Federal Register, Vol. 38, No. 173, September 7, 1973). A substance is highly toxic if feeding a group of laboratory animals, such as rats, a single dose equivalent to 50 milligrams for each kilogram of body weight will result in the death, within two weeks, of half of the test population. It takes more than 100 times this dose to produce a similar result with various grades of PCB used in the electrical industry. (Source: Food and Drug Administration, as quoted in Polychlorinated Biphenyls and the Environment, Inter-departmental Task Force on PCBs, May 1972, page 131.)
- Toxicity in fish. The grade of polychlorinated biphenyl recently discovered in some Hudson River fish is not that used in General Electric plants on the Hudson River, --now or in any recent year. The grade now used is a

NEEL 000416

Mr. Michael M. Masterpool

- 2 -

September 15, 1975

special formulation, introduced several years ago when a growing body of evidence pointed toward persistence in the environment of grades formerly used.

- The Japanese incident. The "Yusho" experience in Japan was not related to environmental contamination by waste products, but was a case of the direct accidental contamination of rice oil in the factory where it was processed. The people made ill all consumed oil from a lot produced within a period of a few days in February 1968. An epidemiologic study prepared by the Department of Health, Faculty of Medicine, Kyushu University, Fukuoka, Japan, appears in full in the U.S. Department of Public Health, Education, and Welfare periodical, Environmental Health Perspectives, April 1972. This study mentions no fatalities. An extensive review of the available information on PCBs was made by the Subpanel on PCBs of the Panel on Hazardous Trace Substances. This panel concluded that "Deaths from exposure, either acute or chronic, have not been clearly documented for man. PCBs do not have a high acute toxicity." (Environmental Research, Vol. 5, No. 3, September 1972, page 335).

The Japanese product involved, Kanechlor 400, has been shown by tests on chickens to be unusually toxic compared to American PCBs (Op. cit. pp. 332 and 318).

One of the two fetal deaths (mentioned in the editorial) was attributed to knotting of the umbilical cord. (Op. cit. page 332).

- Contamination of the Hudson's Sediment. There is evidence of contamination of the Hudson River by some grades or forms of PCB. The sources and the disposition of the residual burden are only partially known, and the environmental impact must remain, for the present, a matter of conjecture. Despite the former widespread use of PCBs in open applications, "The extensive harm predicted by some theories has not been found and documented. This lack of evidence indicates that all of the PCBs do not persist in the environment as a result of factors such as...biodegradation... One characteristic which undoubtedly is of significant importance is the ability of PCBs to adsorb tenaciously to particulate matter... Presence (in the environment) should not be assumed to imply adverse effect. To our knowledge, no published report exists which conclusively relates the mortality of any wildlife species to the presence of PCBs..." (Quotation is from the sworn testimony of W. B. Papageorge, spokesman for the

NEL 000417

Mr. Michael M. Masterpool

- 3 -

September 15, 1975

Monsanto Industrial Chemicals Co., in re Proposed toxic pollutant effluent standards for aldrin-dieldrin, et al - FWPCA (307) - Docket No. 1, March 14, 1974.)

I have treated above some of the problems raised by the editorial. Others are adequately handled in the press releases prepared for September 5 and September 10. Obviously, the editorial contains more misleading aspects than can be dealt with in the format of a usual "letter to the editor." The following is an attempt to deal with some of the more important points, and can perhaps be melded with the reply which I understand is being drafted by John Repko.

EDITOR, THE NEW YORK TIMES

An editorial in the Times of September 10, 1975, speaks of the General Electric Company as "dumping highly toxic chemical compounds into the Hudson River" and criticizes the Company for such action and both the New York State and Federal governments for having permitted it.

The public should understand that no grade of PCB is "highly toxic"; that there have been, to our knowledge, no human deaths or mortality of any wildlife species documented as associated with its use. PCB's are used in electrical apparatus, not only because of the design efficiency they contribute, but because no known potential substitute affords the safety from fires made possible by PCBs. PCB-containing electrical apparatus is required for safety reasons in occupied buildings--hospitals, schools, factories, office buildings, etc. and in railroad cars and locomotives. In many applications, electrical codes and insurance regulations require its use.

In the late 1960's and early 1970's evidence appeared of widespread dispersion of PCBs in the environment, with possible adverse biological effects coming under study. Responding to this scientific concern, U.S. industry took several important steps to minimize further release while the study of the possible environmental impact continues. The sole U.S. producer withdrew from about half its market, limiting continuing sales to closed applications in sealed electrical apparatus. Electrical manufacturers, by voluntary action, adopted a code to promote containment of the chemicals. In response to evidence that only the more highly chlorinated forms of the chemical were being found in the environment, a special grade was developed from which these fractions were largely removed. This grade was adopted by General Electric for use in its plants on the Hudson River in 1971. No traces of it have been identified in the fish samples caught in the river.

NEL 000418

GENERAL ELECTRIC

Mr. Michael M. Masterpool

- 4 -

September 15, 1975

The large daily discharge of cooling and process water from our plants still contains a residue of PCBs. The amount has been reduced from a possible thirty pounds per day a few years ago to less than five pounds today, dispersed in millions of gallons of effluent water. This discharge is the subject of continual diminution. We believe it is already at the point of no discernible environmental impact.

(To be signed by a suitable
Company spokesman)

I regret that I can't participate in your discussion on this topic, as I will be out of town on Monday.

Very truly yours,

James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

NEL 000419

8*229-2287

NOTICE OF PLANT VISIT

J.F. McAllister
E.L. Simons - Schenectady
Reception Desk

Visitor: Mr. Ernest J. Mosbaek, Vice President,
Jack Faucett Associates, Chevy Chase, Maryland

Date: October 8, 1975

Time: 1:00 P.M.

Place: Office of J.S. Nelson, E1-A

Purpose of Visit: To discuss PCB study being conducted by Mr. Mosbaek
under contract to the U.S. EPA.


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

NEL 000420

8*229-2287

SEPTEMBER ACTIVITIES REPORT
James S. Nelson

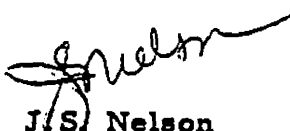
October 3, 1975

Mr. J.F. McAllister
Office

REDACTED

3. PCBs

PQS was heavily involved during September with PCB matters at state (NY) and national level. Meetings were held with a subcontractor for EPA and a subcontractor for ERDA, both seeking to interpret the socio-economic and technical impact of alternative control measures. In reference to the NYS confrontation, a report entitled "Polychlorinated Biphenyls and Their Use in Capacitors" was issued, presenting an overview of considerations involved in the use of PCBs in the electrical industry, with particular reference to capacitors. A draft reply to a New York Times editorial on PCB discharges into the Hudson River was prepared for the consideration of Masterpool et al (at his request) but a decision was made at Group level not to reply publicly to the editorial.


J.S. Nelson

JSN:cas

NEL 000421

782269

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY FAIRFIELD, CONNECTICUT 06431

PRODUCT

QUALITY

STAFF

26-53

M-1

October 2, 1975

Center for Policy Alternatives
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, Massachusetts 02139

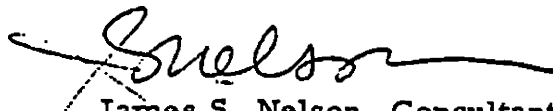
Attention: Dr. Albert Murray

Dear Dr. Murray:

I have read with interest and appreciation your study of PCBs contained in "The Impact of Governmental Restrictions on the Production and Use of Chemicals," February 15, 1975. It would be helpful in our work to have a copy of the complete Interim Report (or Final Report, if now available). If you are in a position to send us a copy, well and good; if not, kindly advise the proper channel for us to order/request a copy.

Thank you for your attention to this matter.

Very truly yours,


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

bcc: J. F. McAllister

NEL 000422

782270

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



8*229-2287

SUBJECT

DISPOSAL OF POWER
CAPACITORS

COPIES:

W.R. Kruesi - Fairfield
J.F. McAllister - Fairfield
J.M. Phillips - Schdy.
E.L. Raab - Pittsfield

October 9, 1975

Mr. George R. Menkart
Product General Manager
Power Capacitor Product Section
John Street
Hudson Falls, N. Y. 12839

Dear George:

Now that Monsanto has shut off open applications and the electrical industry as a whole has made such progress in reducing effluent of PCBs from manufacturing plants, the realization is growing that the major potential increase of the environmental burden involves capacitors retired from service, and regulatory agencies are likely to be concentrating more on this aspect. In a recent statement before the Wisconsin Department of Natural Resources, Mr. Glenn E. Schweitzer, Director, Office of Toxic Substances, Environmental Protection Agency, Washington, D. C., had this to say:

"There have been five water spills involving PCB leakage from transformers during the past year, and currently there are tens of thousands of capacitors, each containing several gallons of PCBs, awaiting disposal."

In another part of his statement, referring to current EPA activities, Schweitzer said:

"Technical assistance is routinely provided on the storage and disposal of PCB-containing wastes. In addition, test burns of capacitors containing such wastes in a high temperature incinerator are planned for early 1976."

The quotations are from a statement made in Madison on August 29, and recently distributed to those on the Region II mailing list.

NEL 000423

782271

Mr. George R. Menkart

- 2 -

October 9, 1975

Marv Phillips, of EPO, tells me he is getting inquiries from GE plants who are worried about what to do with old capacitors.

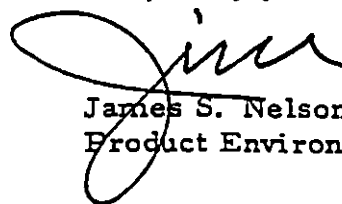
Part of the rationale for "reasonable" effluent standards is the small discharge from manufacturing plants (2 tons/year throughout the country) relative to the fluid in retired capacitors that could reach the environment each year (estimated at about 70 tons), both compared to the existing environmental burden already out there, estimates of which run from 75,000 tons to 175,000 tons, depending upon the premises used in the calculation. While this comparison is a valid argument for control programs short of "zero discharge," it does serve to highlight the need for our collective best effort approach to both spill control and ultimate disposal.

As we discussed on the telephone, these considerations appear to call for a second look at the ANSI Standard C107.1-(1974). You will recall that the work on this was done a couple of years ago, with GE inputs handled by Ed Raab for transformers and Al Pozefsky for capacitors. The final version of the standard appears to call for land-filling used capacitors, even those containing several gallons of PCB. A reactivated C107 committee might well wish to reevaluate this recommendation, perhaps considering the alternative of draining power capacitors, dispatching the drainings to an approved incinerator, and then sending the carcass to a dry landfill. Consideration is also needed for those parts of the country that have no dry landfill sites. Is there a more economical procedure than shipping whole capacitors to Chemtrol, that can be developed? What "technical assistance" is EPA giving on disposal, and who is working with EPA on the aforementioned burn tests?

I don't know whether you will wish to go back through NEMA, who sponsored the present standard, or work directly with ANSI, but I think, in any case, you will wish to discuss this matter with Ed Raab before taking any action, so we can maintain a coordinated approach for capacitors and transformers.

Please let me know what you decide to do.

Very truly yours,



James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

NEL 000424

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



SUBJECT

October 13, 1975

Mr. George B. Farnsworth
Vice President and General Manager
Electronic Components Division
Electronics Park
Syracuse, New York 13201

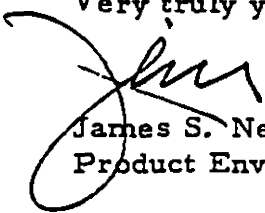
Dear George:

This is to transmit a copy of "PCB Chronology," October 13, 1975. This chronology is devised in four columns, and is to be read with facing "A" and "B" pages open before the reader. On the left, or "A" pages, are listed the external events (academic research, newspaper reports, government actions) having a bearing on PCB, together with industry actions, such as those taken by Monsanto and by trade organizations as the recognition of a PCB problem began to unfold. On the right, or "B" pages, are found a listing of GE studies and events influencing the development of GE policy, and also a column for GE activities having a more direct external impact.

This document is intended to provide background and reference material for statements that may be required as the hearings develop and for other purposes as may be appropriate. The document itself does not have publication clearance.

"PCB Chronology" has been prepared at the request of J.F. Young in response to a need expressed at the September 22 meeting in Crotonville with Mr. Weiss and other interested parties. Copies are being sent to those receiving this note, and each recipient is requested to notify me of any errors or important omissions.

Very truly yours,


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas
Enclosure

COPIES:

E. L. Dobbins, Pittsfield
L. P. Hart, Hudson Falls
W. R. Kruesi, Fairfield
J. F. McAllister "
R. C. Osthoff, Pittsfield
A. V. Puccini. "
J. F. Repko, Syracuse
E. L. Simons, Schdy.
J. F. Young, Fairfield

NEL 000425

782273

8*229-2287

PCB CHRONOLOGY

J. F. McAllister
J. F. Young

October 14, 1975

Dr. John F. Welch, Jr.
Vice President and Group Executive
Components and Materials Group
One Plastics Avenue
Pittsfield, Mass. 01201

Dear Dr. Welch:

Enclosed for your information is copy of material sent out yesterday to those engaged in preparing GE's position relative to the New York State action on PCBs. This "PCB Chronology" is intended as source material, rather than as a hand-out.

Very truly yours,



James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas
Enclosures

NEL 000426

782274

October 17, 1975

The Woods Hole Oceanographic Institute
Woods Hole, Massachusetts 01475

Attention: Dr. George Harvey

Dear Dr. Harvey:

In his 1974 testimony In Re: Proposed Toxic Pollutant Effluent Standards, Mr. W.B. Papageorge of Monsanto Industrial Chemicals Co. included the following statement in references cited:

15. Statement obtained from Dr. George Harvey, Woods Hole Oceanographic Institute 1/9/74; permission to quote given.

"In the summer and fall of 1972 the surface waters of the Eastern and Western North Atlantic ocean had an average PCB concentration of 30 parts per trillion. By the summer and fall of 1973, the average PCB concentration in the same areas had decreased to about 1 part per trillion.

"Since the suspended solids fall out and mixing rates of the ocean are constant, the observed reduction in surface layer concentrations indicate a reduced PCB input."

We are very interested in learning whether any subsequent surveys have been conducted that would tend to provide confirmation of the reduction of input of PCBs to ocean waters. In replying, it will be appreciated if you will indicate in broad outline the method of sampling, sample preparation, and measurement technique used in providing the information quoted above, and your estimate of the degree of uncertainty associated with the values determined.

NEL 000427

The Woods Hole Oceanographic
Institute - Attn: Dr. George Harvey

- 2 -

October 17, 1975

Additionally, it would be helpful to know whether there has been any noticeable shift in the dominant homologs (or in the commercial Aroclor most nearly matched by chromatograms) between your earliest and most recent data.

Thank you for any information you can provide on these topics.

Very truly yours,

James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

bcc: J.F. McAllister
E.L. Simons

NEL 000428

8*229-2287

Sports Illustrated Article
by R.H. Boyle, 9-1-75

J.F. Young

J.F. McAllister

J.F. Repko

E.L. Simons

October 29, 1975

Mr. Michael M. Masterpool
Manager-Corporate Public Information
Fairfield WID

Dear Mike:

It is our understanding that Mr. R.H. Boyle has requested you to point out to him any "technical errors" contained in the subject article. On October 20, Dr. Ed Simons requested that I supply him with comments useful for this purpose, for integration with material from other sources and eventual forwarding to you. In the interest of saving time, Ed and I have agreed that I should write to you directly. He and I have discussed the article on the telephone, and this letter contains points he raised as well as my own observations. The remarks that follow are keyed to the text by numbers entered into the margins of the attached copy. Where we cite outside authority, the reference is indicated by a letter enclosed in parentheses.

1. "Resistance to heat" is a woefully inadequate description of the reasons industry uses PCBs. Product safety is the only reason for using PCBs in transformers, and of considerable importance also in capacitors. Nonflammability of the fluid and of gases liberated by electric arcs; superior dielectric properties and excellent heat transference are capabilities that should be mentioned even in the briefest characterization. The Federal Interdepartmental Task Force concluded, in part, that "The use of PCBs should not be banned entirely. Their continued use for transformers and capacitors in the near future is considered necessary because of the significantly increased risk of fire and explosion and the disruption of electrical service which would result from a ban on PCB use. Also, continued use of PCBs in transformers and capacitors presents a minimal risk of environmental contamination." (a)

NEI 000429

2. There is scant indication that PCBs cause "miscarriages and stillbirths." The only recorded instance of human disease attributed to PCBs is the Yusho episode in Japan in 1968 (a). We find no mention of miscarriages in the epidemiological study of Yusho published under the auspices of the U.S. Public Health Service (b). Two of the pregnant women in the population of 1,000 people exposed had stillbirths. One of these fetal deaths was attributed to knotting of the umbilical cord. (c). Kanechlor 400, the Japanese fluid involved, has been shown by tests on chickens to be more toxic than the PCBs made in this country, and this higher toxicity may have been due to an admixture of other compounds. Chlorinated dibenzofurans are suspected.
3. It is stated that PCBs are turning up in "dangerous amounts" in the upper Mississippi River, the upper Ohio, the Hudson River and several of the Great Lakes. "Dangerous amounts" are not defined, nor is any source cited. The juxtaposition of this statement with the one about miscarriages and stillbirths is unjustified, in our view. There is no instance that we know of in which anyone has been made ill by PCBs as found in the environment. "Yusho" was not an environmental episode, but the gross, direct contamination of a food product in daily use by the victims, to the extent of 2,000 parts per million, or 400 times the FDA limit in fish flesh.

Partly because of unsupported statements of this kind, the New York State Department of Health found it necessary to issue reassurance to the public that drinking water from the Hudson River is fit for human consumption (d).

4. It is stated that officials of the United States EPA in New York stayed abatement plans after General Electric requested an adjudicatory hearing. This tells only part of the story. The facts are that, during the period pending the hearing, GE has continued with its programs to reduce losses to the environment, has worked with an outside consulting firm to expedite this work, and is now exceeding the degree of control specified for this point in time by the EPA in the order that is to be the subject of an adjudicatory hearing. Thus, there has been no stay in the implementation of the scheduled plan. (The hearing will be concerned primarily with the losses to be considered acceptable at the end of scheduled improvements.)

NEL 000430

5. GE has not "dumped" any PCBs into the river. Dumping a substance is getting rid of it unceremoniously or irresponsibly--hardly an appropriate term for the residual losses remaining after vigorous efforts at minimization.
6. GE losses have not averaged 30 pounds a day since 1971. On the contrary, these losses have been reduced since 1971 both in volume--about thirty-to-one--and in significance to the environment, by removing from the formulation approximately 90% of the higher-chlorinated homologs. (It is the higher-chlorinated homologs, containing 5 or more chlorines per molecule, that are believed to be primarily responsible for the persistence of some forms of PCBs in the environment.)
7. The "largest nonaccidental release" of PCBs to the environment did not come from GE's plants, nor did it come from the electrical industry as a whole. It has developed from the worldwide "open" applications such as in paints, coatings, plasticizers, and carbonless copy paper; and from applications as hydraulic fluids and heat transfer fluids in a variety of industrial operations. In applications of these types, a large fraction of the PCBs employed are believed to return to the environment by weathering, ultimate disposal of worn-out apparatus, uncontrolled burning and other unsophisticated disposal methods used during the thirty years when no one suspected any environmental problems. The quantity of PCBs reaching the environment via these routes has been estimated at 130,000 tons and is many times higher than the losses from the manufacture of electrical apparatus (estimated at not more than 2 tons per year). (e, f)
8. It is incorrect to say that the U.S. FDA has placed a tolerance limit of five parts per million of PCBs in fish. The FDA limit applies to the edible portions of the fish. Since PCBs tend to concentrate in the liver and other portions that most fish-eaters discard, this can make a significant difference in interpretation. Depending upon the species, the concentration in organs generally regarded as inedible may be as high as 98% or 99% of the whole body amount. For this reason, the preparation of fish samples for comparison with FDA limits properly involves removing and discarding the head and entrails.
9. The author uses guideline and criteria numbers out of context. These numbers are not being put forward by the EPA or any other agency as standards to be met. The figure of one part per trillion is a tentative

NEL 000431

October 29, 1975

recommendation for a national goal, yet to undergo interagency review and promulgation. Should it be accepted as a criterion, it would serve as a goal to be approached within the limits of practicality and with due regard for trade-offs in terms of public health, safety, and welfare as promoted, inter alia, by the continued use of PCBs in transformers and capacitors. (To help conceptualize 1 part per trillion, think of 1 minute in 2 million years, or 1 inch in 16 million miles, or one mouthful of all the food serving a million people in their whole lifetimes.)

In addition, it should be noted that drinking water standards need consider only the (relatively low) mammalian toxicity of PCBs, not the bioaccumulation factors that must be considered in protecting the biota.

10. The last two digits indicate the chlorine percentage in most Aroclor designations, but not in the case of Aroclor 1016. Aroclor 1016 is chlorinated to about 41%. It is a special formulation developed by Monsanto after it was learned that the higher boiling homologs of PCBs tend to persist in the environment. Monsanto limits the higher-boiling homologs in Aroclor 1016 to 0.4 percent, maximum (g). This is the grade employed by the electrical industry in the manufacture of capacitors since it became available in late 1971. We believe that the continued use of this material in our plants at Fort Edward and Hudson Falls, New York, does not constitute a threat to the environment.
11. Incineration is not the only way to destroy the higher-chlorinated PCBs. Activated sludge tests have been conducted by the Monsanto Company and clearly indicate microbial destruction of these grades. For example, Aroclor 1254, the highest-chlorinated grade now being manufactured in the U. S., undergoes 15% degradation in one 48-hour cycle. The microorganisms used are typical of those found in a sewage treatment plant. During the test the sludge is stirred and aerated, so it may be predicted that degradation would proceed more slowly under natural conditions; however, it is important to note that UV monitoring indicates that bacterial ring cleavage does take place. The rate is higher for lower chlorinated grades: more than twice as fast in the case of Aroclor 1016 (h). Canadian research also indicates photochemical decomposition of PCBs (including Aroclor 1254) by both oxidative and reductive pathways (i). How important this may be in nature is not yet known. A third means of destruction is metabolism. Disappearance half times upon feeding rats with a single dose of Aroclor 1254 are of the order of 6 - 9.5 days for most organs, clearance being accomplished through a combination of excretion and metabolism. Phenolic metabolites have been identified in some studies (j).

NEL 000432

October 29, 1975

The relative contribution of these natural modes of destruction of PCBs is not known, nor is the overall rate; however, the Center for Policy Alternatives has stated the belief that "perhaps one-third to one-half" of the total environmental release "may have by now been degraded" (k). While this may be little more than an "educated guess," it is not compatible with the characterization of resemblance to the Rock of Gibraltar.

12. "In 1971, five years after scientists recognized PCBs as contaminants..." "Scientists" are not a monolithic community, and scientific recognition takes time, as does the dissemination of scientific findings into the community at large. The principal thing that Dr. Jensen discovered in 1966 was that PCBs had been confused analytically with other chlorinated hydrocarbons (DDT, DDE) in the tissue of an eagle. It is a long step from this finding to the determination that the potential for ecological damage is real enough and important enough for the drastic restriction of sales undertaken by Monsanto in 1970 and completed in 1972. Nor was industry idle during this period. The Sports Illustrated article omits mention of a step of commensurate significance that reached fruition in the same year, with the announcement by Monsanto of Aroclor 1016 in response to data accumulating during this period that indicated persistence in the environment of the higher-boiling homologs of PCBs. Aroclor 1016 contains less than 1% of these homologs, yet retains the electrical properties and non-flammability essential to the production of safe and reliable capacitors. After a remarkably short period of test and evaluation, the entire U. S. capacitor industry converted to the new fluid in the conviction that by so doing they were improving the environmental compatibility of their products. Also during this period the industry had notified utility and industrial customers of PCB capacitors and transformers of the need to keep waste PCBs from the environment and had published, through the National Industrial Pollution Control Council, its own recommendations for control (l).
13. It may be premature, in advance of publication and peer review, to accept a finding of carcinogenicity in relation to a member of the PCB family. It is also worthy of note that Aroclor 1260 is no longer in production (m).
14. See comment #2.
15. Mr. Reid's proposed order is now the subject of formal hearings. It should be understood that promulgation of a more rigid limit can have no appreciable effect upon the ecology of the Hudson River and environs. GE has already

NEEL 000433

Mr. Michael M. Masterpool

- 6 -

October 29, 1975

reduced its losses to a trickle, and converted its usage to a grade that is almost free of the higher-chlorinated fractions known to be relatively persistent in the environment. It is also clear from N. Y. S. and Federal data that PCBs from sources other than GE's current manufacturing activities are present in the river, and that some pollution identified as PCBs is entering the river upstream of GE installations (n, o).

Very truly yours,

James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas
Enclosure

NEEL 000434

References Cited in J.S. Nelson's Comments on the Sports Illustrated
Article, "Poisoned Fish, Troubled Waters," by Robert H. Boyle, 9-1-75

- (a) Interdepartmental Task Force, 1972--PCB's and the Environment. National Technical Information Service, Springfield, Va. 22151
- (b) M. Kuratsune, et al, Epidemiologic Study on Yusho. Environmental Health Perspectives, Experimental Issue No. 1, April 1972.
- (c) Polychlorinated Biphenyls - Environmental Impact, by the Panel of Hazardous Trace Substances, Environmental Research, Vol. 5, No. 3, September 1972, page 332.
- (d) Associated Press dispatch from Albany, N. Y., as printed in the Observer-Dispatch (Utica, New York), September 9, 1975
- (e) The Role of Polychlorinated Biphenyls in Electrical Equipment, GE, February 4, 1972.

Note:

Discussions of loss rates and environmental burden are to be found in three references: e, f, and k. The loss rate from electrical manufacturing is estimated from knowledge of the transformer and capacitor industries, including a recent Electronic Industries Association study.

- (f) I. C. T. Nisbet and A. F. Sarofim. Rates and Routes of Transport of PCBs in the Environment. Environmental Health Perspectives, Experimental Issue No. 1, April 1972.
- (g) Product Specification. Monsanto Industrial Chemicals Co., Aroclor 1016, Code No. 1040-016-16-03, effective June 1975.
- (h) Presentation to the Interdepartmental Task Force on PCBs, Washington, D. C., May 15, 1972 by Monsanto Company.
- (i) O. Hutzinger and S. Safe and V. Zitko, Photochemical Degradation of Chlorobiphenyls (PCBs), NRCC No. 12259, reprinted in Environmental Health Perspectives, Experimental Issue No. 1, April 1972.
- (j) Polychlorinated Biphenyls - Environmental Impact, Op. Cit., Chapter 4.
- (k) The Impact of Governmental Restrictions on the Production and Use of Chemicals, Interim Report Submitted to the Council on Environmental Quality and EPA by Center for Policy Alternatives, MIT, February 15, 1975, Section 3, Case Studies--Polychlorinated Biphenyls.

NEL 000435

References Cited in J. S. Nelson's Comments on the Sports Illustrated
Article, "Poisoned Fish, Troubled Waters," by Robert H. Boyle, 9-1-75
(Continued)

- (l) The Use and Disposal of Electrical Insulating Liquids, Sub-Council Report, June 1971, National Industrial Pollution Control Council, U.S. Government Printing Office, Stock Number 5254-0028.
- (m) Polychlorinated Biphenyls, 3 April 1975, issued by EPA as a draft of a proposed Statement of Basis and Purpose.
- (n) General Electric Company On-Site Effluent Monitoring Program for PCB's by Representatives of Region II-EPA and New York State DEC Division of Pure Waters;
- (o) Investigation of Polychlorinated Biphenyls in the Hudson River (Hudson Falls-Ft. Edward Area) by R. J. Nadeau and R. P. Davis, U.S. EPA.

8*229-2287

OCTOBER ACTIVITIES REPORT
James S. Nelson

November 4, 1975

Mr. J.F. McAllister
Office

IV. PRODUCT ENVIRONMENTAL COMPATIBILITY

1. ANSI Standards for PCBs

At our suggestion, the Capacitor Products Department, through NEMA, plans to bring up the matter of revision of the ANSI PCB standard, C107.1-1974. One point that needs reconsideration is the present recommendation regarding the disposal of large used capacitors.

2. PCB Chronology

A document entitled PCB Chronology was issued to provide background and reference material in connection with the New York State PCB proceedings. It is intended to fill a need expressed during the Crotonville meeting on September 22 with Mr. Weiss and other interested parties in attendance.

REDACTED

4. Sports Illustrated Article on PCBs

In response to his request, a detailed, annotated commentary on the recent Sports Illustrated article on PCBs was prepared for Mike Masterpool.

REDACTED

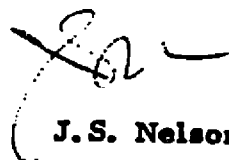
NEL 000437

Mr. J. F. McAllister

- 2 -

November 4, 1975

REDACTED



J. S. Nelson

JSN:cas

NEL 000438

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



8#229-2287

SUBJECT

PCDF & PCBs

COPIES:

J. F. McAllister w/o attach.

November 5, 1975

Dr. John F. Brown
Corporate R&D Center
K1 - 3B35
Schenectady, N.Y. 12345

Dear John:

I couldn't resist writing a thank-you to your team, and I hope no one will think me presumptuous in having done so. As agreed in our telephone conversation, I am enclosing a pre-publication copy of the Monsanto paper by Kaley, et al, on tissue residues. Note that you can't make attribution (unless you make an agreement with Monsanto), per Papageorge's note on the cover. Also enclosed is an extra copy, for your convenience, of the Monsanto note on the difference noted between aged samples in the environment and the distribution of homologs actually marketed, which we agreed could be used in further support of your argument on page 17. The clipping from The Japan Times (July 21, 1973) is offered gratis as a caveat against sweeping generalizations about the total instances of PCB-related illnesses!

The chlorine content of Kanechlor 400 (48%) is noted on page 124 of Environmental Health Perspectives, Experimental Issue No. 1, April 1972.

I am intrigued by the hand-written addendum on the bottom of page 7, indicating that diatomaceous earth treatment may have always assured the lack of PCDF in Hudson Falls' PCBs. I just got off the phone with Ed Raab at Pittsfield, who tells me that, after the incoming Aroclor 1254 is blended with chlorinated benzenes, the blend is "treated with clay," i.e., passed through Fuller's earth, 100-300 mesh. This "has always been done," to maintain control over tan delta and resistivity. Perhaps our losses to the environment from transformer manufacture have also been less serious than supposed!

Very truly yours,

James S. Nelson, Consultant
Product Environmental Compatibility

JSN:cas
Enclosures

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NEL 000439

GENERAL ELECTRIC

Dr. John F. Brown

- 2 -

November 5, 1975

P.S. Time permitting, I would appreciate your comments on the attached letter to Masterpool, which has not yet been released outside the Company. Obviously, it could now be strengthened, but we may want to save that silver bullet for a true showdown.

JSN

NEL 000440

8*229-2287

J.F. Young
J.F. McAllister

November 6, 1975

Mr. Donald H. Marquis, Staff Associate
Technical Resources Staff
Building 36, Room 517
Schenectady, N. Y. 12345

Dear Don:

John Brown and his associates have drafted a review paper on the bio-accumulation and toxicity of PCBs which may well become the cornerstone of our position in the current N. Y. proceedings and in confrontation with EPA on the forthcoming toxic pollutant effluent proposals. It clearly identifies polychlorinated dibenzofurans (PCDF) as the active agent in many of the toxic effects associated with PCBs, e. g., chloracne, liver necrosis, embryotoxicity and teratogenicity in birds, and avian edema disease. The remaining pharmacological effects, e. g., hepatic enzyme induction, porphyria, and hepatocyte enlargement, have been shown largely related to the content of PCBs containing more than four chlorines per molecule. No PCDF has been detected in Aroclor 1016. There is a possibility, not yet confirmed, that the standard Fuller's earth filtering of PCBs that we have always used in both capacitor and transformer production has the capability of removing PCDF from any grade of PCB. It seems to me that, in working with Mosbaek, we must strive for "benefit" estimates (of PCB control) consistent with this new understanding of their toxicity.

I am not reproducing Brown's paper because it is currently undergoing revision, but I want you to read it when you are here. In the interim, the enclosed paper from Bowes et al--a key finding in Brown's study--will serve as an introduction.

Also in this mailing are some additional inputs from Mosbaek. I am amused at the statement in his October 29 letter that "things are moving fast except in the generation of good numbers and the acceptance of good concepts." Is this irony?

Regards,


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas
Enclosures

NEL 000441

782289

8*229-2287

Comparison between Aroclor 1016 and
Unpurified Polychlorobiphenyls (PCBs)
in Bioaccumulation and Toxicity (10-27-75)

J. F. Young
J. F. McAllister
E. L. Simons

November 5, 1975

Dr. John F. Brown, Jr.
Dr. W. Dexter Bellamy
Dr. John A. Bergeron
Dr. Joel H. Kaplan
Dr. Steven L. Rosenberg

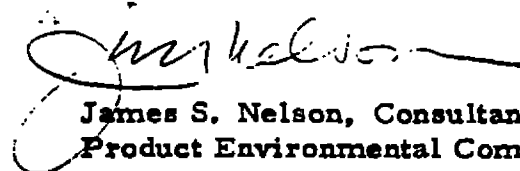
Corporate Research and Development Center, Schenectady

Gentlemen:

I have read your draft article cited above with a great deal of appreciation and satisfaction. Beyond its importance in the New York proceedings, it would seem to force recognition at long last that Aroclor 1016 cannot be lumped together with all "PCBs" in rule-making for the national environment. In view of the likelihood that toxic pollutant discharge limits on PCBs will be proposed early next year, it appears to us extremely important that these data be presented to key people in the EPA as soon as possible. The Chicago conference on November 19-21 would be a natural occasion for the first such exposure.

Congratulations for a great job!

Very truly yours,



James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

NEL 000442

PROPOSED STATEMENT OF EDISON ELECTRIC INSTITUTE

National Conference on Polychlorinated Biphenyls

Chicago, November 19-21, 1975

23-110

My name is _____ and I am speaking in behalf of the Edison Electric Institute. The Edison Electric Institute is...and represents... (brief statement of nature and constituency of EEI).

We should like to say a few words concerning the vital role played by PCB-containing equipment in the safe and reliable transmission and distribution of electric power; the extraordinary precautions undertaken by the utilities and their suppliers to keep PCBs from the environment; the consideration of alternatives; and in closing, we wish to enter a plea for balance in seeking the best overall protection of the public safety, health, and welfare.

Electric utilities employ two kinds of apparatus that contain PCBs: transformers and capacitors. Transformers are used to change voltage to the different levels required for the most efficient transmission, distribution, and utilization of electric power. Most of our transformers contain mineral oil that serves as a coolant and as part of the electrical insulation system, or dielectric. There are certain installations--in or adjacent to occupied buildings or premises frequented by the public or by employees--where the use of oil transformers would constitute a safety hazard. PCB transformers were developed for these applications. PCB won't burn and won't contribute to the spread of fire. Safety ^{against fire} is the only reason for using PCB transformers, and their use is confined to about 5% of all transformer installations, where the ^{primary} public safety ~~justifies~~ ^{justifies} their additional cost.

takes precedence over

Utilities use capacitors in a variety of applications, the most important of which are to improve the power factor and to improve voltage regulation. The main benefits from the use of capacitors are economic: the reduction of losses associated with the delivery of power to the point of use, and the reduction of the investment required in equipment for delivering power to the point of use. Their use makes an important contribution to the saving of fuel that would otherwise go to supply system losses. The new capacitors installed each year save about \$ 1 billion investment and many millions of barrels of oil.

Capacitors, like transformers, once were made with a mineral oil dielectric. The substitution, beginning in 1931, of PCBs made possible significant technical improvements in the size, reliability, and life of capacitors, in addition to the improved safety factor that they share with transformers. We are informed

NEI 000443

by our suppliers that to return to mineral oil would quadruple the volume of a typical power-factor correcting capacitor and overwhelm the industry supply structure for the critical materials such as electrical-grade tissue paper and aluminum foil.

As the concern for PCBs as environmental pollutants developed in the late sixties and early seventies, the electrical industry formed a committee with government representatives to address the problem, and produced the American National Standard C107.1 - 1974, Guidelines for handling and disposal of capacitor- and transformer-grade askarels containing poly-chlorinated biphenyls. The electric utilities that make up the membership of EEI subscribe to this standard and have developed their own implementation documents (cite examples, if available). In addition, member companies are cooperating with suppliers in the evaluation of equipment designed for improved environmental compatibility. An outstanding example of this was the ready adoption by all our members of capacitors made with a new grade of PCBs, Aroclor 1016, developed by Monsanto and utilized by all our capacitor suppliers to reduce the environmental impact of any losses ultimately reaching the environment. This grade, we are informed, is virtually free of the higher-chlorinated constituents believed responsible for untoward environmental effects.

The utilities stand ready to participate in the evaluation of all reasonable alternatives to the use of PCBs in transformers and capacitors. We ask only that the substitute technologies be capable of meeting our operational needs, which include reliability, efficiency, and freedom from undue safety hazard; and that any proven substitutes be available on a timely basis to prevent discontinuity in our ability to serve the public. In the interim, we see no reason to depart from the conclusion of the Interdepartmental Task Force of 1972, namely, that the continued use of PCBs "for transformers and capacitors in the near future is considered necessary because of the significantly increased risk of fire and explosion and the disruption of electrical service which would result from a ban on PCB use. Also, continued use of PCBs in transformers and capacitors presents a minimal risk of environmental contamination."

*For Mr. Salazar
James S. Nelson, E.E.*

NEL 000444

To Prof Young
77 The Athenaeum
WIP Eureka

Date 11-12-75

Here are more PCB
purity matters sent
me by Ed Simon.

Annotations on some
of these were added
by me after talking
to Ed.

8

Ab-112

M-1

NEL 000445

J. S. Nelson

J. S. Nelson

782293

November 14, 1975

Dr. John L. Buckley, Deputy Assistant Administrator
for Program Integration and Chairman, National
Conference on Polychlorinated Biphenyls
Environmental Protection Agency
Washington, D.C. 20460

Subject: National Conference on Polychlorinated Biphenyls

Dear Dr. Buckley:

We are writing to explain why General Electric is not in a position to take an active role in the National Conference on Polychlorinated Biphenyls, to assure you of our continuing interest in helping to achieve a proper resolution in the matter of controlling PCBs, and to advise of the availability at a future date of findings from our company's research that we believe to be significant.

Dr. E. L. Simons, who manages our company's Environmental Protection Operation, was approached through industry channels, in behalf of NIH, to learn if General Electric would participate in Dr. Rall's November 19 session on Health Effects and Human Exposure. The undersigned was invited by Dr. Muir to make a statement at the November 20 meeting on Economics and Substitutes. In addition, we had considered requesting time on the program to present new technical information that our Company is developing. We have been constrained to forego all of these opportunities for participation because of the primacy of claims on our resources occasioned by concurrently-scheduled hearings before the New York State Department of Environmental Conservation, concerning a complaint of the discharge of PCBs into the Hudson River.

We feel that the data referred to above may be pertinent also to the deliberations of the Hazardous Materials Advisory Committee, which has announced that it will be reviewing a case study of PCBs on November 19/20 in Washington-- a date that conflicts both with the Chicago conference and with our own New York State hearings.

NEL 000446

Dr. John L. Buckley

- 2 -

November 14, 1975

Under the circumstances, our company's participation in the Chicago Conference and the Washington meeting must be limited to the role of observation. However, we believe that our current studies and the reports we have in preparation may be of significant value to the EPA and we trust that arrangements may be made for their transmission to and consideration by the Agency at the earliest time appropriate.

Very truly yours,


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

cc: Dr. David P. Rall
Dr. Warren Muir
Dr. Thomas D. Bath

bcc: J. F. Brown
E. L. Dobbins
N. E. Evans
W. R. Kruesi
J. F. McAllister
A. V. Puccini
E. L. Simons
J. F. Young

NEEL 000447

NOVEMBER ACTIVITIES REPORT
James S. Nelson

December 2, 1975

Mr. J.F. McAllister
--Office--

IV. PRODUCT ENVIRONMENTAL COMPATIBILITY

1. National Conference on Polychlorinated Biphenyls.

The Conference was characterized, for the most part, by sober attempts to achieve better understanding of a most complex environmental problem. The most exciting news to come from the conference was the announcement (ignored by the press) that the PCB grade figuring in the Yusho episode was heavily contaminated by PCDF (polychlorinated dibenzofurans). It was previously known that the Japanese PCB was more toxic than the U.S. grades (see our paper of September 26, Polychlorinated Biphenyls and Their Use in Capacitors, page 14) and we had recently learned that the U.S. capacitor grade (Aroclor 1016) appears to be free of PCDF (see the October draft of a paper by John Brown et al, Comparison Between Aroclor 1016 and Unpurified Polychlorobiphenyls in Bio-accumulation and Toxicity, page 8). As a result, we are in a better position than formerly to proclaim the environmental acceptability of the controlled use of Aroclor 1016, and to urge EPA to consider both the homolog make-up and the level of contamination by PCDF in their rule-making deliberations.

2. Edison Electric Institute and the PCB Problem.

Mr. Nelson was invited, in behalf of EEI's new environmental committee, to draft a statement viewing the PCB problem from the perspective of the investor-owned utilities; however, EEI elected not to make a statement at the Conference.

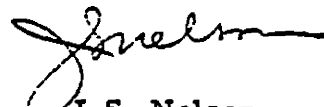
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NEL 000448

December 2, 1975

4. Faucett Associates.

Faucett Associates has a contract to provide a study of cost-benefit tradeoffs involved in the banning or control of PCBs, and we have been working with Mr. Mosbaek of that organization to provide an element of realism in the estimates employed. At a meeting on November 25 in Fairfield, Don Marquis provided a matrix of alternative control schemes and cost estimates for Mosbaek's consideration.


J.S. Nelson

JSN:cas

NEL 000449

December 4, 1975

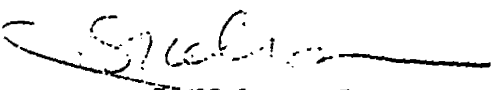
Mr. Richard A. Carpenter
Executive Director, Commission on Natural
Resources
National Research Council
2101 Constitution Avenue, N. W.
Washington, D. C. 20418

Dear Mr. Carpenter:

Highlights of PCB Conference

Enclosed, per our telephone conversation, is a reconstruction from my notes of the "highlights" matrix you presented at the close of the National Conference on PCBs. My colleagues and I were impressed by the equity and objectivity of your summary, and its focus on issues, rather than upon the rhetoric exhibited by a few participants. We plan to make use of this summary to inform our associates who were not in attendance, and as an aid in planning/monitoring our own future programs. Your review and comment upon my reconstruction of your remarks will be most helpful.

Very truly yours,


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas
Enclosure

bcc: J. F. Brown
W. A. Fessler
J. P. Flynn
J. F. McAllister
E. L. Simons
J. F. Young

NEL 000450

8*229-2287

J. F. McAllister
J. F. Young

December 8, 1975

Mr. Walter L. Powell
Washington Representative-Government Relations
777 14th Street, N. W.
Washington, D. C. 20005

Dear Walt:

Pursuant to our telephone conversation, I am enclosing three documents that will help you achieve a feel for the current status of the PCB controversy:

1. Use of PCBs in Capacitors & Transformers. This is a one-page, counsel-authorized "position" I carried with me to the Chicago National Conference on PCBs, for use in case I was backed into a corner by the press, and needed a statement. The document was not used in Chicago (and not volunteered, because of the necessity to maintain a low profile on this subject while the N. Y. State proceedings are going on).
2. Highlights of National Conference on PCBs. This is an attempt to condense onto one page the result of three days of speech-making by some 70 authors. The issues are complex, and recognized as such by all but the rabid activists (of whom few were in evidence at Chicago).
3. PCB Chronology. This history of the PCB developments was put together as a background document to assist those dealing with the N. Y. State proceedings. It is designed to be read with "A" and "B" pages open before the reader, to display contemporaneous and sequential events to best advantage.

On page 8A you will find the statement, "A new proposal is anticipated in 1975" (referring to Toxic Pollutant Effluent Standards). Latest

NEL 000451

Mr. Walter L. Powell

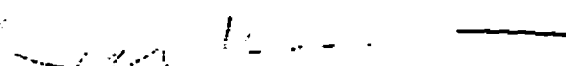
- 2 -

December 8, 1975

information is that EPA is striving for a February 1976 proposal. Any advance warning you can pick up of the probable content of this proposal (with respect to the control strategy and limits proposed for PCB) will be invaluable to us.

Please call me when you have further questions.

Very truly yours,


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas
Enclosures

NEL 000452

782300

LETTERBOOK

J. S. Nelson

1976

NEL 000453

782301

8*229-2287

SEPTEMBER ACTIVITIES REPORT
James S. Nelson

September 30, 1976

Mr. J.F. McAllister
--Office--

REDACTED

NEL 000454

REDACTED

8. PCB Alternatives

Mr. Nelson has written Mr. Luke Hart, offering a suggested agenda for the review of progress in evaluating the environmental compatibility of alternatives to PCBs. Mr. Nelson has also agreed to be a co-chairman of a technical panel on askarel substitutes at the 1977 Electrical/Electronics Insulation Conference.

J.S. Nelson

JSN:cas

NEEL 000455

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AUGUST ACTIVITIES REPORT
James S. Nelson

August 31, 1976

Mr. J. F. McAllister
--Office --

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NEL 000456

August 31, 1976

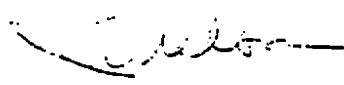
2. PCB

PQS participated in the activities of the Action Team on Proposed PCB Rule-Making, the result being a letter of comment to EPA that went out over Dr. Simon's signature on August 19.

A memorandum was prepared (JSN to JFB, 8-25-76) on the reported suspicion of a link between exposure to Aroclor 1254 and the development of cancer in some Mobil Chemical Company workers.

Assistance was provided to Electric Mutual Liability Insurance Company in connection with litigation concerning a PCB spill.

REDACTED


J. S. Nelson

JSN:cas

NEL 000457

8*229-2287

APRIL ACTIVITIES REPORT
James S. Nelson

April 30, 1976

Mr. J.F. McAllister
--Office--

III. PRODUCT ENVIRONMENTAL COMPATIBILITY

1. PCBs

It was reported last month that the House of Representatives (Connecticut Assembly) had passed a PCB bill that industry can live with; and this was true. But, due to a peculiar process of financial-impact review, the opportunity for redrafting the bill arose, and the Department of Environmental Protection attempted to include provision for unilateral determination by the Commissioner of the availability of a suitable substitute for PCB, upon which the use of PCB would be outlawed. However, the substitute bill was amended to strike that provision, on a motion by Representative Serrani, and the result--provided that it goes through the Senate intact--is the least onerous of the current crop of state bills on this subject, and the least objectionable as a precedent for future environmental legislation.

At the Research Laboratory on April 12, Mr. Nelson participated in the second session of an ongoing review of proposed alternatives to PCB in transformers and capacitors (see Memorandum of April 20.).

REDACTED

NEL 000458

Mr. J.F. McAllister

- 2 -

April 30, 1976

REDACTED

J.S. Nelson

JSN:cas

NEL 000459

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8*229-2287

MARCH ACTIVITIES REPORT
James S. Nelson

April 2, 1976

Mr. J.F. McAllister
--Office--

III. PRODUCT ENVIRONMENTAL COMPATIBILITY

I. State Environmental Legislation

Indiana and Michigan have recently enacted anti-PCB bills. Both bills ban most uses of PCB. They exempt capacitor and transformer use from the ban, but impose burdensome requirements for written notices of intent to use, annual reports, etc. It appears that these requirements are to be placed on parties that use capacitors and transformers in their businesses. Additionally, the manufacturer of the capacitor/transformer must place a label on each item showing PCB content and other information. Such labels apparently are required on small industrial capacitors, even though in use they may be buried within the item representing the end-use.

Mr. Donovan learned from the environmental committee of the Connecticut House of Representatives that they were considering recommending a bill with the same provisions. We furnished marked-up versions of the Indiana and Michigan bills for evaluation by the Committee, with the result that the Committee has recommended, and the House has passed, a bill with complete capacitor/transformer exemption from notice and reporting, and with labeling to be in accordance with ANSI standards (which currently require no label on small capacitors).

New York State is currently holding hearings on a proposed toxic substances act.

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NEL 000460

Mr. J. F. McAllister

- 2 -

April 2, 1976

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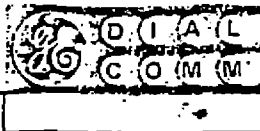
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J. S. Nelson

JSN:cas

NEEL 000461

782309



COPIES.

SUBJECT

- DECEMBER ACTIVITIES REPORT
J. S. Nelson

January 2, 1976

Mr. J. F. McAllister
Office

III. PRODUCT ENVIRONMENTAL COMPATIBILITY

1. PCBs

New York State hearings have ended, and briefs have been filed. Reply briefs are due January 12, and Sofaer obviously cannot render a decision before that date. His ruling is anticipated around the end of January. In presenting its case, the Company did not emphasize the new findings on PCDF (alluded to in our previous report) because of lack of knowledge about the source of PCDF in PCBs.

Not to be outdone by New York State, the Federal EPA's Region II has announced the intention to revise GE's discharge permits to call for "zero discharge" by June 30, 1977. Mr. Farnsworth has met with Region II enforcement officials and advised them that the Company has no commercially available substitute and that the only way to guarantee zero discharge is to shut down the plants. The Company has until January 26 to file written comments on the proposed action.

Russell Train has invited Mr. Jones to attend a meeting in Washington on January 14 of "major manufacturers and users of PCBs." According to press accounts, Mr. Train's purpose is to promote voluntary curbs on the use of PCBs. It is understood that Mr. Jones has asked Mr. Welch to represent him.

Commentaries on the Chicago meeting are now available from Brown and Fessler. In addition, Mr. Carpenter of the National Research Council has confirmed Nelson's report of Carpenter's presentation of the highlights of the conference, and favored us with a copy of his own notes on the same subject matter.

NEL 000462

Mr. J. F. McAllister

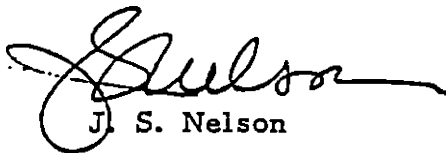
-2-

January 2, 1976

2. Hazardous Substances

In a separate action, EPA has issued (40FR59959) proposed rules on the Designation of Hazardous Substances, with a 60-day period for receiving comments. PCBs are included on the basis of toxicity to aquatic animals. Various cadmium, nickel, arsenic, selenium and mercury compounds are also included in the list of several hundred items to be controlled under Section 311 of the Federal Water Pollution Control Act. Need and opportunity for comment is being studied in cooperation with EPO.

REDACTED


J. S. Nelson

JSN:sdf

NEL 000463

8*229-2287

PCBs

January 5, 1976

J. F. McAllister
--Office--

Dear Jack:

Jim Young has expressed interest in the current status of three PCB matters, namely, the New York State hearings, the proposed change in our Federal permits, and the forthcoming meeting with industry announced to the press by Russell Train. Accordingly, this memorandum goes into these subjects in a little more detail than was thought appropriate for my monthly report.

New York State Hearings

The taking of testimony in the New York State hearings on a complaint brought by the New York State Department of Environmental Conservation (EnCon) against CE is complete and briefs were filed with Mr. Sofaer, the hearing officer, on December 24, 1975. Reply briefs have been invited, and are to be filed by January 12, 1976. Conceivably, Mr. Sofaer could request presentation of these matters orally by counsel; however, it is considered more likely that he will rely on the written briefs, reply briefs, and hearing record and render a decision at some time around the end of January.

GE's presentation of its case, both in terms of testimony and brief, was reportedly rather sharply disciplined to emphasize legal rather than scientific issues. Apparently in line with this philosophy, for example, Dr. John Brown was not put on the stand, nor was material he prepared used in GE's legal brief. The testimony he was prepared to give would have shown (among other things) that Aroclor 1016 does not appear, from the State's data, to harm fish in concentrations of less than 5 parts per billion; that there is no evidence for bioaccumulation factors, in this situation, of greater than 50,000; and lastly, that the nature of the problem of managing toxicity is importantly changed by new evidence relating to the role of polychlorinated dibenzofurans. It appears that EnCon anticipated testimony along these lines, and was prepared to keep Brown on the stand for two days of haggling over scientific detail. The subjects avoided by GE in its direct testimony, and especially the toxicity issue, were gone into in some depth on EnCon's part, providing the opportunity for GE to present its scientific case in rebuttal (the reply brief due January 12), should we desire to do so, without

NEL 000464

January 5, 1976

first having set our case up as a target for fire from EnCon. It is not known at this writing whether Mr. Evans will pursue this strategy or some other that seems more appropriate from his vantage point.

Federal EPA Permit Revision

The Company has received a formal letter, followed by a copy of a public notice, setting forth revisions which EPA, Region II, proposes to make in the NPDES permits governing discharges from the Hudson Falls/Fort Edwards plants. (The original copies went to Bob Lewis.) Messrs. Farnsworth and Repko requested an audience with EPA, which was granted on Monday, December 29. The principal representative of EPA present was Skolnik, Director of Enforcement, who was accompanied by legal and technical staff. Skolnik reports to Gerald Hansler, the Regional Administrator of Region II. Notably absent was Regna, whose office normally provides technical limits that go into permits. Regna has let it be known that he was not consulted in the present action.

The proposed modifications to the permits contain stringent interim limits, culminating in a requirement for zero discharge to be achieved by June 30, 1977. Mr. Farnsworth focused the conference on the matter of the interim specification of 1-1/2 lbs. per day (reasoning that if we can't win appropriate concessions on the interim level, we can't stay open to fight the ultimate limit). EPA replied that they set the 1-1/2 lb. limit based on their monitoring of our plant for ten days last August, and thought it was a level that we could meet. "If you feel that you can't, give us a statement so we can make a judgment." The discussion disclosed that EPA can modify its proposed modifications without the formality of a hearing on the changes to the proposal.

The EPA officials gave no evidence of any willingness to negotiate the ultimate limit of zero.

Hudson Falls people are pulling together a mass of data, and Ed Simons has been asked by Farnsworth to help generate a counter proposal. A statement prepared by Simons and Repko will be teletyped to Belleair for review on Wednesday, January 7 in anticipation of meeting again with EPA during the following week.

Train's Meeting

Russell Train announced to the press that he would be holding a meeting of "major manufacturers and users of PCBs" in Washington during January, to promote voluntary curbs on the use of PCBs. Mr. Jones received an invitation to the meeting, which has been scheduled for January 14, and has asked Mr. Welch to represent

NEL 000465

J. F. McAllister

- 3 -

January 5, 1976

him. After talking to a member of Mr. Train's staff, Mr. Welch does not anticipate any opportunity for a true dialogue, but rather some public relations exposure for Mr. Train.

J. S. Nelson

JSN:cas

NEI 000466

782314

First Toxic Substances Task Force Workshop/Meeting
Effluent Standards and Water Quality Information Advisory Committee
U.S. Environmental Protection Agency

Washington, D. C.

January 15 & 16, 1976

Introduction

The Effluent Standards and Water Quality Information Advisory Committee (ES&WQIAC), under the chairmanship of Dr. Martha Sager, has established a Toxic Substances Task Force to assist EPA in implementation of §307(a) (Toxic and Pretreatment Effluent Standards) of PL92-500, The Federal Water Pollution Control Act. The first meeting of this task force was held on January 15 and 16 and was open to the public. The meeting was recorded, using court-stenographer methods, but no publication of a transcript is contemplated. The notes that follow are based on personal observation of a member of the invited public, and cover points of interest to the author. They are not offered as a record of the meeting.

Appended to these notes are (1) Notice of Meeting, (2) Agenda for Meeting, and (3) copy of the registration list.

Opening Remarks

Chairman Sager announced that the meeting would be concerned with certain aspects of the proposed toxic product control legislation, and all the acts listed in the notice of meeting. Topics of interest include:

- labeling-claim permits
- required handling parameters
- permits for human use
- effluent discharges under PL92-500, §307
- drinking-water standards
- ocean wastes, and
- relevant clean-air act standards.

The protection of the biotic segment of the environment is receiving more emphasis than a-biotic factors. No one is interested in protecting sand, or ocean-bottom, per se --just the creatures living there, she said. §307 is "a dog's breakfast" so we'll "cast out nines" and restrict ourselves in subject matter.

NEL 000467

§307(a)

Mr. Ridgway Hall, Office of the General Counsel, EPA, reviewed the history and status of actions under §307(a). The Act called for a list of toxic substances in 90 days, proposed rule-making in 180 days, public hearing (another 180 days), followed by promulgation of final standards. This is an extremely tight time frame to gather and act upon the necessary information, and the Agency was, in the event, unable to meet this time frame. However, the court directed it to go ahead and name a list and this was done (9 substances), and standards were proposed on December 27, 1973, with hearings in April and May of 1974. It was concluded after the hearings that the EPA data base was insufficient and contained questionable hydrologic assumptions and economic impact appraisal. EPA realized that an attempt to produce standards based on the record of the hearings would have led to court action. Consequently, the Agency decided to go back and get more data on toxicity and discharges, rethink the hydro assumptions, and restudy the economic impact. EPA is now proposing standards on the same nine substances. This time, it won't try to take care of all nine in the same proceedings, but will divide them into groups: first, the four pesticides; then benzene; then PCB, followed by cadmium, cyanide, and mercury. During the question period, it was brought out that the pesticide proposals may be expected around the end of February; the PCB proposal, near April 1.

Certain litigation is still in process, Hall noted. The court dismissed an action brought by NRDC and EDF calling for expansion of the list of nine substances, but the decision was remanded on a technicality and is now before the D. C. District Court. There are suits, still pending, brought by NRDC & EDF, together with Citizens for a Better Environment, seeking promulgation of standards based on the record of the 1974 hearing.

EPA Views on Toxic Substances Legislation

Glenn Schweitzer of EPA (not a panelist; present part time; and a spokesman for EPA at Train's meeting with the PCB industry on the previous day) stated that EPA's intent is to phase PCBs out of the economy as the first act "when the toxic substances bill passes." Carlos Fetterolf (of the Great Lakes Fishery Commission and a consultant to ES&WQIAC) asked when EPA reached this determination and was referred by Schweitzer to Train's press conference of December 22.

Asked what chemicals might be taken up next, after the nine already designated, Schweitzer replied that there is no such thing as an "agency list." The organisms found in drinking water are candidates, as are other "clusters of materials."

Ken Mackenthun of EPA (a panelist) has been involved in the preparation of a new version of Water Quality Criteria and pre-publication copies are now circulating for interagency review, after which it is to be published.

NEL 000468

Schweitzer reported that a new markup of the House bill on Toxic Substances Control (Ekhardt, HR 10318) became available on January 13. Also pertinent are the McCollister Bill, HR 7664 and, in the Senate, the Tunney Bill, S776. In discussing these bills, Schweitzer stated that EPA opposes the "list of 300" concept. The requirement to have a perpetual list of 300 suspect substances that are under evaluation attaches a stigma to the materials listed, makes people nervous. "Why go through two steps?" (i. e., the listing process and the evaluating process). Schweitzer endorses the approach taken in a report prepared by and available from the National Academy of Sciences, entitled, Decision Making for Regulating Chemicals in the Environment.

In answer to a question about the apparent overlap in environmental laws, Schweitzer answered that "the Administrator makes a judgment as to which law can best solve the problem."

Definition of "Toxic Substances"

Lloyd Smith, of the University of Minnesota, chaired a discussion on the definition of toxic substances. He called upon Ken Mackenthun, who stated that the original definition in §307 applied only to aquatic ecosystems, and that EPA is now applying it to human health considerations. Ridgway Hall pointed out that the general definition of toxic pollutant, §502 (13) refers to "any organism" and that the legislative history (Senate report) speaks of this as a "benchmark for evaluating... effect on humans." W. W. Barnes, of TVA (Muscle Shoals) observed that any proper definition of a toxic substance or carcinogen would have to take into account the concepts of dose and exposure. Hall noted that the carcinogen definition is from the National Cancer Institute, rather than EPA, and that it is currently under review. Another panelist called attention to the fact that the definition in the Act (§502) is a definition of a toxic pollutant, not a toxic substance, and that, in his opinion, this is not a useful topic to pursue. A spokesman for FMC Corporation, speaking from the floor, offered the opinion that some features of the 1965 act should have been retained, as that act provided for considering the effect in the receiving waters. Dr. Hartung, of the University of Michigan, noted that the language in § 307(a) (2) implies that the effects to be considered are those in the receiving waters.

The discussion proceeded to the next topic without an attempt at achieving a consensus or recommendation.

Identification of Toxic Substances

Ken Mackenthun chaired a discussion of the identification, or method of designating toxic substances. Martha Sager started the process by listing the following suggested parameters on the blackboard:

NEL 000469

persistence or half-life
biodegradability
chronic toxicity
acute toxicity
carcinogenicity
mutagenicity
teratogenicity
bioaccumulation

There was not much discussion at the time, but later (the following day, under the topic of screening tests) there was consideration of the meaning of terms such as bioconcentration (ratio of a substance in organisms compared to the amount in water); bioaccumulation (build-up in an organism over time); and biomagnification (increase in body burden at higher levels in the food chain). Mackenthun commented that he avoids the term biomagnification because he is not sure it exists: there is no evidence that it occurs for heavy metals.

The Setting of Limits

In answer to the query, "must there be one number, nationally, to satisfy the law?" Ridgway Hall spoke of variance clauses, considerations based on the characteristics of receiving waters, and hydrological formulae as ways of achieving appropriate tailoring to fit particular circumstances.

Computer Modeling

Speaking from the floor, Rolf Hartung of the University of Michigan gave an interesting exposition of the use of procedural standards, with the computer as an integral part of the system. Similar procedures have been established for air quality. Although presently available water quality computer programs may not be fully adequate, they are perhaps close enough for trial use. The procedure proposed is iterative:

1. Set a provisional limit by computer modeling.
2. Monitor concentration of the pollutant in question.
3. Reset effluent limit (and adjust program).

In cases where there are multiple discharges (under different management) to the same body of water, allocate the effluent on some equitable basis. The proposed system should work equally well for direct monitoring of concentration in water or indirect control through bioassay of organisms in the water (e.g., as might be desirable to control methyl mercury). The system, in Hartung's view, provides a conceptually feasible way to make the linkage between effluent and ambient water quality, and it is self-checking.

NEL 000470

Ridgeway Hall expressed interest in receiving more information on Hartung's proposal.

Control Methods and Concentration Levels

The chairman for this part of the discussion (1-16-76), Dr. Wesley Eckenfelder of Vanderbilt University, posed the question, "Is there any way to exercise control other than 'pounds per day at the end of the pipe'?" There seemed to be no basic dissent from this concept, although one member of the audience did note that his firm has a plant on an intermittent stream and their permit is written in terms of pounds per year (John Keller, American Can Company).

As the discussion moved to concentration levels, Chairman Sager remarked that she is "sick and tired of picking up the newspaper every day and finding that something else is a carcinogen" (i. e., without reference to dose or exposure). Fetterolf pointed out that careful distinction should be made between the properties of acute toxicity and carcinogenicity. Then he asked the more-or-less rhetorical question, why can't dischargers be told, "keep mercury at a level less than 0.5 micrograms per gram in living organisms... I don't care how you do it, just do it. What's wrong with that? You can estimate and use models but you can't predict it accurately. Why have industry do more than necessary? Why not judge permissible discharges directly by the body burden? He received the objection that one does not always know the source of the mercury (or other pollutant) found in the organism.

Screening Tests

Lloyd Smith, of the University of Minnesota, who chaired the discussion of screening methods, proposed a three-part regimen:

1. A simple screening test (bioassay) to segregate elements that cause toxicity. This should be a test that can be performed using "plant personnel," such as a 24-hour static test.
2. If it is suspected that there are other, more subtle influences, go to acute tests, e. g., LC_{50} tests, using trained personnel.
3. Where indicated, go to a chronic bioassay, requiring from two or three months to 18 months. When needed, bioaccumulation tests would be in addition to the program described.

Fetterolf commented that bioassays should be performed on the total effluent, not some pure (or selected) component of the stream.

NEEL 000471

Task Force Plans and Administrative Matters

This was a "semi-closed" session and the author did not attend.

J.S. Nelson, Consultant -
Product Environmental Compatibility
General Electric Company
Fairfield, Connecticut

January 23, 1976

NEEL 000472

(FRL 467-1)

EFFLUENT STANDARDS AND WATER QUALITY INFORMATION ADVISORY COMMITTEE

Notice of Meeting

The Effluent Standards and Water Quality Information Advisory Committee has established a Toxic Substances Task Force to assist the Environmental Protection Agency in implementation of Section 307(a) of PL 92-500 (Toxic Substances Effluent Limitations).

The first workshop/meeting of the task force will be conducted at Washington, D.C. on Thursday, January 15 and Friday January 16, 1976. The workshop/meeting will begin at 9:30 a.m., January 15 and 16, Room 1112, Crystal Mall Building #2, 1921 Jefferson Davis Highway, Arlington, Va.

The workshop/meeting will be devoted to a discussion and critique of the following:

I. RELATIONSHIP AND COVERAGE OF CURRENT AND PENDING TOXIC SUBSTANCES LEGISLATION AND REGULATIONS

Interpretation and effective implementation of Section 307(a) of PL 92-500 requires an understanding of related legislation and regulations. Accordingly, the following must be considered:

CURRENT LEGISLATION AND REGULATIONS

PL 92-500—Water Pollution Control Act—Sec. 307.

PL 92-532—Ocean Dumping Act.

PL 92-523—Safe Drinking Water Act.

PL 92-516—Federal Environmental Pesticide Control Act.

PL 92-596—Occupational Safety and Health Act.

FS-717—Federal Food, Drug and Cosmetic Act.

PL 92-613—Federal Hazardous Substances Act.

PROPOSED TOXIC SUBSTANCES CONTROL BILLS

H.R. 7654, McCollister; H.R. 7458, Brodeur; H.R. 7229, Eckhardt; and S. 775, Tunney: versions of the new and proposed Toxic Substance Control Act.

II. DEFINITION OF TOXIC SUBSTANCES—AQUATIC LIFE (PL 92-500)

It is necessary to define toxic substances in terms of aquatic life relating to population maintenance, diversity, and health. Population maintenance will be judged on effects related to growth, reproduction, species diversity, and survival.

III. METHOD OF DESIGNATING TOXIC MATERIAL (PL 92-500)

Alternatives to be considered:

A. Existing data base (literature).

B. Generic similarities in toxicity between chemicals with known toxicity levels and chemicals with unknown biological effect (this would be based on available data showing similarity of biological effects from materials with similar chemical structures).

C. Toxic effluent approach (toxic effluents having unknown combinations of designated toxic materials and unidentified materials. Bioassay would be used to determine toxicity to flow).

D. Designation of toxic materials and toxic effluents on basis of demonstrated ecological effect in receiving water. One of the above alternatives for designating a toxic material or a combination of these alternatives is to be considered instead of TL50 with arbitrary application factor added.

IV. SETTING OF TOLERANCE LIMITS (PL 92-500)

The mechanism for setting of tolerance limit must be accomplished in one or several of the following ways and should be specified in terms of concentrations rather than on mass loadings depending upon circumstances and dilution. Where mass loading may be high, a combination of the two may be needed. These levels can be set on:

A. Bioassay.

B. Community ecology of the receiving water.

C. By taking cognizance of intermittent levels of discharge (monitoring).

D. Variations of acceptable limits of discharge based on stream flow and stream concentration levels.

V. DEVELOPMENT OF BIOASSAY METHODS

This bioassay method must be developed or selected so that it is suitable for identification of toxic materials and monitoring toxic flows. It should be simple enough so that technician level operators can get reliable results.

VI. DISCUSSION OF ES&WQIAC TOXIC SUBSTANCES TASK FORCE PLANS

The meeting will be open to the public and under the overall direction of the Committee Chairman. Since space is limited, call or write to Dr. Martha Sager, Chairman, or Mr. Martin Brossman, Executive Director, ES&WQIAC, EPA, Crystal Mall Bldg. #2, Washington, D.C. 20460, Telephone: Area Code (703) 557-7390.

Call 12/11/75 MARTHA SAGER, Chairman, ES&WQIAC.

[FR Doc. 75-32268 Filed 12-5-75; 8:45 am]

[OPP-83000/345; FRL 465-6]

RECEIPT OF APPLICATIONS FOR PESTICIDE REGISTRATION

Data To Be Considered in Support of Applications

On November 19, 1973, the Environmental Protection Agency (EPA) published in the Federal Register (38 FR 31862) its interim policy with respect to the administration of section 3(c) (1) (d) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended. This policy provides that EPA will, upon receipt of every application for registration, publish in the Federal Register a notice containing the information shown below. The labeling furnished by each applicant will be available for examina-

tion at the Environmental Protection Agency, Room EB-31, East Tower, 401 M Street, SW, Washington, DC 20460.

On or before February 6, 1976, any person who (a) is or has been an applicant, (b) believes that data be developed and submitted to EPA on or after October 21, 1972, is being used to support an application described in this notice, (c) desires to assert a claim for compensation under Section 3(c) (1) (D) for such use of his data, and (d) wishes to preserve his right to have the Administrator determine the amount of reasonable compensation to which he is entitled for such use of the data, must notify the Administrator and the applicant named in the notice in the Federal Register of his claim by certified mail. Notification to the Administrator should be addressed to the Information Coordination Section, Technical Services Division (WH-569), Office of Pesticide Programs, 401 M Street, SW, Washington, DC 20460. Every such claimant must include, at a minimum, the information listed in the interim policy of November 19, 1973.

Applications submitted under 2(a) or 2(b) of the interim policy will be processed to completion in accordance with existing procedures. Applications submitted under 2(c) of the interim policy cannot be made final until the 60 day period has expired. If no claims are received within the 60 day period, the 2(c) application will be processed according to normal procedure. However, if claims are received within the 60 day period, the applicants against whom the claims are asserted will be advised of the alternatives available under the Act. No claims will be accepted for possible EPA adjudication which are received after February 6, 1976.

Dated: November 25, 1975.

MARTIN H. ROGOFF,

Acting Director,

Registration Division.

APPLICATIONS RECEIVED (OPP-33000/345)

EPA File Symbol 241-ELN, American Cyanamid Co., Agricultural Div., PO Box 400, Princeton NJ 08540. AVENGE WILD OAT HERBICIDE. Active Ingredients: Difenzoquat methyl sulfate (1,2-dimethyl-3,5-diphenyl-1H-pyrazolium methyl sulfate) 31.8%. Method of Support: Application proceeds under 2(b) of interim policy. PM23.

EPA File Symbol 241-EUA, American Cyanamid Co., PO Box 400, Princeton NJ 08540. 2,2 TEMEPHOS PRESSURIZED SPRAY. Active Ingredients: Temephos (O,O-(thio-di-4,1-phenylene)bis(O,O-dimethyl phosphorothioate) 2.0%. Method of Support: Application proceeds under 2(b) of interim policy. PM15.

EPA Reg No. 464-426, Dow Chemical Co., Agr. Dept., PO Box 1705, Midland TX 49640. 7287L ANTIMICROBIAL. Active Ingredients: 2,2-Dibromo-3-nitropropionamide 20%. Method of Support: Application proceeds under 2(a) of interim policy. PM34.

EPA File Symbol 7368-GT, Georgia-Pacific Corp., 2425 Malt Ave., Los Angeles CA 90040. SPA-CLOR. Active Ingredients: Sodium dichloro-s-triazinetriene dihydrate 100%. Method of Support: Republished—Application proceeds under 2(b) rather than 2(c) of interim policy. PM24.

EFFLUENT STANDARDS AND WATER QUALITY
INFORMATION ADVISORY COMMITTEE
(ES&WQIAC)

Jan. 15-16, 1976

AGENDA FOR MEETING

CRYSTAL MALL BLDG. #2
WASHINGTON, D.C. 20460

JAN. 15 - Rm. 1112

(9:30 AM to 12:30 PM)

1. CHAIRMAN'S CALL TO ORDER AND OPENING REMARKS
2. RELATIONSHIP AND COVERAGE OF CURRENT AND PENDING TOXIC SUBSTANCES LEGISLATION AND REGULATIONS
3. DEFINITION OF TOXIC SUBSTANCES

(1:30 PM to 4:30 PM)

4. METHOD OF DESIGNATING TOXIC SUBSTANCES
5. SETTING OF TOLERANCE LIMITS

JAN. 16 - Rm. 1112

(9:30 AM to 12:30 PM)

1. CHAIRMAN'S CALL TO ORDER AND OPENING REMARKS
2. REVIEW OF PREVIOUS DAY'S DISCUSSION AND STATUS
3. DEVELOPMENT OF BIOASSAY AND OTHER EVALUATIVE METHODS

(1:30 PM to 4:30 PM)

4. ES&WQIAC TOXIC SUBSTANCES TASK FORCE PLANS
5. ADMINISTRATIVE MATTERS

NEEL 000474

ATTENDANCE LIST FOR
U.S. ENVIRONMENTAL PROTECTION AGENCY

EFFLUENT STANDARDS AND WATER QUALITY INFORMATION
ADVISORY COMMITTEE

JAN. 15 FIRST TOXIC SUBSTANCES CRYSTAL MALL BLDG. #2
& 16, TASK FORCE CRYSTAL CITY, ARLINGTON VA.
1976 WORKSHOP/MEETING CONFERENCE ROOM # 1112

NAME	AFFILIATION	ADDRESS
E. W. Albert	Air Transport Assoc.	WASH. D.C.
Louis DuRoi	EPA	Wash. D.C.
DAVID G. DAVIS	EPA / OPE	Wash., DC
Margaret Ford	Bethlehem Steel Corp.	Bethlehem, Pa.
William T. Cox	ES-USDA	Wash D.C.
LAWRENCE L. HEFFNER	ES-USDA	"
H. J. GRIMES	Atlantic Richfield Co.	Harvey, Ill.
Peter Ott	EPA - OPP	Crystal Mall #2, A.P.
James Nelson	General Electric Co.	Fairfield Ct.
John B. Sprague	Task Force	Quebec, Ontario
~~Margaret Ford~~	~~ISARCO INC~~	~~120 Broadway~~
~~James Nelson~~	~~EPA~~	~~WASH. D.C.~~
Galley Reid	Superintendent Assn	Wash. D.C.
R. Z. Hoyer	CARBONUMOUNT	Hagerstown, MD.
Ralph E. Magnuson	A.I.O.A.	Cleveland, O.
W.C. Benzer	A.I.S.	Wash. D.C.
R.B. Foster	Bethlehem	Treves, Pa.

NEL 000475

ATTENDANCE LIST FOR
U.S. ENVIRONMENTAL PROTECTION AGENCY

EFFLUENT STANDARDS AND WATER QUALITY INFORMATION
ADVISORY COMMITTEE

JAN. 15 & 16, 1976	FIRST TOXIC SUBSTANCES TASK FORCE WORKSHOP/MEETING	CRYSTAL MALL BLDG. "2" CRYSTAL CITY, ARLINGTON VA. CONFERENCE ROOM # 1112
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NAME	AFFILIATION	ADDRESS
Ed Rumbauer	TAMS	345 Park Ave NYC
VIRGIL W. WILSON	State of	Angela Park Houston
Robert McGrath	NALCO	Northbrook, Ill.
God Good	EPA	Washington D.C.
JERRY DINGUS	ACC	Wilmington, NC
Richard A. Behar	American Cyanamid Co	859 Barton Ave Wayne, NJ
W. C. Chaloman	Union Camp Corp	Franklin, Va.
Garold O. Peters	WAPORA, Inc.	6900 Wise Ave, Wash
Steven P. P.	WAPORA, Inc.	6900 Wis "
Carl R. Miller	ASTM	1916 Race St Phila.
Julien Morris	NBS	Gaithersburg Md
C. J. Bechman	Eastman Kodak	Rochester, NY
Emil Stephens	Cocaine Get Out Street	Vanilla D.C.
Richard A. Telle	EPA	Washington, D.C.
James R. H. H.	EPA	" "
L. W. Pollock	Phila's Water	Bedfordville, Okla
E. C. Ladd	Frie Corp	Phila PA
A. J. J. J.	Hoffmann-La Roche	Nutley, NJ
R. J. J.	But	Trenton Pa
D. J. K. K.	NAMF	MAITCLAIR

NEL 000476

ATTENDANCE LIST FOR
U.S. ENVIRONMENTAL PROTECTION AGENCY
EFFLUENT STANDARDS AND WATER QUALITY INFORMATION
ADVISORY COMMITTEE

JAN. 15 FIRST TOXIC SUBSTANCES CRYSTAL MALL BLDG. "2
& 16, TASK FORCE CRYSTAL CITY, ARLINGTON VA.
1976 WORKSHOP/MEETING. CONFERENCE ROOM # 1112

NAME	AFFILIATION	ADDRESS
Kenneth E. Linn	Kenneth E. Linn Co.	Kenneth E. Linn Co.
W.S. Burrows	Amesbury R & D	Amesbury R & D
J. Palmer	Portsmouth	Portsmouth
M. Lavelle	Portsmouth	Portsmouth, R.I.
S.R. V. Lavelle	AMER. MINING CORP.	WASH. D.C.
Thom D. Linn	General Electric	General Electric
Bruce Kelly	Dow	Wallingford, N.H.
John Hartman	U. of Michigan	Ann Arbor, Mich.
John Koller	General Electric	General Electric
Donald L. Linn	Georgia Power Co.	270 Peachtree St. Atlanta, Ga. 30303
A. J. Linn	General Electric	Proctorville 270 St. 2nd Cincinnati, Ohio
W. W. Barrow	TVA	Muscle Shoals, Ala
M. T. Linn	ALCOA	Pittsburgh, PA
B. W. Linn	BNA	Wash. DC
Ken Maccis	EG&G, Birmingham	Wardham, Mass
Ken Dickson	Worcester Tech	Blackburn, Va
Sam P. Vokonas	EG&G Birmingham	Wardham, MA
Donald L. Linn	General Electric	Washington D.C.
Robert L. Linn	University of Calif.	Davis, CA
Carl L. Linn	General Electric	Wallingford, N.H.

NEL 000477

ATTENDANCE LIST FOR
U.S. ENVIRONMENTAL PROTECTION AGENCY

EFFLUENT STANDARDS AND WATER QUALITY INFORMATION
ADVISORY COMMITTEE

JAN. 15 FIRST TOXIC SUBSTANCES CRYSTAL MALL BLDG. "2
& 16, TASK FORCE CRYSTAL CITY, ARLINGTON VA.
1976 WORKSHOP/MEETING CONFERENCE ROOM # 1112

NAME	AFFILIATION	ADDRESS
C. A. Wentz	Phillips	Washington DC
C. A. Wentz	U.S. EPA	" " "
R. A. Cascardino	Commonwealth Edison	Chicago, Ill.
M. E. Amuth	Co. 10	Alex. Va.
C. A. Wentz	U.S. EPA	Ann Arbor, Michigan
R. A. Cascardino	EPA	Wash D. C.
Karen Kossowicz	Quilley	Denver, Colo
Chas. H. Tamm	ARC	LA - CA
David Horner	EPA	Wash. D. C.
Vincent R. Paces	Con Edison	New York, N.Y.
John J. Tamm	ARC	Wash DC.
Sam T. Paces	International	Arlington, VA
Glenn Schwartz	EPA	Wash. DC
Stenulis	Hobbs Chem	Wash. DC
Norman H. Carver	ETAP	Baltimore, Md
James H. Shiver	Diamond Shamrock	Wash DC.
CHARLES LEINBERG	NAMA	WASH DC
Philip P. Scott	De Pont Co	Wilmington, DE

NEL 000478

8*229-2287

TOXIC SUBSTANCES

R. C. Osthoff
F. D. Price

January 23, 1976

TO: Messrs. J. F. Brown
J. P. Flynn
W. R. Kruesi
J. F. McAllister
E. L. Simons
J. F. Young

Gentlemen:

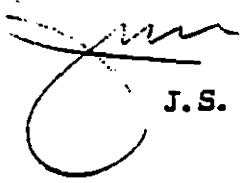
Unless you have specific interest in the subjects covered, you probably won't profit from wading through the attached account of the first meeting of Martha Sager's Toxic Substances Task Force. The following are my personal "gleanings" and evaluation.

- If the Toxic Substances Control Act is passed, it is the intention of EPA (Train/Schweitzer) to "phase PCBs out of the economy" as their first act under the law. By administrative act, they propose, in effect, to preempt further evaluation of the complex issues left "open" in the formal summary of the Chicago meeting.
- Toxic Pollutant Effluent Standards for PCBs will be proposed separately from standards for the other substances on the list of nine, and the PCB proposal is to be expected about April 1.
- The first meeting of this Toxic Substances Task Force was not only open to the public, but public participation was actively encouraged. Indeed, the only substantive suggestion of any merit with regard to the control of toxic substances came from a member of the audience. (Hartung: computer modeling.)
- EPA officials in attendance were playing their cards very close to their chests. No glimpse was given of the nature of the toxic pollutant effluent standards to be proposed, even though they plan to issue the first group (the four pesticides) next month.

NEEL 000479

January 23, 1976

- It is difficult to see how this Task Force, even if it acquires more focus and aggressiveness in its coming meetings, can have any significant leverage on EPA plans. Time is just too short.


J.S. Nelson

JSN:cas
Enclosure

NEL 000480

26-8

To Mr. J. F. Young

Date 2-2-76

Dear Jim

Around April 1, EPA will be proposing new "Toxic Pollutant Effluent Standards" for PCBs. The proposed discharge limits will undoubtedly be related to the proposed "Water Quality Criteria" now being circulated within the Government. They are proposing 1 part per trillion as a goal for PCB in the nation's waters. John Brown says the basis for 1 ppt is "flaky"; that his staff could attack it in a "referee paper" for a couple of days' effort. He wishes to know if he would have Corporate backing for doing so.

May we discuss?

cc: JF McAllister

J. S. Nelson

NEL 000481

8*229-2287

W.C. Hart
J.F. McAllister
E.L. Simons

February 9, 1976

Mr. J. Hervie Haufler
Manager - Corporate Editorial Communications
Fairfield WID

Dear Hervie:

The January-February Monogram, transmitted with your tip-on slip of February 3, contains a number of misstatements on the PCB question ("Q&A on PCBs," p. 8).

- The first PCB capacitors were introduced by GE in 1931, manufactured in Pittsfield. The first PCB transformers were introduced about the same time, also by GE at Pittsfield, not in the 1920s, as stated in the article. The production of capacitors was later transferred to Hudson Falls and Ford Edward.
- The washing of capacitors is presented as "the chief source of contamination," under the heading, "How does PCB get into the environment?" We are informed that the recycling of post-treatment wash water was instituted last year. More importantly, it is doubtful that any capacitor or transformer process or condition of use has ever been a "chief source of contamination." Most of the PCBs in the environment are believed to be derived from the formerly widespread "open" applications in such products as paints, coatings, plasticizers, carbonless copy paper, and the like, not from sealed use in electrical products.
- The article states that PCB effluent regulations were first imposed by the U.S. Environmental Protection Agency in January of 1973. No such regulations have ever been issued. They were proposed in December 1973. In the

NEL 000482

Mr. J. Hervie Haufler

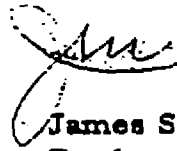
- 2 -

February 9, 1976

period March-May 1974, the proposed toxic pollutant effluent standards for PCBs were opposed by General Electric and others in a hearing before an administrative law judge. EPA was forced to withdraw its proposal for lack of a sufficient data base. A new proposal is anticipated in 1976.

Let me again assure you that we stand ready to provide pre-publication review of editorial matter pertaining to product environmental concerns, and Dr. Simons authorized the same offer to be made in his behalf concerning environmental matters related to Company facilities and processes.

Very truly yours,



James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

NEL 000483

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 05431



8*229-2287

SUBJECT

COPIES:

Q&A SHEETS ON PCBs

J. F. McAllister

March 8, 1976

Mr. Laughran S. Vaber
Fairfield WID

Dear Larry:

It appears to me that a good job has been done on the Q&A sheets (your letter of March 5, 1976) and that the overall position is sound. I do have a few comments, which, factored in with the others you will be receiving, should help to polish up the final product.

• History of PCBs

#2. By not mentioning transformers, some people might think you are trying to hide use of PCBs in transformers.

Suggest:

"PCBs possess a unique combination of electrical properties and nonflammability that makes them the ideal choice for insulating fluids in certain capacitor and transformer applications. It was for the very ..." etc., as is.

#5. I see two difficulties with this statement (even though it has been used before). (A) It could be misunderstood by the rapid reader to mean "...make certain that PCBs are persistent in the environment." (B) The particular formulation now used in capacitors is significantly less persistent than other widely distributed PCBs, a fact that is lost sight of in the present answer.

We suggest:

"PCBs are relatively stable, long-life, man-made compounds. As a result, their presence in the environment is by definition 'unnatural.' The persistence and the potential for deleterious effect depend upon the specific PCB compound and the presence or absence of contaminants."

NEL 000484

782332

Mr. Laughran S. Vaber

- 2 -

March 8, 1976

- GE Containment and Abatement Efforts

#1. We suggest that you consider adding a new second sentence to your answer, to cover a point not addressed elsewhere:

"There is recent evidence supporting the view that this material is also lower in chronic toxicity than other compounds of PCB and represents, for example, less of a threat to fish."

#4. Would suggest:

"Very successful. At the present time, out of thousands of gallons of PCBs used daily, less than a total of 2 pounds (1-1/2 pints) leak into the more than 1-1/2 million gallons of water circulated through the plants daily. This is a reduction from a discharge level of approximately 30 pounds (2-3/4 gallons) per day several years ago.

#5. Change last sentence of answer to:

Most scientists would agree that there will always be some leakage, even though very small, and that no matter how small, instruments will be developed that are sensitive enough to detect it.

#7. Inasmuch as a number of "substitutes" are being publicly discussed, the word "finding" sounds like we don't know what's going on.

How about:

"... solution might be adopting a substitute ... until it is proven acceptable General Electric wants..."

- Search for PCB Substitute

#1. We must try to present the safety issue without boxing ourselves in. Perhaps "mandatory" is too strong, as our fall-back position may have to be a flammable fluid with greater reliance on protective devices built into the capacitor. We suggest:

NEL 000483

Mr. Laughran S. Vaber

3 -

March 8, 1976

"...non-flammability that the industry has been relying upon for the safety of certain applications."

#4. Suggest changing "the full spectrum" to "a great variety of..."

#5. Change "uses" to "users."

● Health Questions

#2 (last line) change "removed" to "removal."

#4. Change "can cause" to "has caused" in the question.

#5. I've seen larger numbers than "500." Suggest "is (not "is said") several hundred times..."

#6. Suggest change to:

"General Electric is operating under a State certified, Federal EPA permit..." etc.

#7. Change "zero distance" to "zero discharge." Omit phrase "at this time."

#8. Suggest change to:

"No. The hearing officer's opinion was that GE's prior discharges were in violation of law...no finding was made, or opinion expressed, with regard to current discharge levels. The proposed...", etc.

#9. Suggest (inasmuch as hearing officer lacks authority to make final legal decision) changing the word "determine" to "explore."


James S. Nelson, Consultant -
Product Environmental Compati.

JSN:cas

NEL 000486

February 25, 1976

Mr. Victor Botnick
Office of Congressman Koch
26 Federal Plaza
New York, N. Y. 10007

Dear Mr. Botnick:

We understand that you are seeking background information on the Polychlorinated Biphenyls issue in connection with proposed legislation. The accompanying document is not in every detail up to date, but does have the virtue of being already in the public domain (and therefore there is no problem of public release).

If you have questions after reading this, it may suggest other categories or other information which we will be able to supply. We hope this is responsive to your need.

Very truly yours,

James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

Enclosure: "The Role of Polychlorinated
Biphenyls in Electrical Equipment - Feb. 4, 1972"

cc: W. C. Hart
J. F. McAllister

NEL 000487

782335

8*229-2287

J. F. McAllister

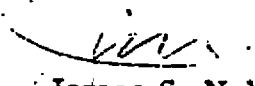
March 12, 1976

Messrs. T.R. Casey
L.P. Hart, Jr.
W.C. Hart
R.C. Osthoff
E.L. Simons

Gentlemen:

Jack McAllister and I appreciate your help over the past several days, and that of your associates, in preparing an assessment for staff information purposes of the current PCB status. Enclosed is a copy of Jack's memo of 3-4-76, "PCB Roundup."

Very truly yours,


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas
Enclosures

NEL 000488

782336

8*229-2287

**JAPANESE TRANSFORMERS
AND CAPACITORS**

P. Y. Chu
J. F. Flowers
L. P. Hart
J. F. McAllister

March 31, 1976

Mr. W. C. Hart
Fairfield W1-B

Dear Bill:

This is to supplement Jack McAllister's letter of yesterday with further comment pursuant to your request that we evaluate the information contained in J. F. Flower's letter of March 26 to you. It is difficult to come by reliable information from Japan on any subject related to PCBs, but on the basis of present knowledge we recommend against the use of either the railroad transformer story or the capacitor voltage story in discussions of the Japanese situation.

Transformers

It seems that the Japan National Railway was once exempt from the PCB ban, but is no longer.

On April 10, 1972, M. J. Moore, then CR&D's scientific representative to Japan, reported that "the power generating companies and railway systems are exempt from the recent MITI ban on the use of PCB in electrical equipment." However, Ken Mathes of CR&D visited Japan last fall and talked to two of the principal manufacturers of transformers. He visited Toshiba on September 29, 1975 and Hitachi the next day. The following are three separate excerpts from his trip report:

- "The Japanese government has completely banned the use of PCBs in Japan, apparently because of incidents not related directly to electrical applications.
- "Commercially, silicone oil has replaced askarels only to fill transformers used inside the electric locomotives for the very extensive electrified railway system in Japan... Dry type transformers have

March 31, 1976

been used to replace askarel filled transformers in other applications... The dry type transformers are larger... In the locomotive, space is at a premium, so the silicone oil has been used in this one case.

- "I could not get a satisfactory answer as to how the fire resistance of the silicone oil had been tested."

Subsequent discussion with Mr. Mathes has disclosed that questions he posed at the time of his visit concerning retrofit and repair of PCB transformers elicited only equivocal response.

We conclude that sometime between April of 1972 and September of 1975, the Japanese ban was extended to embrace railway locomotive transformers.

Capacitors

The point that the Flowers memorandum makes about voltages and corona level appears to be valid for Europe, but not for Japan.

The reference to capacitor voltages presumably refers to the practice in much of the world outside the United States to place the fluorescent-ballast capacitor across the terminals of the lighting circuit supply lines, rather than in series with the reactor. U.S. ballast capacitors are designed to operate at a capacitor-terminal voltage of about 290 to 305 volts, depending upon ballast design constants. A capacitor placed across the line, following European practice, would be exposed only to the lighting-circuit voltage, typically 220 volts in Europe. One consequence of this difference in voltage is that it is feasible to use unimpregnated, metalized capacitors for European lighting systems. Such capacitors, if substituted in U.S. systems, would fail rapidly because of corona induced by the higher voltage within domestic ballast circuits. Thus, wherever ballasts are designed for capacitors at line voltage, there is less concern over the problem of adequate substitute for PCB capacitors.

There is reason to believe, however, that the prevailing practice in Japan may be to follow the U.S. design approach, rather than the European model. As evidence, the Ballast Business Department cites a recent opportunity to quote on a large volume of Japanese rapid-start ballasts. Their standard U.S. ballast came close to matching the Japanese specification.

Confirmation of Japanese ballast design practice is being sought through Rudy Koehler (at the request of Ballast Business Department).

NEL 000490

Mr. W.C. Hart

- 3 -

March 31, 1976

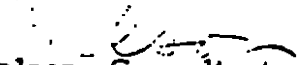
Apart from the ballast capacitor situation, there is a significant difference between the effect on the capacitor industry of a PCB ban in Japan and a possible PCB ban in the United States. This has to do with the separate courses of development of the electric utility power-factor correction capacitor designs in the two countries.

In the U. S. it has long been the practice to supply the requisite energy-storage capability in units of a few reactive kilovolt-amperes (KVAR) each, up to a maximum of, say, 200 to 400 KVAR. These units employ high electrical stress in their design, to conserve material and maximize cost-effectiveness. The relatively small unit size allows flexibility in application, enabling the capacitance to be placed where needed to cut down needless transmission of electric current.

In Japan, by contrast, it was the practice historically to build large, "tank-type" capacitors of high rating (e.g., 1000 KVAR), utilizing low electrical stress to guard against failure, which could present serious problems in such large capacitors. Prior to the Japanese decision to stop using PCBs, there had been a trend away from the low-stress, tank-type, designs toward modern high-stress PCB units. When the ban came along, this trend ceased, and the Japanese could continue with their older technology without being faced with as great a change-over problem as they would have had a few years later (or as we could have in the U. S.).

As suggested by Jack McAllister's letter of yesterday, we lack confidence that the Japanese are systematically evaluating the possible safety consequences of the abandonment of PCB.

Very truly yours,


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

NEEL 000491

8*229-2287

W. C. Hart
J. F. McAllister

SUBSTITUTE FOR THE SUBSTITUTE
CONNECTICUT PCB BILL

April 3, 1976

Mr. Frank V. Donovan
Mgr-Connecticut Public Affairs
Fairfield WLB

Dear Frank:

The substitute bill now being offered by the Department of Environmental Protection (your letter of April 7) is in some respects an improvement over that previously accepted by the Environment Committee. It deletes the obscure and possibly irrelevant references to parts per million in product. A product with useful amounts of PCB in it will not need sophisticated analytical techniques for the determination of the presence or absence of PCB. We also sympathize with the desire of the DEP to stay out of the PCB analysis business: it takes not only expensive chromatographic instruments but highly trained technicians following a very strict discipline extending even to personal hygiene, to avoid cross contamination from one sample to the next.

There are two important respects, however, in which this bill should be modified to avoid situations potentially embarrassing to the DEP and the legislative sponsors of the bill. We refer to Sections 5 and 6.

Section 5, as written, would require the destruction of PCB prior to disposal, without exception. This means that even the small amount in a capacitor buried inside an old lighting fixture or worn-out air conditioner or TV set would have to be ferreted out and sent to a special high-temperature, programmed incinerator. It has been demonstrated that PCBs have a marked affinity for soil particles. Hence, PCBs eventually working their way out of discarded products of the type mentioned are not prone to migrate after they reach the earth in a landfill site, where they may be expected to slowly and harmlessly disintegrate. We recommend returning to the language of Section 5 in the Committee version (of about March 27). This version provides all the authority needed to regulate proper disposal from larger sources such as transformers and electric utility capacitors.

Section 6 would require the Commissioner of DEP to be the sole judge of whether or not an acceptable substitute is available for PCBs in electrical apparatus. This requires judgments in two areas beyond the purview of environmental dis-

NEL 000492

Mr. Frank V. Donovan

- 2 -

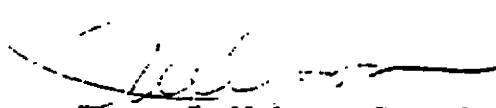
April 8, 1976

ciplines: technical feasibility, including an evaluation of performance characteristics and reliability of the end products; and, more importantly from a public interest viewpoint, it would require of the Commissioner a unilateral judgment of the adequacy of the substitute to protect against the hazards of fire and explosion. Such a decision might have to be made in an atmosphere of conflicting commercial claims, and would find the Commissioner in a position of having to make a technical appraisal without the means at his disposal to make his own engineering and scientific determinations. Accordingly, we recommend retaining only the first sentence of the proposed Section 6.

Additionally, we wish to point out the correct way to cite the ANSI Standard (Section 3, a) and to suggest wording that will allow for referencing the latest edition of that standard while at the same time allowing manufacturers appropriate lead time:

"...labeled in accordance with the American National Standards Institute, Inc., guidelines, as incorporated in the edition of American National Standard C 107.1 that shall have been in effect for at least six months prior to the time of manufacture."

Very truly yours,


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

NEL 000493

782341

8*229-2287

J. F. McAllister

April 9, 1976

W. C. Hart
Fairfield WLB

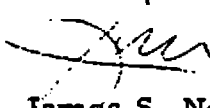
Dear Bill:

It appears that the administrative establishment has decided that PCBs have to go; that no one is interested in hearing about fire safety; that evidence concerning the value to the public and the minimal environmental risk of carefully-managed continued use falls on deaf ears. If this be the case, is there any point in continuing to oppose bad legislative proposals?

We think there is. First of all, the businesses concerned could be impeded by ill-considered state legislation that might become operative before a nation-wide resolution is attained. Second, and perhaps of great importance in the long run, state laws become models for each other and for national legislation. PCBs were not the first, and won't be the last material to fall a victim to environmental character assassination. The next target could well be whatever is selected to replace PCBs, almost irrespective of its merits. All the legislator has to do is pick up his red pencil, strike "PCB" and enter the name of the new material. Voila! Instant environmental legislation.

That scenario is perhaps a little fanciful, but the point is valid. A good bill, recognizing competing values (e. g., product safety), the complexity of the issues, and the need to preserve due process, will form a better model for future legislation.

Very truly yours,


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

NEL 000494

782342

8*229-2287

April 20, 1976

Memorandum: Alternative Dielectrics: Environmental
Compatibility and Safety Review Activities

TO: Mr. J. F. McAllister

FROM: Mr. J. S. Nelson

An "environmental impact review board" is meeting at appropriate intervals to evaluate information pertinent to the selection of alternative dielectric fluids for capacitors and transformers (on the assumption that PCBs will not be available for the long term). This group met on March 18 and April 12 and will meet again on May 18. The Chairman is Luke Hart and other members are Bob Stenger (Hudson Falls Laboratory), Bob Osthoff, John Ege, Ed Simons, and Jim Nelson. Roy Moody attended the first meeting.

The purposes of this activity might be defined as (1) avoiding another "PCB episode;" (2) insuring the adequacy and quality of research to support operating decisions. Needless to say, the "board" won't make operating decisions, but will help assure that appropriate matters have been considered.

Two National Academy of Sciences publications have recently become available and are considered important references for review work: Decision Making for Regulating Chemicals in the Environment and Principles for Evaluating Chemicals in the Environment. The former focuses on decision making at the Federal level, while the latter is a technical and scientific assessment of methods for evaluating risks and hazards associated with chemicals that may pose environmental threats. Among the topics addressed in the second volume are:

Human Health Effects

- Acute and subchronic toxicology
- Chronic toxicity
- Chemical carcinogenesis
- Reproductive Hazards
- Effects on Behavior

NEL 000495

April 20, 1976

Nonhuman Biological Effects

Environmental toxicology

Simulated systems

Field studies of populations and ecosystems

Episodic exposures

Inanimate Systems

Effects of chemical wastes on the atmosphere

Effects of chemicals on inanimate materials,

e. g., building and construction materials

The "board" agreed that methodologies can be viewed in terms of the three "R's," routes, rates, and reservoirs; i. e., environmental transport, persistence and history. In addition to the human health effects listed above, the group will consider other attributes associated with product safety--especially fire resistance. (Performance of a candidate dielectric in the end product, to the extent it affects reliability and safety, would also be a pertinent consideration.) Osthoff reported that the Transformer Division has settled upon two fire-safety tests, in consultation with George Moore (CR&D): fire point and spray flammability tests. At the second meeting of the group, movies of the performance of several candidate transformer and capacitor fluids undergoing a spray flammability test were viewed.

Silicones

The Office of Toxic Substances (EPA) has issued a report (EPA-560/2-75-004) called "Assessment of Liquid Siloxanes (Silicones)," dated September 1975. Microorganisms and plants that have been tested show no toxic effects. Fish, according to the report, seem quite tolerant to relatively high concentrations of silicone. Tests on daphnia (water fleas) show some mortality, but it is acknowledged that this could be attributed to the effects of the emulsion, independent of the specific properties of siloxane. The report appears to lean over backwards to avoid "approving" siloxanes, using phrases such as "no indication of aquatic innocuity" and the "conclusion that further studies are not required because of the high LC_{50s} is questionable."

Dow Corning met with Schweitzer (EPA) on March 23 to "qualify" silicones. No information has come back to us from that meeting. Silicone Products Department was considering the same approach at the time of the group's last meeting, and it has since been learned that a date of April 29 has been established.

NEL 000496

April 20, 1976

A fire point greater than 550° F and the passing of the spray flammability test (ASTM) are tentative criteria for acceptable fire resistance. Factory Mutual uses a similar test to the ASTM spray test. SF97 has "passed" once and "failed" once on the Factory Mutual test. Criteria are somewhat subjective, and it is planned to repeat the tests using encoded, rather than labeled, samples.

Dr. Torkelson (Waterford) advises that a small-scale retrofit experiment is planned with B.F. Goodrich Co., which is desirous of changing the fluid in existing transformers from PCB to silicone. Also, Pittsfield has an ERDA contract to evaluate some 40 fluids, including "carbon functional" silicones with dielectric constants in the capacitor range (but at some sacrifice in thermal stability).

Diethyl Phthalate (D.O.P.)

Capacitor Department has "paid its dues" (\$4,000) and joined the MCA panel on phthalates for ready access to sponsored research findings.

The City of Detroit has proposed a set of ordinances for limiting industrial effluent into the city's sewers to 100 ppt for PCB and DOP. No other chemicals were the subject of such limits. Hatco Co. (a vendor to Capacitor Department) is seeking to learn the background for the Detroit action.

Trichlorobenzenes (T.C.B.)

Trichlorobenzenes, being common to the evaluation plans of both Transformer Division and Capacitor Department, were singled out for priority attention by CR&D. The attached Vue-graphs summarize Dr. John Brown's presentation of the environmental compatibility of T.C.B. relative to some other dielectric materials.

T.C.B. has already passed the Ames Test (bacterial mutagenicity as an indicator of carcinogenicity or the lack thereof).

Test Protocols

The Capacitor Department has prepared a formal "Environmental Impact Assessment Program for Capacitor Fluids" which was reviewed by the board on April 12. Distribution of copies was held up pending review by Dr. Welch. We understand this has now taken place and copies will be available shortly.

NEL 000497

Mr. J.F. McAllister

- 4 -

April 20, 1976

Some resources for data on toxicity in aquatic systems include Bionomics, with a proposal for LC₅₀ tests on the Dow fluid, the Monsanto fluid and three GE fluids (blends); Warr Institute (D.O.P.); Biotest (Chicago), which did Monsanto's 1016 evaluation; and the MCA program (University of Missouri) mentioned earlier. A rough estimate of cost to establish environmental compatibility is \$300,000 to \$400,000 per fluid.

The group consensus appears to be that it is important to test the actual blend, with stabilizers, etc., that will appear in final products.

The Transformer protocol is similar, but will probably include some estuarine studies on trichlorobenzene because of questions that have been raised.

Legislative/Regulatory Issues

Mr. Nelson has distributed summary charts on Toxic Substances Control legislation, the Solid Waste legislative proposals, the Federal Water Pollution Control Act, and copies of the PCB rider on the Toxic Substances bill recently passed by the Senate.

JSN:cas

Enclosures

NEL 000498

8*229-2287

10-1
11-16
J. F. McAllister
D. H. Marquis-Schdy.

April 23, 1976

Dr. J. F. Brown
Dr. E. L. Simons

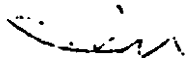
Dear John and Ed:

Enclosed is a memo by Jack McAllister entitled "Simplified PCB Degradation Model." It can be understood most readily by reference to the antecedent discussions and back-of-the-envelope estimates of environmental burden factors contained in "The Role of Polychlorinated Biphenyls in Electrical Equipment," 2-4-72 and "Polychlorinated Biphenyls and Their Use in Capacitors," 9-26-75. The present paper is the first we've seen to incorporate, explicitly, assumptions concerning rates of degradation in quantifying environmental burdens of PCB. You will recognize Appendix II as one of the charts John used in Schenectady on April 12.

In addition to substituting a dynamic model of the burden for the static deposit used to illustrate the discussions referenced above, Jack has (rightly, I think) discarded the notion that the replacement capacitor market is significant in calculating additions to the burden, because end-use equipments are discarded at end of system life without regard for the failure of the capacitor component. His curves make no allowance for the likelihood of improved solid-waste disposal practices in the next decades. If we had a basis for quantifying such improvements, it might not be necessary to show the ultimate burden trending up after thirty years or so.

We would like to have your observations on the method of calculation presented here, and also your opinion as to whether this approach could be used effectively in opposing "zero discharge" concepts and heroic clean-up proposals at federal and state levels.

Very truly yours,


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

NEL 000499

1. The Board of Directors of the Corporation shall have the right to elect and remove the members of the Board of Directors of the Corporation.

PRODUCT REPORT

FOR INCLUSION IN
1976 REPORT ON POLICY 20.13

J. S. Nelson

June 21, 1976

INEL 000500

PRODUCT REPORT

1. Policy Fulfillment--Measurement Indices

This is the fifth year of operation under Policy 20.13, Environmental Protection, a year notable, among other features, as marking the first occasion for making a major product decision primarily on the basis of predicted environmental compatibility.* In the more typical case, product environmental compatibility is recognized as one of the many qualities requisite to product integrity. The continuing nature of such accomplishment is implicit in the Statement of Policy, quoted on the facing page, (Table) together with managerial elements deemed essential to establishing and maintaining product environmental compatibility.

Reports were received from all domestic product-determining components--120 as of April 1976. In addition, reports were provided by the overseas components (37 in number) of the International and Canadian Group. Each reporting component audited itself with respect to the eleven items of environmental management and provided, in addition, information concerning noteworthy problems and accomplishments.

* The decision referred to is the choice of fluids to replace PCBs in capacitors and transformers. Candidate fluids are being subjected to rigorous environmental, toxicological, and safety testing in a program monitored by an interdepartmental review board.

Table at left summarizes the information reported. It will be observed that the table provides information to derive an index of the applicability to different product situations of the suggested managerial elements, as well as an index of implementation. The applicability index is 83% (129 components making 1100 judgments of applicability in consideration of 1320 cases).

The overall implementation index for domestic components of the Company is 97% (items in place and functioning as opposed to being planned for the future). This score is down slightly from last year's 98%, but the drop is accounted for principally by three components reporting for the first time * without whose influence the score would have risen instead of declined. Note that three Groups achieved an implementation index of 100%.

* Lok Ceiling Systems (Lighting Systems Business Department); Brazilian Industrial Systems Operation (Drive Systems Department); and Projects Engineering Operation (Instal. & Svc. Eng. Bus. Div.).

A twelfth element of the annual reports, not amenable to the statistical summarization accorded the eleven managerial items, is the opportunity provided to list significant accomplishments or problems. A compendium of such reports, for each Group, is provided on the facing page.

There are several product-related environmental problems that require comment. The PCB situation is too well known to receive in-depth review in this report. From what we now believe to be true, if it were possible to get a hearing from a duly-constituted scientific board of review, the PCB formulation now used in capacitors would probably receive endorsement for continuation of such use. The risks associated with continued use in transformers would be regarded as somewhat greater because the higher-chlorinated fractions of the transformer formulation appear more likely to be associated with contamination by toxic polychlorinated dibenzofurans and because the much higher per-unit liquid content presents a potential for spills caused by accidental damage. Be that as it may, decision-making in the case of PCBs long ago moved from the scientific to the political arena, with EPA, FDA, and other Federal and several State agencies assuming adamant opposition to any form of PCBs. The only practical course now open to the Company is the qualification of environmentally acceptable alternative materials, accompanied by assessment (and, to the degree possible, containment) of the additional fire risk that appears to be an inevitable accompaniment of the use of alternative materials. Such a program is being vigorously pursued in a time frame consistent with developing legislation and regulation.

A less dramatic, but more ubiquitous problem is product noise. Most observers would agree with the FAA premise that opposition to aircraft noise is the major obstacle to the continuing development of civil aviation. In addition, a growing body of OSHA and EPA regulations is impacting such a broad spectrum of Company products that a Technical Resources Information Letter was published in 1975 to help product-determining components to cope with this new challenge.

Theories about threats to the ozone layer posed by stratospheric jet engine exhausts and by escaping refrigerants or aerosols containing fluorocarbons call for careful monitoring; but it appears that the most significant concern affecting product environmental compatibility may be the thesis that a leading cause of cancer is contamination of the environment by traces of industrial chemicals. This will be discussed further under "Legislative Framework," as will also the potentially very troublesome matter of preserving the "pristine" air quality in undeveloped parts of the country.

2. Legislative and Regulatory Framework

Technical Resources reports semi-annually to the Corporate Policy Committee on legislative and regulatory initiatives with product implications. The laws of special relevance to the subject of product environmental compatibility are shown at left (Table), with illustrations of their influence on the product designs of each Group.

The Clean Air Act affects directly the permissible emission of gases from products that burn fossil fuels (aircraft engines, diesels, gas turbines) and indirectly affects products that depend upon external combustion (steam turbines). A controversial feature of the proposed amendments to the Clean Air Act is the designation of non-degradation areas, including buffer zones, around national parks and forests and regions whose present air quality is superior to the standards promulgated under the act. The standards applied to such "pristine air" zones could bring about a change in product mix from giant turbine generators, where GE technology is preeminent, to smaller units, where it is less so. Turbine Operations is actively focusing the issues for trade associations and congressional committees.

The impact on product design of the Federal Water Pollution Control Act, and that of the Occupational Health and Safety Act, is indirect, operating in some instances to restrict the choice of materials and processes otherwise available to the design engineer to those whose wastes and toxic effects can be adequately controlled. Product noise is controlled directly through the Noise Control Act and indirectly through work-place noise requirements placed under OSHA.

Another potential instance of direct control over products is the proposed Toxic Substances Control Act, which has about an even chance of becoming law in 1976 (having passed the Senate at this writing). This legislation would empower the EPA to control the production and use of any chemical substance and require premarket testing of new chemicals and new uses. Trade groups (with GE participation) generally support the need for legislation in this field but are encountering difficulty in guiding the legislation towards moderate and practicable specification. The basic legislative problem is to satisfy the public concern over "carcinogens in the environment" without pricing innovation out of existence.

3. Future Outlook

The environmental challenges and opportunities associated with protecting the obvious features of the environment--the sweetness of air and water, the ability to go about our business without undue interference from the activities of others--are fairly well set as to course and direction by existing and proposed legislation. It is easy to predict that new products must emit less noxious gas than their predecessors, must give rise to less waste and waste of lower toxicity, and must be quieter. The cost-effective realization of such product improvements, at a rate in keeping with public expectations, is quite clearly a very great challenge. Is more to be expected of us?

The selected quotations from the current report of the President's Council on Environmental Quality on the facing page (Table) suggest that there is more to the overall environmental challenge than achieving incremental product improvements of the type characterized above. Facing up to the full implications of the environmental carcinogen theory will require at the very least new, rapid, inexpensive assessment protocols. Design reviews will involve considerations and disciplines once the preserve of medical research. New technologies ("genetic engineering," "Geniponics") will develop new product opportunities for high-technology food production. And energy systems capable of supporting new methods of food production together with other burgeoning needs must be brought along in a manner compatible with other environmental requirements. General Electric is formally committed to "offering products and processes which will help solve environmental problems." Viewed in the broad context of developing world problems, this policy statement comes into focus as a matter-of-fact recognition of a business necessity.

1. INTRODUCTION

2. SUMMARY
3. BACKGROUND
4. OBJECTIVES

SUPPLEMENT - GROUP REPORT SUMMARIES

5. CONCLUSIONS

6. REFERENCES

7. APPENDICES

NEEL 000506

1976

AEROSPACE GROUP

ENVIRONMENTAL PROTECTION - PRODUCTS

ANNUAL REPORT SUMMARY

	<u>% I, by Years</u>					<u>1976 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
<u>AIRCRAFT EQUIP. PROD. DIV.</u>								
<u>Aero. Control & Electrical Sys. Prods. Dept.</u>								
Aero. Control Sys. Prog. (Binghamton)	100	100	100	100	100	11	0	0
Aero. Electronic Sys. Prods. Dept. (Utica)	100	100	100	90	100	9	0	2
Aero. Instr. & Prod. Supp. Prods. Dept. (W'nton)	100	100	100	100	100	11	0	0
Armament Syst. Prods. Dept. (Binghamton)	70	80	80	100	100	10	0	1
DIVISION TOTAL	95	97	97	98	100	41	0	3
<u>ELECTRONIC SYSTEMS PRODS. DIV.</u>								
Syracuse Components less E-Lab *	91	100	100	100	100	11	0	0
Ordnance Systems Products Dept.	91	100	100	100	100	11	0	0
Electronics Laboratory	82	100	100	100	100	11	0	0
DIVISION TOTAL	88	100	100	100	100	33	0	0
RE-ENTRY & ENV. SYST. PRODS. DIV.	100	100	100	100	100	10	0	1

* Major Radar Electronics Programs
 Surface-based Electronics Programs
 Undersea Electronics Programs
 Heavy Military Equipment Dept.
 Electronic Systems Applications Operation

(Continued)

NEL 000507

1976

AEROSPACE GROUP

ENVIRONMENTAL PROTECTION - PRODUCTS

ANNUAL REPORT SUMMARY (Continued)

	<u>% I, by Years</u>					<u>1976 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
<u>SPACE PRODUCTS DIVISION</u>								
Valley Forge Operations						9	1	1
Daytona Beach Operation						9	0	2
Beltsville Operations						2	0	9
Houston Operations						10	1	0
DIVISION TOTAL	79	84	84	86	94	30	2	12
GROUP TOTAL	90	97	94	94	98	114	2	16
COMPANY TOTAL (DOMESTIC)	71	93	96	98	97	1062	38	220

1976

AIRCRAFT ENGINE BUSINESS GROUP

ENVIRONMENTAL PROTECTION - PRODUCTS

ANNUAL REPORT SUMMARY

	<u>%I, by Years</u>					<u>1976 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
<u>COMM'L ENGINE PROJECTS DIV.</u>	100	100	100	100	100	11	0	0
<u>MILITARY ENGINE PROJECTS DIV.</u>	100	67	100	100	100	9	0	2
<u>GROUP MANUFACTURING DIV.</u>								
Aviation Service Department		100	100	100	100	11	0	0
<u>GROUP ENGINEERING DIVISION</u>	100	100	100	100	100	11	0	0
<u>CFM 56 Program Department</u>				100	100	11	0	0
<u>Marine & Ind'l Projects Dept.</u>	100	100	100	100	100	11	0	0
GROUP TOTAL	100	94	100	100	100	64	0	2
COMPANY TOTAL)(DOMESTIC)	71	93	96	98	97	1062	38	220

NEL 000509

782357

1976

MAJOR APPLIANCE BUSINESS GROUP

ENVIRONMENTAL PROTECTION - PRODUCTS

ANNUAL REPORT SUMMARY

	<u>% I, by Year</u>					<u>1976 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
<u>AIR-CONDITIONING PRODS. DIV.</u>								
Room A/C Prods. Dept.	30	100	100	100	100	10	0	1
Central A/C Prods. Dept.	60	100	100	100	100	10	0	1
DIVISION TOTAL	43	100	100	100	100	20	0	2
Dishwasher & Disposall Prod. Mgt.								
Louisville	{ 30	100	100	100	100	10	0	1
Milwaukee				100	100	10	0	1
Group Tech. Support Operation								
Kitchen Systems (Kissimmee, Fla.)			50	100	100	11	0	0
Home Laundry Product Mgt.	89	90	100	100	100	10	0	1
Range Product Mgt.	100	100	100	100	100	10	0	1
Refrigerator Product Mgt.	50	100	100	100	100	11	0	0
GROUP TOTAL	55	99	92	100	100	82	0	6
COMPANY TOTAL (DOMESTIC)	71	93	96	98	97	1062	38	220

NEL 000510

1976

COMPONENTS AND MATERIALS GROUP

ENVIRONMENTAL PROTECTION - PRODUCTS

ANNUAL REPORT SUMMARY

	<u>% I. by Years</u>					<u>1976 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
<u>CHEMICAL & METALLURGICAL DIV.</u>								
Silicone Products Business Dept.	100	100	100	100	91	10	1	0
Carboloy Systems Business Dept.	100	100	100	100	100	11	0	0
Laminated & Ins. Mat. Bus. Dept.	90	86	100	100	100	11	0	0
Specialty Materials Bus. Dept.	100	100	100	100	100	11	0	0
Battery Business Department	20	50	50	100	100	10	0	1
DIVISION TOTAL *	97	95	100	100	98	53	1	1
<u>APPLIANCE COMPONENTS BUS. DIV.</u>								
General Purpose Motor bus. Dept.	25	25	100	100	100	9	0	2
Appliance Control Products Dept.	10	86	100	100	100	7	0	4
Appliance Motor Products Dept.	100	100	63	63	63	5	3	3
Hermetic Motor Products Dept.	90	100	100	100	100	9	0	2
Specialty Motor Products Dept.	100	100	100	100	100	9	0	2
DIVISION TOTAL	52	88	93	93	93	39	3	13
<u>ELECTRONIC COMPONENTS BUS. DIV.</u>								
Capacitor Products Dept.								
Small Industrial Capacitors	100	73	100	100	100	10	0	1
Power Capacitor Product Sect.	100	73	100	100	100	10	0	1
Capacitor Mat'ls Prods. Sect.	88	73	100	100	100	10	0	1
Electronic Capacitor Prods. Sect.	10	50	50	100	100	10	0	1
Semiconductor Products Dept.	100	100	100	100	100	8	0	3
Tube Products Dept. - Owensboro	77	100	100	100	100	10	0	1
Microwave Devices Prods. Sect.		100	100	100	100	10	0	1
Microwave Tube Operation		100	100	100	100	10	0	1
Imaging & Display Dev. Prod. Sect.		100	100	100	100	8	0	3
DIVISION TOTAL	66	81	90	100	100	86	0	13

* Totals for prior years do not include Battery Business.

(Continued)

1976

COMPONENTS AND MATERIALS GROUP

ENVIRONMENTAL PROTECTION - PRODUCTS

ANNUAL REPORT SUMMARY (Continued)

	<u>% I, by Years</u>					<u>1976 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
<u>MEDICAL SYSTEMS BUSINESS DIV.</u>								
Radiology Systems Eng. Dept.				100	100	11	0	0
<u>Special Health Prods. Operation</u>								
Pacemaker Systems				100	100	11	0	0
Dental Systems Op.			100	88	75	6	2	3
Nuclear Diagnostic Sect.			100	100	100	11	0	0
M. V. O. - Membrane				100	100	11	0	0
DIVISION TOTAL	42	88	100	93	96	50	2	3
<u>PLASTICS BUSINESS DIVISION</u>								
Sheet Products Section	100	100	100	100	100	11	0	0
Lexan Products Section				100	100	11	0	0
Noryl Products Section				100	100	11	0	0
Valox Products Section				91	91	10	1	0
Genal Products Section				100	80	4	1	6
DIVISION TOTAL	100	100	100	98	96	47	2	6
GROUP TOTAL	64	88	95	98	97	275	8	36
COMPANY TOTAL (DOMESTIC)	71	93	96	98	97	1062	38	220

1976

SPECIAL SYSTEMS AND PRODUCTS GROUP

ENVIRONMENTAL PROTECTION - PRODUCT

ANNUAL REPORT SUMMARY

	<u>% I, by Years</u>					<u>1976 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
<u>COMMUNICATION SYSTEMS BUS. DIV.</u>								
Data Communication Prods. Dept.					100	6	0	5
Mobile Radio Prods. Dept.	60	85	100	100	100	10	0	1
DIVISION TOTAL	60	85	100	100	100	16	0	6
<u>CONSTRUCTION MAT'LS. DIV.</u>								
Ballast Business Dept.	55	82	73	100	100	11	0	0
Food Service Equip. Bus. Dept.	89	89	75	88	100	8	0	3
Industrial Heating Bus. Dept.	25	77	86	100	100	8	0	3
Specialty Transformer Bus. Dept.	50	50	100	100	100	9	0	2
DIVISION TOTAL	72	79	83	97	100	36	0	8
<u>TRANSPORTATION SYS. BUS. DIV.</u>								
Locomotive Production Dept.	100	100	100	100	100	11	0	0
Transit Vehicle Prods. Dept.	89	100	100	100	100	11	0	0
Transportation Equip. Prods. Dept.	18	100	91	100	100	11	0	0
DIVISION TOTAL	68	97	97	100	100	33	0	0
GROUP TOTAL	68	87	92	99	100	85	0	14
COMPANY TOTAL (DOMESTIC)	71	93	96	98	97	1062	38	220

NEL 000513

1976

CONSUMER PRODUCTS GROUP

ENVIRONMENTAL PROTECTION - PRODUCTS

ANNUAL REPORT SUMMARY

	<u>% I. by Years</u>					<u>1975 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
<u>TELEVISION BUSINESS DEPT.</u>								
Television Bus. Dept. (Receiver Ops.)	91	100	100	100	100	11	0	0
Television Components Prods. Section	91	91	100	100	100	11	0	0
DIVISION TOTAL	91	97	100	100	100	22	0	0
<u>HOUSEWARES & AUDIO BUS. DIV.</u>	100	70	100	100	100	9	0	2
<u>LAMP BUSINESS DIVISION</u>								
Miniature Lamp Prods. Dept.	100	100	100	100	100	11	0	0
Photo Lamp Dept.	90	91	90	90	90	9	1	1
Incandescent Lamp Dept.	90	82	91	100	100	10	0	1
Fluorescent Lamp Dept.				100	100	10	0	1
High Inten. Disch. & Quartz Lamp Dept.	100	100	100	100	100	10	0	1
Lamp Marketing Dept.	67	75	100	100	100	4	0	7
Refractory Metals Prods. Dept.	100	100	100	100	100	9	0	2
Lamp & Electronic Parts Prods. Dpt.	100	100	100	100	100	8	0	3
Lamp Glass Prods. Dept.	100	100	100	100	100	4	0	7
Quartz & Chemical Prods. Section				90	90	9	1	1
Overseas Lamp Dept.	89	100	100	100	100	8	0	3
DIVISION TOTAL	94	94	98	98	98	92	2	27
GROUP TOTAL	95	93	98	99	98	123	2	29
COMPANY TOTAL (DOMESTIC)	71	93	96	98	97	1062	38	220

NEEL 000514

1976

INDUSTRIAL AND POWER DELIVERY GROUP
ENVIRONMENTAL PROTECTION - PRODUCTS

ANNUAL REPORT SUMMARY

	<u>% I, by Years</u>					<u>1976 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
<u>CONTRACTOR EQUIP. BUS. DIV.</u>								
Circuit Prot. Dev. Dept.	90	95	97	95	95	19	1	2
Distributor Assemblies Prod. Dept.	100	100	100	100	100	20	0	35
General Purpose Control Prod. Dpt.	100	100	100	100	100	7	0	4
Ind'l Control Prods. Dept.	25	100	100	100	100	32	0	12
Lighting Syst. Bus. Dept.	33	90	100	100	53	10	9	3
Wiring Devices Prods. Dept.	36	100	100	100	100	7	0	4
DIVISION TOTAL	73	98	99	99	90	95	10	60
<u>MOTORS & DRIVES BUS. DIV.</u>								
DCM&G Dept.	90	100	100	100	100	8	0	3
LM&G Dept.	100	100	100	100	100	8	0	3
Drive Systems Dept.	25	100	100	100	50	11	11	0
Meter & Instr. Bus. Dept.								
Meters	82	100	100	100	100	9	0	2
Instrument Prod. Oper.	60	100	100	100	100	9	0	2
SAC M&G Dept.	100	100	100	100	100	8	0	3
Wire & Cable Bus. Dept.	100	100	100	100	100	17	0	5
DIVISION TOTAL	80	100	100	100	86	70	11	18
<u>LARGE TRANSFORMER BUS. DIV.</u>								
Power Transformer Dept.	60	60	70	100	100	9	0	2
Med. Transf. Dept.	70	89	100	100	100	9	0	2
DIVISION TOTAL *	65	75	85	100	100	18	0	4

* Recast to present organization

NEL 000515

1976

INDUSTRIAL AND POWER DELIVERY GROUP
ENVIRONMENTAL PROTECTION - PRODUCTS

ANNUAL REPORT SUMMARY (Continued)

	<u>% I, by Years</u>					<u>1976 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
<u>SWITCHGEAR & DISTRIB.</u> <u>TRANSFORMER DIV. *</u>								
Switchgear Business Dept.	65	95	95	95	100	11	0	0
Distrib. Xformer Bus. Dept.	82	100	100	100	100	10	0	1
DIVISION TOTAL	74	98	98	98	100	21	0	1
GROUP TOTAL	71	95	94	99	91	204	21	83
COMPANY TOTAL (DOMESTIC)	71	93	96	98	97	1062	38	220

* Recast to present organization

1976

POWER GENERATION BUSINESS GROUP
ENVIRONMENTAL PROTECTION - PRODUCTS
ANNUAL REPORT SUMMARY

	<u>% I. by Years</u>					<u>1976 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
<u>TURBINE OPERATIONS</u>								
LSTG Turbine Operations	91	90	100	100	100	8	0	3
LSTG Generator Operations	60	100	100	100	100	10	0	1
Heat Transfer Prods. Oper.	100	67	100	100	100	2	0	9
Engineered Cast Products Dept.	Not Applicable					0	0	11
Mech. Drive Turbine Dept.	9	90	100	100	100	10	0	1
Medium Steam Turbine Dept. & Marine, Navy, & Gear Oper.	55	100	100	100	100	9	0	2
TOTAL	54	94	100	100	100	39	0	27
<u>GAS TURBINE DIVISION</u>								
	91	100	100	91	100	11	0	0
<u>NUCLEAR ENERGY DIVISIONS *</u>								
BWR Projects Dept.	100	100	100	100	100	11	0	0
BWR Systems Dept.								
Nuclear Energy Control & Instru'n. Dept.								
Fuel Recovery & Irradiation Prods. Dept.				100	100	11	0	0
Nuclear Fuel Department	55	82	100	100	100	11	0	0
International Operations	30	100	100	100	100	10	0	1
DIVISIONS TOTAL	77	97	100	100	100	43	0	1
<u>ENERGY SYSTEMS & TECHNOLOGY DIV.</u>								
Fast Breeder Reactor Dept.				100	100	9	0	2
Neutron Devices Dept.	100	100	100	100	100	9	0	2
DIVISION TOTAL				100	100	18	0	4

(Continued)

NEL 000517

1976

POWER GENERATION BUSINESS GROUP

ENVIRONMENTAL PROTECTION - PRODUCTS

ANNUAL REPORT SUMMARY (Continued)

	<u>% I, by Years</u>					<u>1976 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
INSTALLATION & SERVICE ENGR. BUSINESS DIV. (Proj. Eng. Oper.)					44	4	5	2
GROUP TOTAL	69	96	100	99	96	115	5	34
COMPANY TOTAL (DOMESTIC)	71	93	96	98	97	1062	38	220

* Combined tabulation for the Nuclear Energy Programs Division, the Nuclear Energy Systems Division, and the predecessor, Nuclear Energy Products Division in 1975.

1976

INTERNATIONAL AND CANADIAN GROUP
ENVIRONMENTAL PROTECTION - PRODUCTS

ANNUAL REPORT SUMMARY

	<u>% I, in Years</u>					<u>1976 Items</u>		
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>#I</u>	<u>#P</u>	<u>#N</u>
<u>EUROPE BUSINESS DIVISION</u>								
Compagnia Generale di Elettricita	0	100	100	100	100	33	0	0
GE Espanola	50	50	100	100	100	55	0	0
GE Portuguesa (Service Shop)	NA	NA	NA	100	100	8	0	3
DIVISION TOTAL	4	97	100	100	100	96	0	3
<u>FAR EAST BUS. DIVISION</u>								
Australian GE (Appliances)	100	100	100	100	100	9	0	2
GE-Kirby (Appliances & Electronics)	18	100	100	100	100	18	0	4
GE-Rickard Svc. Shop	-	-	-	NA	NA	1	0	10
Elpro Int'l (India)	100	100	100	100	100	6	0	5
GE Philippines	-	-	-	100	100	21	0	12
So. African G. E. Co.	-	100	100	100	100	8	0	3
DIVISION TOTAL	48	100	100	100	100	63	0	36
<u>LATIN AMERICA BUS. DIVISION</u>								
G. E. Argentina	59	100	100	100	100	32	0	12
GE do Brazil	55	100	100	100	100	77	0	0
GE do Mexico	0	100	100	100	100	39	0	5
GE de Colombia	9	100	100	100	100	10	0	1
GE S.A. (Uruguay)	-	100	100	100	100	7	0	4
GE de Venezuela	-	83	100	100	100	10	0	1
DIVISION TOTAL	41	99	100	100	100	175	0	23
<u>INTERNATIONAL BUS. SUPPORT DIV.</u>								
International Projects Dept.	20	80	80	80	80	8	2	1
GROUP TOTAL *	29	98	99	99	99	342	2	63
COMPANY TOTAL	68	94	97	98	97	1062	38	220

* Excluding Canadian Components.

NEL 000519

cc: J.F. McAllister

SUBJ: Ballast Business Department
Appropriation Request: . .
Mexican Affiliate

June 14, 1976

Mr. J.F. Young
E2E

Ballast Business Department proposes to establish a new corporation in Mexico to operate a 100%-owned manufacturing plant to provide components for U.S. - assembled ballasts. Policy 20.6, Investments in Facilities, and Policy 4.8, Authority for Acquisition or Disposition of Investments, are both applicable. This letter responds to your request for joint study of the proposal by Messrs. Nelson and Kruesi.

Of the observations that follow, those pertaining to interaction with the environment were supplied by Mr. Nelson and those pertaining to other aspects of the plan by Mr. Kruesi, with each endorsing the findings of the other in the interest of arriving at a joint appraisal from the viewpoint of Technical Resources.

Two points of interaction with environmental trends are perceived: the effect of abandonment of polychlorinated biphenyl as a capacitor impregnant and the supply situation with regard to petroleum fuels. As to the first, it is conceivable that PCB-substitutes in ballast capacitors will cause sufficient concern about increased risk of fire originating in or fed by ballast assemblies to hasten the adoption of substitute ballast technology that will not employ liquid-filled capacitors. One such substitute is the proposed solid-state electronic ballast. It is noted (p. 20) that a jointly-funded technical program with the Fluorescent Lamp Department and Corporate Research and Development Center was initiated in December 1975, for the development of a solid-state ballast. Ballast Business Department estimates (pp. 5, 20) that their solid-state ballast will not be commercialized before the early nineteen-eighties. Such a date would not have to be advanced very much to meet the 1980 termination of the 3.3 year payback period estimated for the requested appropriation. In appraising the possible effect of this development upon the soundness of the plan, it is reasonable to consider that competitors are also working on electronic ballasts (Sylvania has patents). Either concern over fire risk, or pressure induced by a GE proprietary solution to the fire question, or other competitive advantage achieved by GE in conventional ballasts, could cause more resources to be applied to solid-state electronic ballast development. If, for any of these reasons, solid-state should become competitively advantageous earlier than anticipated in the plan, the tendency

NEL 000520

June 14, 1976

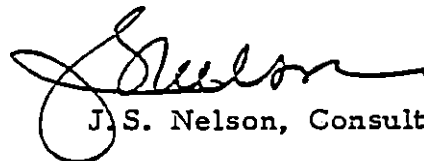
would be to shorten the period available for recovering investment in that portion of the facility dedicated to the production of components for conventional ballasts. However, as noted on page 71 of the plan, the affiliate to be established is considered suitable potentially for the manufacture of labor-intensive electronic products. This feature of inherent adaptability appears, in our view, to safeguard the proposed investment against the contingency of early obsolescence.

An important parameter in the evaluation of alternative locations for foreign sourcing was transportation costs. The Mexican border-zone location was selected, in part, because of favorable transportation costs, based on trucking raw materials from present department locations to Juarez and returning fabricated coils in the same trucks. Transportation costs are analyzed in tables on page 26 and page 52 of the plan booklet. While it is not evident that the analysis provides for any contingent jump in transportation costs that might be occasioned by petroleum shortages or OPEC manipulations, it is clear from the figures presented that the success of the proposed plan is not unduly sensitive to this factor. For example, a doubling of trucking cost would reduce the savings on a 40-watt rapid start ballast coil from 10.6¢/unit to 9.2¢/unit, a reduction in savings of 13%.

Moisture absorption by the insulation during the time between coil winding in Mexico and coil impregnation after assembly in the present plants is a concern recognized by the Ballast Department and mentioned in the proposal. We concur in their belief that the existing vacuum bake should assure product integrity, and are assured this will be carefully watched.

The proposal is justified economically by the savings accruing to the technically lowest-risk alternative. This involves not attempting to make the connections to the coil in Mexico. Many of the coils are of aluminum wire. The Technical Resources Staff has held four conferences on connections to aluminum conductors to promote understanding of the difficulties. Thus we applaud their decision to retain the connection operations in the present plants, pending additional understanding of the technology expected from a study in which the Corporate Research and Development Center is assisting.

In summary, from a careful reading of the appropriation request, we perceive no reason, from a Technical Resources standpoint, not to recommend approval.



J. S. Nelson, Consultant - Product Environmental
Compatibility



W. R. Kruesi, Consultant - National and Inter-
national Standards

JSN/WRK:cas

8*229-2287

R. C. Osthoff

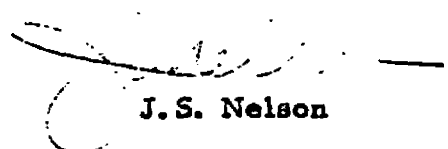
**RETROFIT OF TRANSFORMERS
TO BE AVOIDED**

June 15, 1976

W. C. Hart
W. R. Kruesi
J. F. McAllister
E. L. Simons

As states consider legislation to ban the "use" of PCBs, the question keeps arising as to whether existing PCB transformers can be drained and refilled with a substitute fluid, such as dimethyl silicone. Bob Osthoff tells me that Bruce Roberts will shortly be communicating an official position on this question. In brief, the answer is to be "no," for the following reasons:

1. The environmental risk associated with the draining and refilling of thousands of transformers, on a national scale, is considerable.
2. Silicones are virtually insoluble in PCBs and the reverse is true. Attempts to drain and refill lead to a two-phase dielectric system. Electrical stresses, dividing in inverse ratio to the dielectric constants, can cause localized high stress areas within an imperfectly flushed transformer, leading to breakdown.
3. The cost of draining and flushing repeatedly to rid the transformer of all traces of PCBs would be prohibitive. It would be cheaper to buy a new transformer.


J. S. Nelson

JSN:cas

NEL 000522

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8*229-2287

**ILLINOIS PCB
LEGISLATION**

W.C. Hart, Fairfield
T.L. Mayes, Rome
J.F. McAllister, Office
R.C. Osthoff, Pittsfield
J.F. Repko, Syracuse

June 24, 1976

Mr. C.A. Willsey, Manager-
Illinois Public Affairs, General Electric Company
I.N.B. Center, Suite 504
1 North Old State Capitol Plaza
Springfield, Illinois 62701

Dear Chuck:

It is understood from our telephone conversation this morning that the appropriate strategy for Illinois PCB legislation appears to be to induce the passage of a bill that we can live with rather than to run the risk of a "vindictive" bill being introduced next January. In this connection, you may wish to review the enclosed Connecticut law, recently enacted. While we do not believe the Connecticut bill was needed, in view of voluntary industry initiatives and the strong federal presence, it does have the virtue of complete exemption of transformers and capacitors from restrictions as to manufacture and use and also exempts these products from annual permits for continued use.

You inquired specifically about the Company posture with respect to retrofitting PCB transformers with alternative dielectric/coolant fluids. The enclosed letter addresses this problem (JSN to WC Hart, et al, 6-15-76). Since your call, I have talked with TL Mayes to make sure that Rome is in accord with the position enunciated by Pittsfield. Tom agrees with the points mentioned by Bob Osthoff, and adds the following considerations:

If you drain and refill a transformer, it is doubtful that you could get rid of PCB completely enough so that hypothetical future leaks or eventual disposal could be handled as for a non-PCB transformer. Also, the characteristics of the alternative fluid may affect the electrical and thermal characteristics to the extent that the transformer should be returned to the manufacturer for testing and re-rating. The coils themselves might require modification. If, as seems likely, the substitute fluid recommended is to be dimethyl silicone, more air

NEI 000523

Mr. C.A. Willsey

- 2 -

June 24, 1976

space for thermal expansion is required than for the PCB blend now used. In summary, for a combination of ecological and transformer technical considerations, neither of the General Electric divisions that manufactures PCB transformers considers retrofitting of PCB transformers with a substitute fluid to be feasible or recommendable.

Regardless of the final outcome of national deliberations on the continued use of PCBs in new apparatus, the PCB transformers and capacitors now in service should be allowed to remain in use throughout their natural product life, without any annual permits, exemptions, or similar paper work. Upon eventual disposal, ANSI guidelines should be followed. Following such practice will introduce less risk of environmental contamination than any massive replacement program. Laws similar to the Connecticut law will serve to prevent the open application or heedless disposal of PCBs in ways that may readily reach the environment, while at the same time not interfering with the fire resistance afforded by the use of PCBs in transformers and capacitors.

Very truly yours,

James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas
Enclosure

NEL 000524

SYNOPSIS OF MEETING #2

ENVIRONMENTAL QUALITY PROJECT:
ACTION TEAM ON PROPOSED PCB RULE MAKING
CRD, SCHENECTADY, JULY 30, 1976, 9:00 a.m.

Present:	J. F. Young, CES, Chairman	W. C. Hart, CAS
	R. E. Brooks, CR&D	E. Lifshin, CR&D
	J. F. Brown, CR&D	M. M. Modan, PBD
	E. N. Deck, CAS	L. S. Moody, CR&D
	E. W. Feuerstein, ASBD	J. S. Nelson, CES
	J. P. Flynn, COSLO	R. C. Osthoff, PDTRO
	L. P. Hart, CPD	E. L. Simons, EPO

Copies also to: A. M. Bueche, CR&D
J. F. Ege, CAS
S. K. Galpin, CAS
J. F. McAllister

Agenda Item No. 1. Introduction

Mr. Young reviewed the background and purpose of the meeting and advised that there had been legal acceptability of the Synopsis of Meeting #1 (previously distributed).

Agenda Item No. 2. EPA Proposed Rule Making Status

Dr. Simons discussed and distributed a document co-authored with G. J. Powell comparing the draft of the proposed toxic pollutant effluent standards for PCBs with the official document that appeared in the Federal Register for July 23, 1976. Significant changes are: the omission of the allowance of PCB content in steam condensate from jet ejector pumps; deletion of the mass limit concept; addition of a statement on economic impact; incorporation of a table displaying waste-water sources vs. technology for control; and revision of the discussion of bio-magnification. The 100-fold safety factor is no longer explicit, but there has been no change in proposed limits.

Dr. Simons and Mr. Flynn submitted a memorandum "On the Question of Possible GE Comments on Proposed Toxic Pollutant Effluent Standards for PCBs." It is noted that the proposed regulations, while ostensibly complying with Sec. 307(a), are really patterned after the consent agreement. Accordingly, the treatment afforded PCBs could be regarded as a pattern of what to expect when EPA produces standards for the other items on the list of 65 subject to the consent agreement.

NEEL 000525

Discussion produced the consensus that comments on the record (e. g., on measurability) would not be harmful and might be of aid in NPDES negotiations.

Mr. Flynn commented that the date for proposing pretreatment standards cannot be pinned down any more narrowly than the period between the end of this year and 1980.

No new test data are yet available for further illumination of PCDF impurity considerations.

It has been learned from customers that Westinghouse has announced it will take no orders for Askarel transformers to be delivered after January 1, 1977.

Agenda Item No. 3, EPA Water Quality Criterion

Dr. Brown produced a memorandum dated July 26, on the proposed EPA Water Quality Criteria for PCBs, which summarizes his presentation at Meeting No. 1. (It should be noted that this was prepared from the draft document, before elimination of the explicit 100-fold safety factor.)

The Brown memo calls attention to undue reliance upon the position of the Massachusetts Audubon Society, the use of extremes of the Gaussian curves on toxic phenomena, lack of homolog differentiation, disregard of background PCB burdens, and excessive safety factors. The criterion appears to be arbitrary in light of its scientific incompetence.

Agenda Item No. 4, EPA Proposed Discharge Limits - 40 CFR Part 129

With the aid of viewgraphs (copies of which were distributed to those present), Dr. Eric Lifshin critiqued analytical considerations in the measurement of PCBs in water at the one part per billion level.

After discussion, it was concluded that the Company would not challenge the 1 ppb standard on the basis of available measurement technology, but would point out that tolerance limits should be included in the description of the prescribed analytical method, and that the tolerance limits should be based on good data, including as a consideration the degree of reproducibility between qualified laboratories. NBS may be proposed as the agency to develop the analytical measurement technology.

Neither transformer nor capacitor representatives see any particular problem with taking this stance. Mr. Luke Hart pointed out that NPDES permits must be modified for the new dielectric fluids. Mr. Ed Feuerstein sees no conflict with the policy on selective repair. The Service Shops will plan to cease repair of PCB transformers in three or four years. At present, only two

NEL 000526

locations scheduled for such repair work require NPDES permits, but similar provisions will probably get into the language of pretreatment standards. New language is being worked out with counsel to cover agreements with disposal companies, including title transfer and liability considerations pertaining to transportation accidents.

Agenda Item No. 5. Employee Health

Capacitor Department has brought its exposures into compliance with OSHA interpretations and see no need to challenge formally the basis for their citation. OSHA officials have indicated acceptance of administrative controls coupled with improvements in ventilation. Neither Transformer nor Service Shops foresees difficulty in compliance with present OSHA regulations. Proposed rule making does not seem to affect present OSHA regulations.

Agenda Item No. 6. Company Response

Trade association response was reported by Messrs. Osthoff and Flynn. NEMA is unsure of its possible action. Mr. Flynn will attend a proposed NEMA meeting on this subject, if it is held.

With the exception of GE, Sangamo, and McGraw, most capacitor manufacturers are contributing to an EIA Section 307(a) Defense Fund, and the Washington law firm of Covington & Burley has been engaged. Serving on the EIA defense committee are Roger Wills (Westinghouse), Dave Woods (Monsanto), Bill Carrier (Mallory) and Richard Rollins (Jard). It would appear that a goal is to achieve modification of the effective date of the proposed regulations, some six months or a year after the probable effective date in the absence of objection. The issues to be addressed are virtually the same as those being considered for comments by GE, and the suggestion was made that those CR&D tracts that are in the public record be supplied to EIA with permission to abstract the arguments and incorporate them in their own documents.

After discussion, it was concluded that GE should file comments but not participate in the hearings as an objector. Supporting reasons include general ability to meet 1 ppb discharge, inapplicability of the standards to manufacturers no longer using PCBs (which will be our status at the estimated effective date), and the deleterious effect on the corporate image of the press notices we would receive if we defended further use of PCBs.

Agenda Item 7. Preparations

The following notes outline the proposed GE letter of comment.

1. Introduction. No participation in hearings. Not seeking "party" status. Would like to raise points necessary to clarify application of proposed rule and which will be useful in future rule making.

NEL 000527

2. 1 ppb Rule

- (a) Analytical measurements: Revise criterion procedure. EPA methodology to include tolerances for repeatability and separate measurements needed to assure compliance.
- (b) Source discrimination. Inappropriateness of discriminating between process sources as to which will be allowed some effluent. Difficulty in old plants of identifying sources.
- (c) BAT vs BPCTCA. Meaning not clear. (Is the intent to anticipate deadlines mandated by the Act?)
- (d) Regulations concerning contaminated input water. Regulations allow input contamination to be subtracted only in cases where the plant draws from and discharges to the same body of water.

3. Ambient Water Criterion

- (a) Differentiation (homologs)
- (b) Background burden
- (c) Toxicity determination
- (d) Safety factors: bioaccumulation & biomagnification.

Recommend employment of the National Bureau of Standards in arriving at a scientifically justifiable criterion. Express the hope that these comments will receive recognition before EPA publishes 1 ppt as a criterion and as a matter of diligence in setting toxicity criteria.

4. Conclusion

Consider the appropriateness of including, perhaps in a cover letter, a statement of willingness to discuss these comments for clarification with EPA staff. Conformity to exparte rules will be checked in developing the Conclusion.

Agenda Item 8, Action Items and Assignments

Flynn: Overall guidance of letter of comment. Legal implications.

Simons: Draft "rule" portion of letter with assistance of Eric Lifshin.

Brown: Letter paragraphs 3a, 3b, 3c, 3d.

Flynn: Letter paragraphs 3e and 4.

All: Contribute any comments to Flynn/Simons.

NEL 000528

Letter signature: To be determined. Probably RECO or JFY.

Young: Explain rationale and status to the Environmental Quality Project Review Board.

All: Refer any press inquiries relative to GE's stance on the proposed regulations to Mr. Young as the agreed-upon spokesman.

Schedule:

- Letter draft to Action Team members by August 9.
- Comments, by phone or letter, to Messrs. Flynn, Simons, Brown, Galpin and Young by August 13.
- Consolidation by phone by Young by August 16.
- Environmental Quality Project Review Board approval by August 17.
- Filing with EPA before August 20. 1976

Synopsis prepared by:

James S. Nelson, Consultant-Product
Environmental Compatibility
August 2, 1976

/rss

NEL 000529

8*229-2287

W.D. Bellamy, CR&D
J.F. McAllister

Dr. J.F. Brown, Jr.
CR&D
Schenectady, NY 12345

Dear John:

Thank you for sending me Dex Bellamy's PCB bibliography. I'm sure the classification scheme he employed adds greatly to the usefulness. Enclosed are copies of two papers by George Harvey that escaped Dex's net because of their date and the fact that they were not yet published in January of 1976 (when received here).

Best regards,

James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

Enclosures: Distribution of DDT and PCB Compounds in Atlantic Ocean Water

George R. Harvey and William G. Steinhauer
Woods Hole Oceanographic Institution manuscript,
January 1976

Distribution of PCB and DDT Compounds in Atlantic Ocean Sediments

George R. Harvey and William G. Steinhauer
Woods Hole Oceanographic Institution manuscript,
January 1976.

NEL 000530

1977 Electrical/Electronics Insulation Conference

Tentative Outline of Topics to be Discussed
by Panel on
Environmental Issues, Capacitor and Transformer Fluids

1. Description of a complete program for assessment of environmental compatibility.
 - 1.1 Literature search
 - 1.2 Movement and fate
 - 1.3 Acute toxicity
 - 1.4 Bioaccumulation
 - 1.5 Modes of degradation; degradation products
 - 1.6 Chronic toxicity, carcinogenicity, etc.
2. How to determine appropriate scope of environmental assessment in a particular case.
 - 2.1 Routes to the environment from capacitor and transformer manufacture, use, and disposal; amounts anticipated.
 - 2.2 History of prior use of same or related fluid
 - Toxicity and epidemiology
 - Existing environmental burden vs. increments expected
 - 2.3 Sequential decision points and triggers for further investigation
 - 2.4 Legal and regulatory framework
3. Industrial practices for the minimization of environmental impact.
 - 3.1 Role of voluntary standards and trade associations
4. On-going evaluation of the efficacy of environmental assessment and industrial precautions.

J. S. Nelson 9-30-76

8*229-2287

J.F. McAllister
R. C. Osthoff

PCB ALTERNATIVES

September 29, 1976

Mr. L. P. Hart, Jr.
General Manager-Capacitor Products Dept.
John Street
Hudson Falls, N. Y. 12839

Dear Luke:

We feel that an early meeting of the Environmental Impact Review Board which you chair would be appropriate to review progress and developments since last spring. Offered for your consideration are the following agenda items. The list is not intended to be exhaustive, but is indicative of the need we perceive to get the group together again.

<u>Topic for Discussion</u>	<u>Knowledgeable Individual</u>
1. Status of EPA Hearings & Deliberations on Toxic Pollutant Discharge Limits for PCBs	Simons
2. Implications of the New York State Settlement	Hart
3. Environmental Assessment Program for Capacitor Fluids	Stenger
4. Environmental Assessment Program for Transformer Fluids	Osthoff
5. Flammability Assessment: Capacitors	Price
6. Flammability Assessment: Transformers	Osthoff
7. Human Carcinogenicity Evaluation, Aroclor 1254	Brown
8. Tests for PCDF in Aged Transformer	Brown
9. Status of Federal Legislation	Nelson

NEL 000532

Mr. L.P. Hart, Jr.

- 2 -

September 29, 1976

<u>Topic for Discussion</u>	<u>Knowledgeable Individual</u>
10. Policy on Retrofit of Transformers (a) Silicones (b) Oil	Osthoff
11. Policy on Repair of PCB Transformers, with special reference to railroad applications	Feuerstein
12. Status of Outside Evaluation Programs: (a) NEMA Transformer/PCB Task Force (b) EIA Ad Hoc Committee on PCBs (The Super Six) (c) UL/Ballast Manufacturers/Capacitor Manufacturers Task Group on Evaluation of Non-PCB Substitutes (d) UL Tests	Osthoff Hart Price Price, Osthoff
13. Electrical/Electronics Insulation Conference, plans for a Panel on the Replacement of Askarels	Nelson
14. Update on Japanese Practices/Experience	Morgan, Osthoff

Very truly yours,

James S. Nelson, Consultant-
Product Environmental Compatibility

JSN:cas

NEL 000533

782381

8*229-2287

J. F. Brown
L. P. Hart
J. F. McAllister
R. C. Osthoff
E. L. Simons

October 26, 1976

Mr. J. F. Young
Vice President and Staff Executive-
Technical Resources
Fairfield E2E

Dear Jim:

Accompanying this note is a copy of the PCB article in Sunday's New York Times. It seems to me that there are two major defects in Hellman's article:

1. Failure to Tell the Aroclor 1016 Story.

In August, 1971, Monsanto announced the commercial availability of Aroclor 1016, a new PCB formulation to meet the requirements of the capacitor industry. This new material was substantially free of the higher-chlorinated homologs and was developed specifically in answer to the ecological concern then arising. There is much evidence of higher rates of degradation, lower chronic toxicity, and freedom from toxic contaminants. The entire capacitor industry switched promptly to the new material. The industry, by this unilateral action (i. e., unforced by government), may substantially have reduced the threat of ecological damage from capacitor production and use. Why is there no mention of this outstanding effort by private industry to recognize and correct an environmental hazard? Even if one disputes the efficacy of the measure, as some do, honest reporting requires recognition of the effort.

2. Prejudicially Selective Reporting of the Yusho Findings.

In reporting the Yusho incident, Hellman writes (2nd column, p. 4 of the photocopy): "Even today, almost nine years after eating tiny quantities of PCB's--and long after all traces have passed from their

October 26, 1976

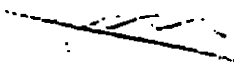
bodies--the symptoms of many Yusho victims persist." The passage quoted implies at least some familiarity with the report delivered by Kuratsune at Chicago last November. If that is the case, the author must also have learned of Kuratsune's finding that explains what, in the near-absence of PCBs in the body, can be causing symptoms to persist: namely, the continued presence in tissue of polychlorinated dibenzofurans (PCDF's). Hellman failed to mention this. Furthermore, he failed to point out, what he could have learned had he checked his story with unbiased experts, that Aroclor 1016 is significantly different from the Japanese fluid, and does not contain significant amounts of the higher chlorinated fractions which can be related to the penta-and hexachlorodibenzofurans found in the Yusho patients. Additionally, Hellman shows his bias (or, charitably, that of his mentors) in characterizing the massive ingestion by the Yusho group as "eating tiny amounts." The rice oil was contaminated with 2000 to 3000 ppm of the Kanechlor 400 heat exchanger fluid and was used daily in the preparation of food in the homes affected.

There are other matters that would require attention in any line-by-line analysis, e. g., the quotation attributed to Mr. Jones, the deliberately ambiguous statement from Selikoff, the reference to James Allen's monkey research without attention to its internal inconsistency, the reference to "lifetime limits" set by FDA (there are none, to my knowledge, except as may be inferred illegitimately from the limits on specific foods). In addition, there are some statements that appear doubtful, but that I don't have the knowledge to refute, such as "10,000 pounds of PCBs may pass over the Troy dam" during high flow, and a number of more-or-less trivial inaccuracies ("capacitors are used in everything from toasters to huge generators") and question-begging epithets ("the stuff that still reside(s) menacingly on the river bottom").

Additionally, any attempt at full and unbiased coverage would have reflected the voluntary development of an ANSI standard for the control of PCBs and the widespread warnings and advices to customers to exercise care in disposal.

To his credit, the author recognizes that GE operated under the terms of its permits; but the overall effect is to minimize the degree of GE and industry concern and voluntary initiatives throughout the history he is recounting, and to exaggerate the public peril.

Very truly yours,


J. S. Nelson

JSN:cas

Enclosure

782383

NEL 000535

8*229-2287

November 10, 1976

Mr. J. F. McAllister
--Office--

Dear Jack:

Mr. Young has asked me to check out Mr. Slater's November 3 proposal for the briefing book and to let me have his recommendations. In my opinion, the proposed questions can be dealt with more clearly if they are broken into their elements. Accordingly, I have separated the first question into three parts, and my proposed language is attached.

With regard to the original second question, Dr. Simons informs me that the proposed answer is incorrect, in that leaching has not been the only path for PCBs to reach the Coosa. Furthermore, "highly disciplined factory procedures" are powerless to affect residual discharge from former manufacturing and disposal practices. A suggested revision is attached.

In the reply to the question on PCB substitutes, "paid" should be changed to "committed." The money paid to New York in cash will be used for research and clean-up (if indicated) of the Hudson River and any moneys left over, for general environmental research. Assessment of the environmental compatibility of substitute capacitor fluids will come primarily from the money GE is committed to spend for its own research.

Very truly yours,

J. S. Nelson

JSN:cas
Enclosure

NEL 000536

WHAT WAS AT ISSUE IN THE N. Y. STATE/PCB DISCHARGE SUIT?

The point at issue was not the amount of GE's discharge, which was within permitted limits, but the possible effect of that discharge. In the words of the Hearing Officer, Professor Abraham Sofaer of the Columbia University School of Law,

(quote), When GE began using PCBs, the chemical dangers were unknown. PCBs were valued, in fact, for their high resistance to fire, which made them safe for use as a dielectric. GE requested and obtained a permit from the federal and state governments to discharge up to 30 pounds per day of PCBs into the Hudson River. The permit also contained the statement that no discharge would be allowed that violated the water quality standards of New York State. But until just before this proceeding was commenced, no one had ever claimed that GE's PCB discharges violated state water quality standards. (close quotes.)

SINCE GE'S DISCHARGE WAS WITHIN PERMITTED LIMITS, WHY DID GE AGREE TO A SETTLEMENT, INCLUDING CASH PAYMENTS?

The Hearing Officer determined that GE's actions did not represent "any willful disregard for rules," yet he did find that the Company's past discharges, even though within the limits specified in state and federal licenses, had violated the state water quality standards. The alternative

NEL 000537

to accepting an out-of-court settlement was to test this finding in a court of law. The state's water quality standards, dating back to 1949, are difficult to interpret, and complex questions of law and technology would be involved. We could foresee a long drawn-out trial, with an inescapable accompaniment of adverse publicity, whether or not we prevailed on the merits of the case. Thus, for our own reasons, we agreed with the Hearing Officer's recommendation that the proposed agreement be accepted. In his recommendation, Professor Sofaer said that acceptance would substitute tangible advantages for legal uncertainty and delay.

Governor Carey of New York characterized our agreement on PCBs as "an excellent example of ways that industry and the state can work together to solve complex and difficult social and environmental problems."

ISN'T GE SETTING A BAD PRECEDENT BY AGREEING TO PAY MONEY FOR THE CONSEQUENCES OF PAST ACTIONS THAT WERE CONSIDERED ACCEPTABLE AT THE TIME?

In his memorandum recommending that the agreement be adopted, Professor Sofaer voiced the opinion that "clauses such as the water-quality provision in GE's permits should be construed as they were intended: to alert the permittee of the possibility that activities thought by everyone to be harmless at one point in time may later be proven destructive and remediable."

NEL 000538

As Sofaer acknowledged, the correctness of his judgment in this regard would not be finally resolved if a settlement was made out of court. Thus, in a legal sense, no precedent has been set.

Professor Sofaer did use the term, precedent, in characterizing the agreement. He pointed out that our legal system lacks devices for requiring agencies to participate in rectifying their own failures. The notion of shared responsibility between the regulator and the regulatee which formed a basis for the agreement makes the agreement, in his words, "an attractive precedent for dealing with situations of joint culpability."

The agreement itself begins with language that should resolve our concern about establishing an unwonted precedent: (quote) This agreement is based upon the mutual conviction that it is in the public interest to terminate this proceeding and voluntarily undertake forthwith the cooperative programs provided for in this agreement without further delay. (close quotes.)

WHAT IS THE STATUS OF THE COOSA RIVER CLASS ACTION SUITS?

General Electric intends to defend vigorously the lawsuits regarding alleged pollution of the Coosa and associated watercourses. Our Georgia plant is operating in strict compliance with EPA requirements. Highly disciplined factory procedures serve to control any material losses from on-going factory operations. In addition, test borings are utilized to

NEL 000539

locate the migration path of any contaminated underground water; trenching is used to intercept underground water flows. Paving and catch basins control surface runoff. Surface and subsurface waters are processed through oil and water separators, and incineration and other approved disposal techniques are employed.

WHAT PROGRESS HAS BEEN MADE TOWARD FINDING PCB SUBSTITUTES?

Part of the money GE committed in the New York agreement is for the purpose of confirming the environmental compatibility of a proprietary PCB substitute which the Company plans to use in its capacitors when we cease using PCBs in 1977.

Regarding transformers, we have elected to manufacture and are now accepting orders for silicone-oil filled units for shipment during 1977.

NEEL 000540

8*229-2287

J. F. McAllister

November 5, 1976

Mr. J. F. Young
Fairfield E2E

The accompanying memorandum confirms our telephone conversation and further characterizes polybrominated biphenyls (PBBs).

J. S. Nelson

JSN:cas
Enclosure

NEL 000541

782389

Memorandum -- PBBs

Polybrominated biphenyls (PBBs) are (or have been) used as fire retardants. They are structurally similar to PCBs, with bromine substitutions instead of chlorine atoms on the biphenyl structure. Some homologs are persistent and tend to concentrate in the environment. They have never been widely used, and widespread environmental contamination has not occurred, but an episode of animal feed contamination caused death and illness among dairy cattle in Minnesota and Wisconsin. Domestic production of PBBs was terminated in 1974.* Dow Chemical was once a producer, and Michigan Chemical Company formerly offered a PBB compound (hexabromobiphenyl).

A quick check with the major plastics producers and users around the Company has disclosed no present or former use of PBBs. Several years ago, the use of PBB was briefly considered by Laminated and Insulating Materials Department, but was rejected on the grounds of similarity in structure (and thus, predictably, in environmental persistency) with the higher-chlorinated PCBs, which, at that time, were being eliminated from L&IM products.

J. S. Nelson
11-5-76

* Effects of Chronic Exposure to Low-Level Pollutants in the Environment, Congressional Research Service, Library of Congress, November 1975 (known as "The Blodgett Report")

NEL 000542

8*229-2287

J. F. McAllister

November 10, 1976

Mr. J. F. Young
Fairfield EZE

Dear Jim:

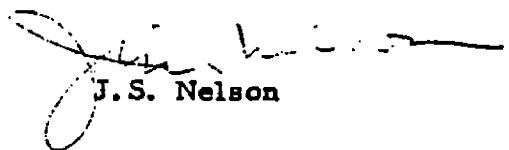
This is in response to your request to check out Mr. Slater's November 3 proposal for the briefing book and to let you have our recommendations. In my opinion, the proposed questions can be dealt with more clearly if they are broken into their elements. Accordingly, I have separated the first question into three parts, and my proposed language is attached. The proposed revisions have been discussed with Jack McAllister and contain some material that he proposes.

With regard to the original second question, Dr. Simons informs me that the proposed answer is incorrect, in that leaching has not been the only path for PCBs to reach the Coosa. Furthermore, "highly disciplined factory procedures" are powerless to affect residual discharge from former manufacturing and disposal practices. A suggested revision is attached.

In the reply to the question on PCB substitutes, "paid" should be changed to "committed." The money paid to New York in cash will be used for research and clean-up (if indicated) of the Hudson River and any moneys left over, for general environmental research. Assessment of the environmental compatibility of substitute capacitor fluids will come primarily from the money GE is committed to spend for its own research.

Mr. Slater's original letter to you is attached.

Very truly yours,


J. S. Nelson

JSN:cas
Enclosures

NEEL 000543

782391

WHAT WAS AT ISSUE IN THE N. Y. STATE/PCB DISCHARGE SUIT?

The point at issue was not the amount of GE's discharge, which was within permitted limits, but the possible effect of that discharge. In the words of the Hearing Officer, Professor Abraham Sofaer of the Columbia University School of Law,

(quote), When GE began using PCBs, the chemical dangers were unknown. PCBs were valued, in fact, for their high resistance to fire, which made them safe for use as a dielectric. GE requested and obtained a permit from the federal and state governments to discharge up to 30 pounds per day of PCBs into the Hudson River. The permit also contained the statement that no discharge would be allowed that violated the water quality standards of New York State. But until just before this proceeding was commenced, no one had ever claimed that GE's PCB discharges violated state water quality standards. (close quotes.)

SINCE GE'S DISCHARGE WAS WITHIN PERMITTED LIMITS, WHY DID GE AGREE TO A SETTLEMENT, INCLUDING CASH PAYMENTS?

The Hearing Officer determined that GE's actions did not represent "any willful disregard for rules," yet he did find that the Company's past discharges, even though within the limits specified in state and federal licenses, had violated the state water quality standards. The alternative

NEEL 000544

to accepting an out-of-court settlement was to test this finding in a court of law. The state's water quality standards, dating back to 1949, are difficult to interpret, and complex questions of law and technology would be involved. We could foresee a long drawn-out trial, with an inescapable accompaniment of adverse publicity, whether or not we prevailed on the merits of the case. Thus, for our own reasons, we agreed with the Hearing Officer's recommendation that the proposed agreement be accepted. In his recommendation, Professor Sofaer said that acceptance would substitute tangible advantages for legal uncertainty and delay.

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ISN'T GE SETTING A BAD PRECEDENT BY AGREEING TO PAY MONEY FOR THE CONSEQUENCES OF PAST ACTIONS THAT WERE CONSIDERED ACCEPTABLE AT THE TIME?

Many environmental activists have claimed that the settlement constitutes an important precedent, and that assertion too has been emphasized in coverage of their opinions by the media. First of all, it does not constitute a legal precedent, because the matter was not resolved by legal determination. But if the precedent they are talking about is the notion that responsibility can be imposed today for discharges that were legal in the past, we believe

NEEL 000545

that even in this sense the settlement is in no way precedental. The entire basis for the Hearing Officer's assertion of GE responsibility was his finding of violation of existing State Law, and there is nothing precedental in the notion of enforcing existing law.

WHAT IS THE STATUS OF THE COOSA RIVER CLASS ACTION SUITS?

General Electric intends to defend vigorously the lawsuits regarding alleged pollution of the Coosa and associated watercourses. Our Georgia plant is operating in strict compliance with EPA requirements. Highly disciplined factory procedures serve to control any material losses from on-going factory operations. In addition, test borings are utilized to locate the migration path of any contaminated underground water; trenching is used to intercept underground water flows. Paving and catch basins control surface runoff. Surface and subsurface waters are processed through oil and water separators, and incineration and other approved disposal techniques are employed.

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Part of the money GE committed in the New York agreement is for the purpose of confirming the environmental compatibility of a proprietary PCB substitute which the Company plans to use in its capacitors when we cease using PCBs in 1977.

Regarding transformers, we have elected to manufacture and are now accepting orders for silicone-oil filled units for shipment during 1977.

NEL 000547

8*229-2287

RETROFILLING PYRANOL
TRANSFORMERS

111
M-1.3
E. W. Feuerstein - Schdy.
R. W. Frahm - Rome
W. R. Kruesi - Ffld.
J. F. McAllister "
T. L. Mayes - Rome
R. C. Osthoff - Pfld.

November 17, 1976

Mr. D. M. Hoselton, Manager-
Industrial and Contractor Sales & Sales Service
Medium Transformer Department
Rome, Georgia

Dear Don:

Thank you for including me in the distribution of your draft marketing information letter on retrofilling of transformers. In general, I think it strikes just the right tone in explaining to customers why retrofilling is not a good undertaking.

I understand from discussions with technical people in Rome and Pittsfield that there is an additional difficulty with the silicone retrofit, and you may wish to consider working it into your letter:

Silicones are virtually insoluble in PCBs and the reverse is true. Attempts to drain and refill will thus lead to a two-phase dielectric system. Electrical stresses, dividing in inverse ratio to the dielectric constants, can cause localized high stress areas within an imperfectly flushed transformer, leading to breakdown.

With respect to the discussion beginning at the top of page 4 of your draft, I would prefer to see you substitute concern for entanglement with spill regulations, rather than to emphasize the effect on the environment. I think it is unlikely that the retrofit activities of an individual customer, even supposing a spill takes place, will cause demonstrable ecological damage. The real threat to his business is that he'll run afoul of the law and have to clean up the mess and pay a fine. I've enclosed a markup of your draft with suggested rewording at this point, together with some other, less important, editorial suggestions.

NEEL 000548

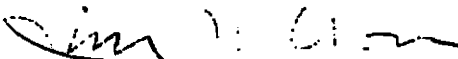
Mr. D.M. Hoselton

- 2 -

November 17, 1976

We assume that you will be reviewing your final draft with appropriate people in Pittsfield and in the Apparatus Service Business to assure that everyone is on the same wavelength in this important matter. Luke Hart probably would appreciate a courtesy copy, although capacitors are not directly affected.

Very truly yours,



James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas
Enclosure

NEL 000549

782397

8*229-2287

NOVEMBER ACTIVITIES REPORT
James S. Nelson

December 2, 1976

Mr. J. F. McAllister
--Office--

REDACTED

2. PCBs

Comments were provided on a set of PCB questions and answers for the briefing book being prepared for the shareowners' meeting, and also on a draft Rome marketing letter concerning customer requests for retrofilling of PCB transformers. A meeting of the steering committee for the panel on askarel substitutes, 1977 Electrical/Electronics Insulation Conference, was held in Fairfield.

REDACTED

NEL 000550

Mr. J. F. McAllister

- 2 -

December 2, 1976

energy mandates, natural gas curtailment, and PCB-containing component elimination. In a separate action, the attention of MAL has been called to the opportunity to feed information into the newly-formed EPA Chlorofluorocarbon Working Group.

REDACTED

J. S. Nelson

JSN:cas

Handwritten:
Nelson
Rec'd
1-4-77

NEL 000551

LETTERBOOK

J. S. Nelson

1977

NEL 000552

782400

8*229-2287

DECEMBER ACTIVITIES REPORT
James S. Nelson

January 4, 1977

Mr. J. F. McAllister
--Office--

REDACTED

5. Toxic Substances Law

A seminar on Toxic Substances Law and Regulations, sponsored by Government Institutes, Inc., was attended in Washington on December 9 and 10. A report covering the highlights of each presentation has been sent to the components most interested.

NEL 000553

8*229-2287

J. F. McAllister, Office
L. S. Moody, CR&D
E. L. Simons, EPO

**FORMATION OF EPA WORKING GROUPS
ON TOXIC SUBSTANCES**

January 5, 1977

Messrs. Orville E. Enders, Aerospace
Ralph W. Stroy, AEG
Donald W. Mohrman, Appliance Components
Michael Modan, Plastics
Alfred R. Gilbert, CR&D
William C. Broeffle, Consumer Products
William M. Nave, CEED and M&DBD ✓
Richard L. Reinhart, LTBD and S&DTD
Harry A. Downs, ASBD
Edward W. Connors, Major Appliance
Harold B. Gordon, Special Systems & Products
Daniel F. Huebner, Power Generation
Alfred M. Hurley, Candian GE

Gentlemen:

In a recent public meeting, Dr. Glenn Schweitzer, Director of EPA's Office of Toxic Substances, announced plans for the formation of five working groups within EPA to address the implementation of the Toxic Substances Control Act:

- (1) Polychlorinated biphenyls
- (2) Chlorofluorocarbons
- (3) Initial inventory of commercial chemicals and premarket notification
- (4) Testing policies, procedures, and requirements
- (5) Health & safety study requirements and record keeping.

These working groups, as formed, are holding meetings and soliciting comment relative to their particular interests. Notices pertaining to the

NEL 000555

January 5, 1977

first three of these working groups have already appeared in the Federal Register and copies are appended to this letter for your information, along with a short summary of the Act.

Very truly yours, _____

James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas
Enclosures

NEL 000556

8*229-2287

PROPOSED LETTER TO EPA
ON PCB DISPOSAL & LABELING

January 14, 1977

Mr. J. F. McAllister
--Office--

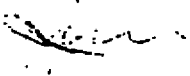
Dear Jack:

While you were away, EPA rescheduled the hearing on PCB labeling and disposal regulations to January 24. I drafted a letter and circulated it to our ad hoc group (Feuerstein, Flynn, Gooley, McKenzie, Osthoff, and Simons). This has already gone through one iteration, Ed Simons and Jim Flynn having responded with "Draft #2," a copy of which is attached. The second draft accomplished some simplification and sharpened the argument for providing repair service after the deadline for manufacture.

Jim Flynn is in the process of polling those marked for copies as to their agreement with the content of the letter and the proposed signature. Assuming they raise no problems, I believe this is now ready to show to Jim Young.

I am holding open the date of January 24 to attend the EPA hearing unless you or Jim wish to attend.

Very truly yours,


J. S. Nelson

JSN:cas
Enclosure

NEL 000557

782405

PCB CHRONOLOGY UPDATE

November 19-21, 1975

National Conference

A National Conference on PCBs, sponsored by EPA, was held in Chicago. The "Yusho" poisonings were shown to be PCDF related. Many questions were left on the table, e. g., what is the role/effect of PCDF as impurities and/or metabolites? What are the parameters of trophic levels? Relative toxicity as a function of chlorination? Is PCB carcinogenic? Do PCBs change in use? How "closed" are "closed systems?" Why is 1 ppt reasonable as a water quality guideline; or, if not, what is? Is a ban necessary? In the summation, Dr. Carpenter (NRC) recommended experimental work that includes careful replication of tests, and the performance of laboratory work involving levels typical of those found in the environment, as contrasted to high dose levels (among other matters).

(Note: None of this appeared to have any effect on ensuing legislative and regulatory actions, as judged more than a year later. JSN 1-25-77.)

1975-1976

State Legislation

A number of states (notably Indiana, Michigan, Wisconsin, Connecticut) passed prohibitions against PCB, but with exceptions for use in closed systems such as capacitors and transformers. Burdensome reporting requirements were included in some of these laws.

April 1976

Alternatives to PCBs

An Environmental Impact Review Board, with Lucas Hart as Chairman, was formed to evaluate and stimulate activities directed toward documenting the environmental and product safety acceptability of proposed PCB alternatives.

July 23, 1976

New Effluent Proposal

Renewing an effort abandoned in May 1974, EPA again proposed toxic pollutant standards for PCBs. Hearings began with a conference on August 20. Under the proposal, capacitor manufacturers with existing plants were to be allowed to discharge an average of 1 microgram per liter, or 1 ppb. Industry opposition centered in the PCB Ad Hoc Committee of The Electronic Industries Association. An Environmental Quality Project Action Team, chaired by J.F. Young, led GE response which resulted in filing a letter of comment with EPA and providing technical support to the EIA PCB Ad Hoc Committee that represented the industry at the hearings.

NEL 000558

September 8, 1976

New York Suit Settled

The New York State Department of Environmental Conservation brought suit against GE in October of 1975. The point at issue was not the amount of GE's discharge, which was agreed to be within permitted limits, but the possible effect of that discharge and its relationship to state water quality standards. An out-of-court settlement was reached on September 8, 1976, with both GE and the DEC contributing to a fund for research and cleanup of the Hudson.

September 1976

Rome, Georgia Suits

In September 1976, the first of four class-action suits was brought against GE at Rome, Georgia concerning PCB pollution of the Coosa River. The suits (three in Georgia and one in Alabama) ask for damages totaling \$1.5 billion. King and Spaulding (Attorney General Bell's former firm) is representing GE in these suits and also in a complaint brought by the city of Rome alleging contamination of two digesters in the municipal sewerage treatment plant. The architect-engineering firm of Lockwood Greene has been selected to make a study and recommendation concerning the control of both types of problem. Research programs at CR&D on cleanup of Hudson River sediment may possibly be pertinent to the digester sludge problem. It is reported that CR&D has found a strain of bacteria that can live and reproduce in a culture containing PCBs as the sole nutrient.

October 11, 1976

TOSCA Bans PCBs

Public Law 94-469, the Toxic Substances Control Act, was signed into law, providing for the pretesting and control or prohibition of toxic chemical substances. Section 6(e) phases out the use of PCBs by June 1, 1979.

October 1976

Monsanto to End PCB
Production

Monsanto announced that it will complete distribution of all inventories and withdraw completely from the PCB market no later than October 31, 1977.

October 1976

Sangamo Suit Dismissed

A class action suit for \$1 billion brought against Sangamo in September 1976, was dismissed "without prejudice" on grounds of insufficient evidence.

NEL 000559

November 1976

ANSI Standard Revision

ANSI Standard C 107.1 (1974) was the subject of a revision effort aimed at tightening disposal provisions. The committee draft, issued in November 1976, failed to achieve acceptance.

January 19, 1977

EPA Bans PCB Discharge

At the conclusion of the Toxic Pollutant Effluent Discharge Hearings, EPA issued a total ban on PCB discharges from plants manufacturing capacitors and transformers. The decision is being appealed, for separate reasons, by the Environmental Defense Fund and the EIA Ad Hoc Committee.

Although the ban (under § 307 of the Water Quality Act) is not effective until January 19, 1978, it is feared that it may influence interim negotiations for N.P.D.E.S. permits for discharges (under § 402).

January 24, 1977

EPA Hearing on Labeling
& Disposal

EPA held a public participation meeting on January 24, 1977 for the purpose of obtaining additional information on the development of regulations for the marking and disposal of PCBs and PCB products. Mr. Young submitted a letter of comment in behalf of the Company. There were indications at the hearing of EPA concern over the adequacy of controlled landfill disposition of contaminated solids and the acceptability of making no specific regulations concerning small industrial capacitors dispersed in end products such as ballasts and air conditioners.

Attached is a copy of Mr. Young's letter and the agenda list of topics for discussion at the meeting.

J.S. Nelson
1-26-77

JSN:cas
Attachments

NEL 000560

**TOPICS OF INTEREST FROM EPA AGENDA FOR
JANUARY 24, 1977**

1. Which chemical compounds should be regulated as PCBs?
2. What is the definition of PCBs for marking, disposal and manufacturing for regulations?
3. How should PCB items be classified for specific regulatory provisions under the disposal and marking regulations.
4. What implementation schedule should the marking regulations require?
5. What method(s) of disposal should be required for each class of PCB items?
6. What procedures should be followed to achieve satisfactory decontamination of PCB containers and casings?
7. What will be the economic impact of the marking and disposal regulations?

NEL 000561

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



COPIES: J.F. McAllister

SUBJECT

Products Containing PCB

March 17, 1977

Mr. Eugene Welsh
Industrial Sales Division
1015 Locust Street
St. Louis, Missouri 63101

Dear Mr. Welsh:

It is understood that your customer (Monsanto) desires guidelines to help him identify equipment purchased from GE that may be filled with polychlorinated biphenyl formulations or contain components so made. We cannot give a complete list, as we have no information as to Monsanto's purchases from GE over the years, but we can give some application notes and examples.

I. Transformers

PCB ("Pyranol") transformers have been used wherever mineral-oil transformers might constitute a fire hazard, especially indoors, underground and near buildings.

A. Distribution Transformers

1. Network, up to 2500 KVA
2. Single-phase and three-phase, up to 2500 KVA
3. Pole-mounted and station, up to 500 KVA
4. Precipitation transformers, as part of the high-voltage DC power supply for electrostatic precipitators used in reducing air pollution by particulates.

B. Power Transformers

1. Secondary Substation: load center units, secondary substation units, switchboard units, integral transformers and motor control transformers. Secondary substation transformers comprise the largest group of askarel (PCB) insulated transformers, and are used in the chemical industry as well as in textiles, steel, paper, cement, etc.
2. Industrial Furnace Transformers: used for high current, low voltage supply to induction furnaces, glass-melting furnaces, etc.

NEL 000562

3. Rectifier Transformers: used for large rolling mills and other -- direct current industrial power supply applications. Generally more than 2500 KVA and not more than 13.8 KV -- similar to furnace transformers.
4. Electric Utility Substations: master units, primary units, and limited ampere substations.
5. Transportation Equipment: Locomotives, multiple-unit cars, etc.

II. Capacitors

For several decades, 95% or more of all liquid-impregnated, alternating-current capacitors, regardless of make, have contained PCB (for which the GE trade name is Pyranol). PCB capacitors are generally metal-encased, rectangular, oval, or circular in cross section, painted or aluminum finish, with terminals on the top. Any metal-cased capacitor is likely to contain PCB, with the exception of low-voltage electrolytic capacitors for DC application, which may be distinguished by polarity markings on the terminals (among other differences).

A. High Voltage Power Capacitors

Used principally by electric utilities for power-factor improvement and the improvement of voltage regulation in distribution circuits.

B. Low Voltage Power Capacitors

Capacitors installed in industrial plants at the demand site (typically large motors and welders) are designed for 230- to 575-volt service. Also applied in induction-heating applications, typically at frequencies of 960 or 9600 Hz.

C. Lighting

Used as part of the ballast circuitry for fluorescent lights and high-intensity discharge lamps for area or street lighting systems. The capacitor may be inside a metal case containing other components of the ballast.

D. Air Conditioning

Almost all air conditioner pump motors are of the split-winding type on which the capacitor provides phase differential for starting torque. Capacitors are also used for power-factor correction while the motors are running.

NEEL 000563

GENERAL ELECTRIC

Mr. Eugene Welsh

- 3 -

March 17, 1977

E. Motor-start and Power Factor Improvement

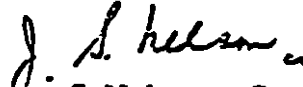
Capacitors are mounted on or near many AC motors. See note above on air conditioning. Look for them on pumps, fans, drive equipment, etc.

F. Industrial Electronics

In addition to the motor-run applications, electronic power supplies are primary users of AC capacitors. They are used for wave-shaping, filtering, power-factor correction, and are found in both AC and DC (inverter) electronic power supplies.

We understand that service and replacement information is available through normal channels for all of the above classes of apparatus.

Very truly yours,



James S. Nelson, Consultant-
Product Environmental Compatibility

JSN:cas

NEEL 000564

8*229-2287

MARCH ACTIVITIES REPORT
James S. Nelson

April 5, 1977

Mr. J. F. McAllister
--Office--

REDACTED

NEL 000565

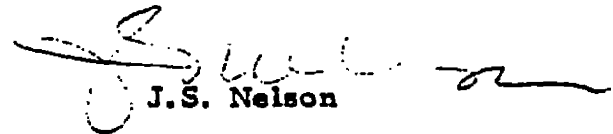
Mr. J.F. McAllister

- 2 -

April 5, 1977

3. PCB Applications

Assistance was given to ISD in identifying GE-furnished customer equipment that contains PCBs. In a separate action, a proposed position on inventory maintenance and repair of PCB-containing equipment was prepared for discussion.


J.S. Nelson

JSN:cas

NEL 000566

782414

8*229-2287

E. L. Dobbins
J. P. Flynn
W. R. Kruesi
J. F. McAllister
R. C. Osthoff
E. L. Simons

April 26, 1977

Mr. D.M. Hoselton, Manager
Industrial & Contractor Sales & Sales Service
Medium Transformer Department
Redmond Circle
Rome, Georgia 30161

Dear Don:

Thank you for sending me the Crouse-Kinney paper on Silicone Transformers. This is an interesting paper and should answer many of the questions that may be in the minds of the readers of Industrial Power Systems.

You have requested my review with respect to environmental references in the article. My criticism concerns the characterization of the situation with regard to askarels, on the first page, and the basis for claiming environmental acceptability for silicones, on page four.

It may be argued that we are beating a dead horse in insisting on careful wording with respect to PCBs. Nevertheless, there remain good reasons for being consistent with the many representations that we have made to EPA in the past that different grades of PCBs should not be lumped together in the discussion of toxic or environmental effects. As you know, CR&D has identified in the literature substantial evidence for large differences in toxicity, bioaccumulation, and environmental persistence among different commercial grades of PCBs and among different test species. In addition, some of the effects blamed on PCBs are more likely the consequence of PCDFs present as contaminants or possibly derived from the PCBs. The authors presumably do not wish to re-fight this battle in this particular forum, and would prefer to get on with the task of describing silicone fluids. One way to do this might be the following:

NEEL 000567

Mr. D.M. Hoselton

- 2 -

April 26, 1977

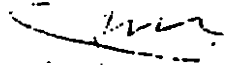
Askarel, which has been used by transformer manufacturers under several brand names, consists, to a large degree, of polychlorinated biphenyls, further application of which has been the subject of specific prohibitions in the Toxic Substances Control Act, enacted October 11, 1976. In anticipation of such a result, manufacturers have intensified their search...

Another approach, perhaps closer to the authors' original intent, is the following:

Askarel, which has been used by transformer manufacturers under several brand names, consists, in part, of the higher homologs of polychlorinated biphenyl. It has been found that, if allowed into the environment, these substances will persist for a long period of time and may give rise to adverse effects on the environment. As a result, manufacturers have intensified their search...

On page four, the only evidence cited by the authors for the environmental compatibility of silicone fluids is their long time use without known adverse effect. The same thing could have been said of PCBs. What is needed here is reference to tests made under controlled conditions to verify acceptable levels of chronic toxicity, bioaccumulation, etc., etc.

Very truly yours,


James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

NEL 000568

*Copies: Susan R. Hart Jr., Boston Feb 1, 1977. m-1.16 ←
Robert E. Hartley, Pitts. Mass.
William T. Morris, Rome, Ga*

GENERAL ELECTRIC
GENERAL ELECTRIC COMPANY
FAIRFIELD, CONNECTICUT 06431

Sent 5/3/77
J. S. NELSON

MAY 31 1977

JAMES F. YOUNG
VICE PRESIDENT-TECHNICAL RESOURCES

May 25, 1977

*Discussed
that involved in
letter book*

Dr. Glenn Schweitzer
Director, Office of Toxic Substances
U. S. Environmental Protection Agency
401 M Street, S. W.
Washington, D. C.

Dear Dr. Schweitzer:

The General Electric Company was represented at the Manufacturing Chemists Association conference on EPA and OSHA compliance held on May 5, 1977. We found your remarks on TOSCA to be especially interesting. Continued exchanges of information and viewpoints between EPA officials and representatives of industries affected by TOSCA will be necessary if the Act is to be implemented in a reasonable and effective manner.

We were particularly interested in your responses to questions from the floor regarding the status of equipment containing PCBs or component parts that contain PCBs, after the TOSCA Section 6(e)(3)(A)(ii) deadline of July 1, 1979. As we understand it, you indicated that it was EPA's intention not to hasten the phaseout of such equipment prior to the end of its normal service life and that the Agency's goal is to assure that proper procedures are followed during storage, repair and disposal of such equipment.

This approach is consistent with the intent of Congress in enacting Section 6(e) and it will facilitate an equitable and orderly phaseout of PCBs.

Accordingly, General Electric Company urges EPA to adopt this approach when it promulgates rules to govern the phaseout.

The relevant provisions of TOSCA (which was enacted on October 11, 1976, and became effective on January 1, 1977) indicate:

- § 6(e)(3)(A)(i) - no person may manufacture any polychlorinated biphenyl after two years after the effective date of the Act (i. e., after January 1, 1979).

NEL 000569

May 25, 1977

this ban. Similarly, any PCB substance in existence would also be exempted from the ban on processing and distributing in commerce if sold or used to maintain existing equipment or transported for purposes of disposal." (H. 11344; underlining added.)

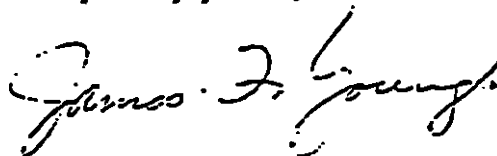
Finally, the text of the Joint Explanatory Statement of the Conference Committee (H. R. Rep. No. 94-1679, at p. 77) indicates:

So that existing PCBs may be reused rather than disposed of,
the prohibitions do not apply to distribution in commerce of
PCBs sold for purposes other than resale before the effective
date of the prohibition on distribution of PCBs. (Underlining
added.)

In view of the foregoing, the Agency should assure that the regulations implementing the phaseout clearly indicate that PCBs and component parts containing PCBs purchased prior to April 11, 1979 may be sold or used to maintain or repair equipment after July 1, 1979. In this way existing PCB equipment could be efficiently utilized until the end of its normal service life.

We appreciate your having discussed EPA's position on the above subject at the conference, and take this opportunity to express our endorsement thereof.

Very truly yours,



James F. Young:rss

BCC: Hershner Cross
H.A. Downs
E.W. Feuerstein
J.P. Flynn
L.C. Maier
J.F. McAllister
D.W. Mohrman
J.S. Nelson ←
C.E. Reed
R.L. Reinhart
E.L. Simons

NEL 000570

26-63

8*229-2287

J. F. Young
J. F. McAllister

M-1.16

PCB Regulations
under TOSCA

July 1, 1977

Messrs. E. L. Dobbins
E. W. Feuerstein
J. P. Flynn
A. B. Gough
L. P. Hart
L. L. MacMonagle
W. R. McKenzie

G. R. Menkart
R. T. Morris
R. C. Osthoff
J. F. Repko
E. L. Simons
R. A. Stenger

Gentlemen:

Enclosed is a copy of the Manufacturing Chemists Association letter of comment to EPA on labeling and disposition of PCBs. We participated in the writing of this letter and believe you will find it supportive of the position taken by Mr. Young in his letter on the same subject which we distributed on the 21st.

Meanwhile, EPA is proceeding to consider another aspect of PCB regulation, namely, rules for the phased bans on PCBs. In the Federal Register for June 27 (copy enclosed), EPA lists what they consider to be the general issues, solicits information, and advertises public meetings. We propose to recommend that the Company supply arguments similar to those in Mr. Young's two previous letters, favoring provisions to facilitate the servicing of existing PCB equipment (transformers), and otherwise permit continued use of existing equipment for its normal service life. We will appreciate hearing from anyone who has additional topics to recommend for incorporation in such a letter. The discussion of general principles seems appropriate at this stage. More specific comments will have to await EPA's action in issuing proposed rules.

Very truly yours,

James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

Enclosure

782419

NEL 000571

LETTERBOOK

J.S. Nelson

1978

NEL 000572

782420

8*229-2287

20-12
J.F. McAllister
J.P. Flynn

NEW PCB RULES

March 1, 1978

Dr. E. L. Simons
EPO
36 - 120
Schenectady, NY 12345

Dear Ed:

Attached, as agreed in our recent conversation, is a draft of a letter proposed to be sent to a number of components interested in the product impact of the new EPA rules for disposal and marking of PCBs. I will appreciate suggestions from you or your staff concerning this draft and its proposed distribution.

By copy, I'm asking Jack McAllister and Jim Flynn for their suggestions also. Let me hear by "return mail" if feasible, so we can get this out in a timely fashion. Thank you.

Very truly yours,

James S. Nelson

JSN:cas

Attachment

NEL 000573

8*229-2287

FEBRUARY ACTIVITIES REPORT
James S. Nelson

March 2, 1978

Mr. J. F. McAllister
--Office--

REDACTED

2. EPA Rules for PCB Marking and Disposal

Final PCB rules for labeling and disposal have issued, and are somewhat liberalized along lines suggested in Mr. Young's comments on the proposed rules. Messrs. Simons and Nelson have exchanged drafts of information letters to be sent to their respective constituencies.

REDACTED

4. EPA Strategy Document: TOSCA Administration

Mr. Nelson has agreed to develop for MCA a critique of the concept of "unreasonable risk" as related to a draft document of EPA strategy for administering the Toxic Substances Control Act.

JSN:cas

J. S. Nelson

NEL 000574

8*229-2287

**PRODUCT IMPLICATIONS OF NEW PCB
RULES FOR DISPOSAL AND MARKING**

M- 1.66
20-15
E. L. Dobbins
J. P. Flynn
W. S. Gray
J. F. McAllister
J. P. Repko
E. L. Simons
J. F. Young
W. R. Kruesi 3-10-78

March 7, 1978

TO: DISTRIBUTION

Gentlemen:

The EPA has issued final rules, 40CFR761, entitled "Polychlorinated Biphenyls (PCBs) - Disposal and Marking," published in the Federal Register for February 17, 1978 (43FR7150ff). This letter is addressed to the principal Company components that market, or have recently marketed, products containing PCBs, products incorporating PCB-containing components, or services related to such products, to call attention to the highlights of the product-related impact of these rules. Copies of the pages cited herein are attached. A full reprint may be obtained by calling EPA's Industry Assistance Office, 800-424-9065.

Additional implications for waste disposal involving PCBs or PCB-contaminated waste and other matters relating to continued plant use of PCB equipment are being addressed in a separate letter from the Environmental Protection Operation (RECO) to those responsible for environmental control of facilities/activities.

1.0 Product Labeling

1.1 Transformers and Large Capacitors

Even though GE is no longer manufacturing PCB transformers or capacitors, the labeling provisions have effect on some Company operations. For example, as of July 1, 1978, when a transformer or a large capacitor is removed from service, it must receive an EPA-designed label if it doesn't already have one. The same applies to equipment containing transformers or large high voltage capacitors. Presumably, many users will look to the supplier/manufacturer as a source of such labels. There are provisions regarding the labeling of storage areas and trucks or freight cars that will presumably apply to Service Shops repairing and handling PCB transformers. Again, all GE components, as users of PCB transformers and large high-voltage capacitors (if any), will have to label them before disposal.

NEEL 000575

March 7, 1978

As of January 1, 1979, all PCB transformers and large high voltage capacitors--including such articles that are in use or storage anywhere in the U.S.--will have to meet labeling requirements.

1.2 Small Capacitors and Equipment Containing Them

As of January 1, 1979, all equipment containing a small PCB capacitor at the time of manufacture shall be marked with the statement "This equipment contains PCB capacitor(s)" in a label of designated size and durability.

1.3 Non-PCB Capacitors and Fluorescent Ballasts Containing Them

Each large low voltage capacitor, each small capacitor normally used in alternating current circuits, and each fluorescent light ballast manufactured after July 1, 1978, and until July 1, 1998, that does not contain PCBs shall be marked by the manufacturer at the time of manufacture with the statement, "No PCBs." (This requirement may or may not have statutory authority, but is not likely to be challenged by industry.)

The complete rules for marking are found in Subpart C on page 7159 of the rules, and in Annex V on page 7163.

2.0 General Provisions - Overview and Assessment

The final rules are selectively responsive to GE and other industry comments and less burdensome in certain important respects than the rules previously proposed (May 24, 1977, 42FR26564).

The proposal required that, before a transformer could be disposed of in a landfill, it had to be drained and flushed until no more than two percent of the original dielectric fluid remained. This has been replaced with a requirement to drain out all free-flowing liquid, fill with solvent, and drain out after 18 hours or more, before placing the transformer in a chemical waste landfill.

Originally, only occupants of private housing units were allowed to dispose of small capacitors and equipment containing them as municipal solid waste. Now, any person may do so, except the manufacturer of the capacitor or the manufacturer of equipment using the capacitor. (However, the preamble indicates that EPA is continuing to look for a way to tighten rules on the disposal of small capacitors and equipment containing them.)

Large capacitors (and small capacitors belonging to manufacturers) may be disposed of by incineration or--until January 1, 1980--by landfilling. After that date, all must be incinerated, but they may be stored while awaiting incineration, as described in Annex III, p. 7162.

NEL 000576

March 7, 1978

The final rules are generally perceived as being more liberal in allowing landfill disposal of various wastes than the proposed rules had been, and as giving EPA regional administrators more discretion in writing permits for exceptions.

Very truly yours,

James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

Enclosures

NEL 000577

DISTRIBUTION LIST (Components with PCB Products)

Air Conditioning Business Division

James R. Britt, Louisville

Joseph A. Pietsch, Tyler

Apparatus Service Business Division

Edward W. Feuerstein, Schenectady

Appliance Components Business Division

Donald W. Mohrman, Fort Wayne

Daryl Patton, Fort Wayne

Contractor Equipment Business Division

William M. Nave, Hartford

Data Communication Products Business Department

Javier Urioste, Waynesboro

Electronic Systems Business Division

Robert O. Richards, Syracuse

Electronic Components Business Division

James F. Madole, Owensboro

Capacitor Products Department

Frank D. Price, Hudson Falls

Installation and Service Engineering Business Division

Ronald E. Brandon, Schenectady

Large Transformer Business Division

Andrew Glassanos, Pittsfield

Robert C. Osthoff, Pittsfield

William M. Rodgers, Rome

Lighting Business Group

William Barron, Group Counsel, Nela Park

Business Section
~~Ballast and Transformer Business Department~~

Alfred B. Gough, Danville, Illinois

Lighting Systems Business Department

Reuel L. Davis, Jr., Hendersonville

NEL 000578

DISTRIBUTION LIST (Continued)

Major Appliance Business Group
Edward Connors, Louisville

Range Engineering Department
Robert V. Chau, Louisville

Motors and Drives Business Division
Dale R. Cochran, Schenectady
Joseph L. Yosafat, Salem, Va.

Switchgear Business Department
Charles H. Titus, Philadelphia

Television Business Department
Alford E. Allen, Portsmouth, Va.

Transportation Systems Business Division
Lorpe L. MacMonagle, Erie
Jack C. Alton, Erie

- Medical Systems Division
Paul Lionfriddo
P.O. Box 414
Milwaukee, WI

53201 added 3/27

NEL 000579

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



8#229-2287

COPIES:

26-73

SUBJECT

MARCH MONTHLY ACTIVITIES

James S. Nelson

March 29, 1978

Mr. J. F. McAllister

--Office--

III. PRODUCT ENVIRONMENTAL COMPATIBILITY

1. PCB Rules for Disposal and Marking

The EPA has issued final rules, 40CFR761, "Polychlorinated Biphenyls (PCBs) - Disposal and Marking." Compared to the proposed rules, the final version was somewhat liberalized along lines suggested in comments by GE and other industry spokesmen. A letter of interpretation was sent to a selected list of GE businesses.

2. "Unreasonable Risk" in TOSCA

In support of a project of the Manufacturing Chemists Association to develop comments on EPA's draft strategy document for the implementation of TOSCA, a statement critiquing the concept of "unreasonable risk" as used in the strategy document has been drafted. A final version will be prepared, taking advantage of the examination of the legislative history of the phrase, as prepared at PQS' request by General Legal Operation.

3. TOSCA Inventory Warranty Statements

Improved language for GE Components to use in requesting warranty statements from vendors has been suggested to General Legal Operation.

REDACTED

NEL 000580

782428

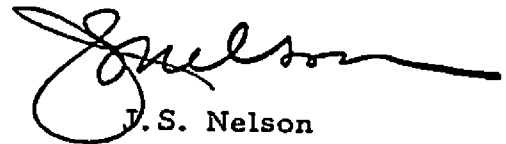
Mr. J. F. McAllister

- 2 -

March 29, 1978

REDACTED

JSN:cas


J. S. Nelson

NEL 000581

8*229-2287

APRIL MONTHLY ACTIVITIES

James S. Nelson

May 2, 1978

Mr. J.F. McAllister
--Office--

REDACTED

NEL 000582

Mr. J. F. McAllister

- 2 -

May 2, 1978

5. PCB Products

Correspondence between EPA and EIA, reflecting EPA's liberalized interpretation of PCB marking rules, has been disseminated to interested GE components.

In a separate action, a situation that has arisen concerning the impact of new Minnesota rules for continued use of PCB products was assessed.

REDACTED

J. S. Nelson

JSN:cas

NEL 000583

8*229-2287

E. L. Dobbins
W. S. Gray
J. F. McAllister
J. R. Mackenzie
J. F. Repko
E. L. Simons
W. R. Kruesi

- EPA FORMULATING NEW PCB RULES
- MINNESOTA RULES

May 2, 1978

TO: DISTRIBUTION

EPA is now planning to redefine a PCB fluid as a mixture containing 50 ppm (instead of 500 ppm). It also appears to be interpreting "totally enclosed applications"—a phrase formerly in general use as a description of capacitors and transformers, to make it appear that Congress intended something else. Also, whereas Schweitzer gave his assurance that EPA had no intention of restricting the use of existing equipment, EPA is now proposing a five-year limit on "routine servicing" of PCB transformers in general and a five-year limit on the use of PCB transformers in locomotives and transit cars.

The above and other developments are reflected in a draft rule now circulating within EPA and reported in the April 26, 1978, issue of Pesticide and Toxic Chemical News.

Recent communications from the Minnesota Pollution Control Agency indicate that a new regulation implementing that state's PCB law went into effect on November 1, 1977. This regulation "requires anyone who uses, possesses, sells, purchases, or manufactures PCB or products containing PCB to apply for a certificate of exemption." We are awaiting a copy of the regulations; meanwhile, we have learned that they do not apply to articles containing less than 1 kilogram of PCB. This would appear to exempt the great majority of small industrial capacitors and apparatus containing such, but precautions should be taken by all concerned against the application of any "left over" large capacitors, transformers, or equipment incorporating them in the state of Minnesota, without a properly processed certificate.

James S. Nelson, Consultant -
Product Environmental Compatibility

JSN:cas

Enclosures

NEL 000584

782432

26-39

8*229-2287

MAY MONTHLY ACTIVITIES
James S. Nelson

June 2, 1978

Mr. J.F. McAllister
--Office--

REDACTED

3. **PCBs**

Assistance was provided to Apparatus Service Business Division in reconciling a regulatory problem with respect to uncertificated use of PCBs in Minnesota. Other interested components were advised of provisions of the new Minnesota regulations and also warned of changes in PCB rules being considered at the Federal level that would restrict servicing of transformers and railroad equipment, among other matters.

NEL 000585

Mr. J.F. McAllister

- 2 -

June 2, 1978

REDACTED

~~J.S. Nelson~~

JSN:cas

NEL 000586

782434

26 - 11
1.10
June 23, 1978

Memorandum: Proposed Regulations to Implement the Ban on PCBs

To: J.F. McAllister

On Wednesday, June 7, EPA published in the Federal Register proposed rules applicable to 40 CFR 761, "Polychlorinated Biphenyls (PCBs)-- Manufacturing, Processing, Distribution in Commerce, and Use Bans." A copy is attached, together with an outline summary prepared by John Claussen, EPC attorney (Jim Flynn's replacement).

At my suggestion, Ed Simons convened a meeting in Schenectady yesterday for representatives of the Company components with the greatest involvement to analyze the proposed rules and determine what action should be recommended. Present were Ed Simons, Marv Phillips, Ann Toothaker and John Claussen (EPO); John Brown, CR&D; Rupert Henry, Capacitor; Ed Feuerstein and Larry Ayer, Apparatus Service Business Division; Bob Csthoff, Power and Distribution Transformers, and me.

Issues Identified

The following issues were identified as of particular interest to the Company and the assignments indicated were agreed upon.

- Changing the operation definition of PCB mixture from an entity containing 500 ppm (as in the present rules for labeling and disposal of PCBs) to an entity containing only 50 ppm. This fundamental change has subissues:
 - Ratio of increment (pounds of PCB) brought under control to existing environmental burden Nelson
 - How much of the increment (between 500 ppm and 50 ppm) would be destroyed by ordinary combustion and other existing industry disposal practices, in the absence of the proposed rules? Csthoff
- Cost to comply with proposal that all transformers (including those that are nominally oil-filled) be labeled to indicate presence or absence of PCBs Feuerstein

NEL 000587

Memorandum to: J.F. McAllister - 2 -

June 23, 1978

- o Congressional intent: in banning "PCBs" did Congress intend extending the definition to embrace items with traces of PCB? Claussen
- o Development of a GE counter proposal to permit converting a failed PCB transformer to a non-PCB transformer (using for example the new dielectric called Iralac, developed by Rhone-Poulenc on a joint venture giving GE two years exclusive license) Feuerstein
- o Impact on diecasting systems that at any time in the past used PCBs in the hydraulic systems Osthoff
- o Fire safety of Railroad equipment conversions Osthoff
- o Impact of proposed rules on ability to handle analytical samples Brown

Schedule

First input on above assignments to Simons by 7-7-78; next meeting July 26 or July 27; comments due to EPA 8-7-78; hearing, August 21, 1978.

Response Options

In the opinion of the ad hoc group, no industry association seems to be a very good prospect for presenting our interests. MCA and EIA have little interest; EEI is slow; NEMA is not meeting until July 19; furthermore, we have little confidence in the spokesman they probably would use. In view of these considerations, the sense of the meeting was that GE should develop its own letter of comment and decide prior to the deadline of July 31 whether the GE comments should be presented in person at the hearings.

J. S. Nelson

JSN:cas

Attachment

NEL 000588

8*229-2287

J. F. McAllister
Attached Distribution List

PCB MANUFACTURING AND
USE BANS: 43 FR 24807

M-1.16
67

July 21, 1978

Dr. E. L. Simons
36 - 120
Schenectady, NY 12345

Dear Ed:

I was asked to review the Corporate impact of the remarks made at the bottom of 43 FR 24807 and the top of 43 FR 24808 (reproduced herewith) relative to informing the distribution chain with regard to products containing PCB that are still entering the pipeline. A summary follows:

Central Air Conditioners:

The phasing out of PCB capacitors was completed during the last half of 1977.

Room Air Conditioners:

No PCB capacitors now used.

Major Appliances: Only product using small industrial capacitors is microwave oven. PCB capacitors no longer in use.

Data Communication Products:

There may be some PCB capacitors still going through. However, the products are serially numbered, and the PCB-containing products could be identified if necessary.

Drive Systems:

Most control equipment is marketed direct to the customer. PCB components are still being used. They are telling customers that any equipment shipped prior to January 1, 1979, should be regarded as possibly containing a PCB component. Inasmuch as equipment is not required to be labeled until January 1, 1979, Drive Systems feels that establishing an earlier date for notification would be an imposition.

NEL 000589

July 21, 1978

Ballast: Ballast delivers about 12 million ballasts per year containing capacitors. They still have in stock about 2,000 PCB capacitors that they are trying to use up. Ballasts using the new capacitors (the great majority) are marked "no PCBs" and also carry a distinctive catalog number (with a "W" at the end). They feel that this differentiation in marking should take care of the problem.

Lighting Systems: Fifty percent of the production goes through distributors. They have changed over to non-PCB capacitors, but there may be a few in transition.

Medical Systems: Only dental equipment is sold through distributors. Change notices have been written for the use of non-PCB capacitors in all M.S. products, but effectivity dates have thus far permitted using up existing stock. Olsson feels that distributor notification would not be a major undertaking.

Electronic Systems: No sales through distributors.

Ordnance Department: No PCB capacitors now in use. No sales through distributors.

Television: PCB capacitor stock practically exhausted by May, 1978; definitely so by July 1, 1978. Typical period from manufacture to sale by dealer is 3 months, but in isolated instances, a set two or three years old will be sold.

Recommendation: In general, GE is making very little use of PCB components at this point in time, and does not appear to be generating any problems for people in the distribution chain, except in a few isolated instances. Additionally, it does not appear that mandatory rules for notification, should they be promulgated, would impact seriously on the Company. Therefore, I would suggest omitting any discussion of the subject paragraphs in our testimony.

Very truly yours,

JSN:cas
Enclosure

J. S. Nelson

782438

NEL 000590

DISTRIBUTION:

L. G. Ayer	Schenectady, NY
John F. Brown, Jr.	Schenectady, NY
J. H. Claussen	Schenectady, NY
E. W. Feuerstein	Schenectady, NY
R. F. Henry	Hudson Falls, NY
W. R. Kruesi	Fairfield, CT
C. B. Lewis	Erie, PA
L. L. MacMonagle	Erie, PA
R. C. Csthoff	Pittsfield, MA
J. M. Phillips	Schenectady, NY

NEL 000591

In order to minimize any problems which wholesalers and retailers might have in complying with the ban, EPA encourages manufacturers of PCB equipment to inform all participants in the distribution in commerce chain (e.g., wholesalers, jobbers, retailers) of the identity of all PCB equipment manufactured after July 1, 1978. Participants in the distribution in commerce chain should be made aware of

the consequences of not selling this equipment by July 1, 1979, and should be able to receive help, as needed, to segregate PCB equipment from non-PCB equipment. If voluntary efforts to inform the distribution chain do not work, EPA may consider adopting regulatory requirements that manufacturers adequately inform the distribution chain. Comments are requested on the need for mandatory notification requirements, the information that should be distributed, and the costs that would be involved in such an information dispersal system.

8*229-2287

**EPA PROPOSAL TO IMPLEMENT
§6(e) OF TSCA**

41/66
71
J. H. Claussen
W. R. Kruesi
J. F. McAllister
W. F. McManus
E. L. Simons
J. F. Young

August 4, 1978

Mr. E. M. Foley
Federal Administrative Relations Operation
Washington Corporate Office
777 - 14th Street, NW
Washington, DC 20005

Dear Ted:

Pursuant to our telephone conversation, I am enclosing three copies of Mr. Young's comments to EPA on Proposed Regulations to Ban PCBs, 43 FR 24802. Bill McManus should already have received three copies mailed to him yesterday by Bill Kruesi.

It is our thought that you may be able to arrange for a copy to be placed before Congressman Jim Broyhill, R-NC, whom we quote with regard to establishing Congressional intent; and perhaps, in addition, other copies in the hands of appropriate members of the Environment Committees of both chambers.

While the immediate purpose of GE's comments is to combat "over-kill" in the regulations to ban PCBs, the testimony also serves to highlight a number of proposed regulatory abuses that should be of interest to Congressman Broyhill, members of the Environment Committees, and participants in any TSCA oversight activities. These points of general interest are indicated in the attached memorandum.

Very truly yours,

James S. Nelson, Consultant-
Product Environmental Compatibility

JSN:cas

Enclosures

NEL 000593

GENERIC ISSUES RAISED BY PROPOSED REGULATIONS

TO BAN PCBs, 43 FR 24082

(References are to page numbers in General Electric
Comments submitted by James F. Young, Vice-President,
August 1, 1978)

- o EPA, contrary to expressed Congressional intent, is proposing restrictions on the servicing of transformers that will have the effect of forcing premature retirement from use of such equipment containing the regulated chemical (pp 1-3, 11-12).
- o EPA, by including articles containing only trace amounts of the regulated chemical in their definition of "PCB articles," is broadening the scope of the regulations to reach millions of mineral oil transformers that are not demonstrably a significant part of the problem addressed by Congress in enacting §6 (e) of TSCA. (p 5)
- o EPA is proposing to regulate on the basis of administrative or regulatory feasibility, without relationship to the presence or absence of "unreasonable risk" (p 3 ff).
- o EPA, in mandating "procedures minimizing worker exposure," appears to be exercising statutory authority reserved to CSHA. (p 13)
- o EPA is acting without legislative authority in proposing that certain matters be certified to by a registered professional engineer. (p 14)

JSN 8-4-78

JSN:cas

NEEL 000594

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



COPIES

SUBJECT

JULY MONTHLY ACTIVITIES

James S. Nelson

August 7, 1978

Mr. J. F. McAllister

--Office--

III. PRODUCT ENVIRONMENTAL COMPATIBILITY

1. EPA Proposed Rules to Implement TOSCA §6 (e),
Banning PCBs

PQS participated in a task force to prepare comments on EPA's proposed rules to implement the banning of PCBs. The comments were filed by Mr. Young, August 1, 1978.

In response to a request from the staff of the Manufacturing Chemists Association, assistance was given in identifying issues raised by the EPA proposal that would be of concern to MCA's general corporate membership, including those companies with no specific interest in PCBs.

A somewhat similar letter was sent to Ted Foley, with the suggestion that the Washington Office take steps to inform appropriate members of Congress of the direction taken by EPA, running counter to Congressional intent and statutory authorities.

REDACTED

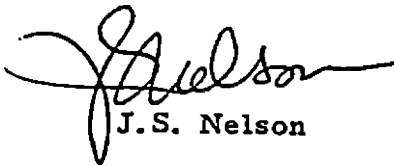
NEL 000595

Mr. J.F. McAllister

- 2 -

August 7, 1978

REDACTED


J.S. Nelson

JSN:cas

NEL 000596

782444

8*229-2287

UNION OIL COMPANY INQUIRY

R. C. Csthoff
E. L. Simons
J. F. McAllister
T. O. Rouse
C. E. Welsh

August 29, 1978

Mr. C. H. Titus, Department
Consulting Engineer
Switchgear Business Department
6901 Elmwood Avenue
Philadelphia, PA 19142

Dear Charlie:

I am forwarding for Switchgear Business Department's reply a letter received from the Marine Division of Union Oil Company of California inquiring whether "oil No. 6" used in GE circuit breakers is contaminated with PCB.

Apparently this designation covers mineral oil used in the 1940-1950 period. Dr. Rouse raises the possibility that, depending upon the place and time of circuit breaker manufacture, there could have been some cross-contamination.

Regards,

James S. Nelson
Consultant-Product
Environmental Compatibility

JSN:cas

Enclosure

NEL 000597

Union 76 Division: Eastern Region
Union Oil Company of California
Marine Division
P. O. Box 1407, Nederland, Texas 77627
Telephone (713) 722-6461



August 21, 1978

RECEIVED

AUG 28 1978

E. L. SIMONS

T. J. Kerans
Manager, Marine Operations

General Electric
1 River Road
Schenectady, New York 12345

Attention: Environmental Service Department

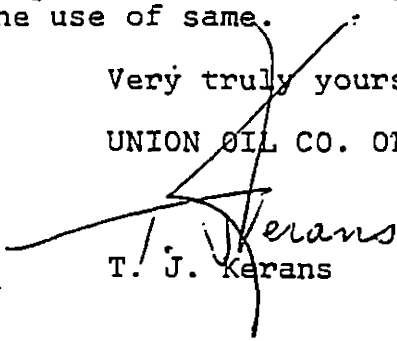
Gentlemen:

We have on board our vessel, the S/S David D. Irwin, a quantity of General Electric circuit breakers which use a G. E. insulating oil No. 6 as a dashpot ingredient on our main switchboard. Would you kindly advise this office if any of this oil is contaminated with polychlorinated biphenyls (PCBs).

This is being written in response to new U. S. government regulatory guidelines to the use of same.

Very truly yours,

UNION OIL CO. OF CALIF.


T. J. Kerans

TJK:cm

NEL 000598

782446

M-1.1

8*229-2287

Per Distribution List 85

CANADIAN RULES FOR PCBs

September 25, 1978

Mr. Lorne L. MacMonagle
Manager-Product and Systems Safety
Transportation Systems Business Division
2901 East Lake Road
Erie, PA 16531

Dear Lorne:

This note confirms our telephone conversation of today and will serve to inform others who are interested in the subject of forthcoming Canadian regulations on products containing polychlorinated biphenyls (PCB; Pyranol).

I talked with Mr. David Pasco of Environment Canada (a government agency similar to our EPA). At the present, it is legal to manufacture/import/service transformers, associated switchgear, and capacitors containing PCB (but not any other categories of products using PCB, such as, presumably, hydraulic systems or carbonless duplicating paper, etc.). However, a rule has been prepared for publication during October that will have the effect of terminating all "new uses." The rule will be printed in the Canada Gazette (a publication analogous to our Federal Register) and will become effective 60 days after publication. Thus, as of a date predicted to be approximately January 1, 1979, it will not be permitted to manufacture PCB transformers or capacitors in Canada or to import them into Canada, and after that date no "topping up" of transformers with PCB during servicing will be permitted. Canadian firms with PCB components in stock will be permitted to sell their existing stocks.

Very truly yours,

James S. Nelson, Consultant-
Product Environmental Compatibility

JSN:cas

NEL 000599

782447

GENERAL ELECTRIC

DISTRIBUTION LIST (Components with history of PCB Products)

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Appliance Components Business Division

Donald W. Mohrman, Fort Wayne

Daryl Patton "

Contractor Equipment Business Division

Raymond C. Allen, Bridgeport

William M. Nave "

Data Communication Products Business Dept.

John W. Swett, Waynesboro

Javier Urioste "

Distribution Transformer Business Dept.

Delbert L. Williamson, Hickory, NC

Electronic Systems Division

Richard C. Hatch, Syracuse

Robert O. Richards "

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James F. Madole, Owensboro

John F. Repko, Syracuse

Capacitor Products Department

Donald F. Cross, Hudson Falls

George R. Menkart "

Frank D. Price "

Installation & Service Engineering Business Division

Ronald E. Brandon, Schenectady

(Continued)

NEEL 000600

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William M. Rodgers, Rome

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Alfred B. Gough, Danville, Illinois

Lighting Systems Department

Douglas B. Abrams, Hendersonville, NC
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Edward Conners, Louisville
Philip V. Otero "

Range Engineering Department

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Mobile Radio Products Department

L. Keith Elrod, Lynchburg

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Joseph L. Yosafat, Salem, VA

Switchgear Business Department

Charles H. Titus, Philadelphia

Television Business Department

Alford E. Allen, Portsmouth, VA

Transportation Systems Business Division

Jack C. Aiton, Erie
Leonard B. Gezon "

Copies also to:

W.F. Faison	E. L. Simons
W.R. Kruesi	A.M. Toothaker
J.F. McAllister	J.F. Young
J.M. Phillips	

3*229-2287

SEPTEMBER ACTIVITIES REPORT *

James S. Nelson

September 29, 1978

Mr. J. F. McAllister
--Office--

REDACTED

2. PCB Ban Rules

As a follow-up to the public hearing on the rules for banning PCEs, a meeting was held in Schenectady of the ad hoc group. Additional information and recommendations to EPA are being processed for submission in two channels--through NEMA and directly by CE. A suggested letter for Mr. Young's consideration is being prepared for his review on Friday, October 6 (with Claussen and Simons the principal authors).

Mr. Nelson was on vacation the first half of September.

NEL 000602

September 29, 1978

REDACTED

J.S. Nelson

JSN:cas

NEL 000603

8#229-2287

J.H. Claussen

PCBs AT WATERFORD

October 23, 1978

Mr. J.F. McAllister
--Office--

Dear Jack:

You will recall that in my memorandum of June 23, I mentioned the likelihood that GE would be fined for operation of a PCB disposal facility in advance of receiving EPA approval for its use. According to the enclosed news item in Pesticide & Toxic Chemical News, October 18, 1978, this has come to pass, and GE has agreed to a civil penalty of \$25,000.

Waterford is now operating its incinerator on a permit valid for two or three years, but limited to burning PCBs generated in the plant's own waste streams. No reason for this restriction was stated nor is it apparent from the results of the test burns why it should be appropriate.

Very truly yours,

J.S. Nelson

JSN:cas

Enclosure

J.H. Claussen:

Dr. Joe Wirth, Manager-Technology Development at SPBD, has seen the Pesticide & Toxic Chemical News item, and agrees that the presentation therein is not damaging. There has been no coverage in the local general press.

Enclosed for your information is a copy of the memorandum referenced above.
JSN

782452

NEH 000604

requirements for States under cooperative enforcement agreements; State-Federal enforcement referral procedures; and other enforcement matters.

November 8, 9, the Registration and Classification Working Committee will meet and discuss: the new FIFRA amendments; development of new Section 24(c) special local need criteria; draft final Section 5(f) and (g) State experimental use permit regulations; classification; and EPA plans for conditional registration.

November 14, 15, the Certification Working Committee and the Training Working Committee will meet jointly to discuss: pesticide applicator training options; record keeping by State lead agencies for certification; recertification requirements and EPA guidance on them; EPA guidance on Federal funding of State training and certification programs; new FIFRA amendments; and other certification and training matters.

GENERAL ELECTRIC AGREES TO \$25,000 CIVIL PENALTY FOR PCB DISPOSAL

In the first civil penalty action initiated under the Toxic Substances Control Act (TSCA), General Electric Company of Watertord, New York, agreed to an Environmental Protection Agency assessment of \$25,000 (See Sept. 27, Page 2). The penalty was assessed based on the firm's violation of the regulations governing the disposal and marking of polychlorinated biphenyls (PCBs) which proscribed the disposal of PCBs as of April 18, 1978 except at disposal facilities which had been approved for this purpose by the EPA Administrator for the region in which the facility was located. The consent agreement and final order contained the following findings of fact concerning the violation:

-- Respondent maintains, at its Watertord, N.Y. facility, an incinerator which has been used since 1974 for the incineration of wastes containing mono- and dichlorobiphenyls generated at that facility as an essential part of a water pollution abatement program under the jurisdiction of New York State.

-- Respondent first informed EPA by letter dated April 10, 1978 that it was engaged in the disposal of PCB-containing wastes at the Watertord incinerator.

-- Respondent submitted an application dated April 12, 1978 requesting the approval of the EPA Region II Regional Administrator for operation of the Watertord incinerator for the disposal of PCBs.

-- On June 5, 1978 Respondent received a short-term approval from the Regional Administrator authorizing Respondent (for a 90-day period) to dispose of PCB containing wastes with an actual PCB concentration of one percent (1%) or less generated as a by-product of manufacturing processes conducted at the Watertord facility.

NEL 000605

-- On April 27, 28, 29, and 30, 1978, prior to the EPA Regional Administrator's short-term approval of the Watertord incinerator for PCB disposal, Respondent utilized that incinerator for the disposal of PCB-containing wastes.

The EPA consent agreement noted that General Electric voluntarily produced its records of the period and said that these records showed that only the more dilute of two

PCB-containing waste streams generated at the Waterford facility were disposed of on the April dates. The more concentrated PCB-containing waste stream was not incinerated but stored, the agreement said.

The agreement also stressed that EPA has no evidence to indicate that any harm to human health or the environment resulted from Respondent's incineration of PCB-containing wastes on those dates.

IMIDAN TOLERANCE FOR KIWI FRUIT ESTABLISHED

The Environmental Protection Agency Oct. 10 established a tolerance for residues of N-(mercaptomethyl)phthalimide S-(0,0-dimethyl phosphorodithioate) and its oxygen analog N-(mercaptomethyl) phthalimide S-(0,0-dimethyl phosphorothioate) of 25 p.p.m. in or on kiwi fruit.

The EPA-proposed tolerance for residues of the insecticide -- which is known as imidan -- was based on a petition submitted by Stauffer Chemical (See Aug. 23, Page 11). The Food and Drug Administration is expected to release kiwi fruit from New Zealand detained because of imidan residues now that EPA has established the tolerance.

Temporary tolerances were granted by EPA Oct. 16 to Shell Chemical for residues of cyano(3-phenoxyphenylmethyl-4-chloro- α -(1-methylethyl)benzeneacetate. The tolerances for residues of the insecticide, which is known as pydrin, are 1 p.p.m. in or on pears; and 0.02 p.p.m. in or on soybeans, peanuts, and potatoes. The temporary tolerances expire Sept. 19, 1979.

EPA on the same day granted temporary tolerances to Monsanto for residues of glyphosate of 0.2 p.p.m. in or on sugar beet roots and tops, and potatoes and 0.1 p.p.m. in liver and kidney of cattle, goats, hogs, horses, poultry, and sheep. The temporary tolerances for residues of the herbicide -- (N-phosphonomethyl)glycine and its metabolite aminomethylphosphonic acid -- expire Sept. 5, 1980.

Aldicarb Tolerance For Coffee Beans Proposed

The agency Oct. 16 proposed establishing a tolerance for residues of aldicarb of 0.1 p.p.m. in or on coffee beans. The proposal for the insecticide and nematocide -- 2-methyl-2-(methylthio)propionaldehyde O-(methylcarbamoyl)oxime and its cholinesterase-inhibiting metabolites 2-methyl-2-(methylsulfinyl)propionaldehyde O-(methylcarbamoyl)oxime and 2-methyl-2-(methylsulfonyl)propionaldehyde O-(methylcarbamoyl)oxime -- was based on a petition submitted by Union Carbide.

In making the proposal, which is open for comments and/or advisory committee requests until Nov. 15, EPA said it considered two-year rat and dog feeding studies with a no-observable effect level of 0.3 mg/kg/day and 3.3 p.p.m. respectively; an 18-month mouse feeding study with a no-observable effect level of 0.7 mg/kg; a rat teratology study which was negative at 1 mg/kg/day; hen neurotoxicity study which was negative at 4.5 mg/kg/day; and a three-generation rat reproduction study with a no-observable effect level of 0.7 mg/kg.

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



8*229-2287

SUBJECT

PCB BAN EXEMPTION

COPIES J. H. Claussen
W. F. Faison
J. F. McAllister
E. L. Simons
J. F. Young

November 7, 1978

TO: DISTRIBUTION

Rules pertaining to the banning of PCB are still in the proposal stage, and a final rule will not be promulgated until early next year, with January 1, 1979, the statutorily prescribed date as the target. Nevertheless, rules for exemption to the ban on manufacturing PCB items have been published and are now in effect. For purposes of determining whether to file a PCB exemption petition, affected parties should act on the assumption that the final regulation will be promulgated as proposed in 43 FR 24802 (June 7, 1978). Petitions are to be filed by individual manufacturers. No petitions will be accepted from trade associations. Petitions must be received at EPA by December 1, 1978, in order to be considered, as EPA intends to consolidate all applications and hold one hearing leading to one rulesmaking.

Those wishing only to process or distribute in commerce after the date for banning such activities are not to file petitions at this time. The distribution and processing ban will not take effect before the statutory date of July 1, 1979, and the rules for applying may be changed before that time.

Information on how to apply for an exemption to the manufacturing ban is contained in the Federal Register for November 1, 1978 (43 FR 50907), and a copy of that document is attached.

Applicability

Capacitors. Inasmuch as GE is no longer manufacturing PCB capacitors, it is assumed that Capacitor Products Department will not be applying in its own behalf, but may wish to notify its customers who are themselves manufacturers of "PCB equipment" of the opportunity to seek exemption to cover left-over inventories of PCB capacitors.

Ballasts and Lighting Fixtures. We understand that Ballast Product Section has already worked through its inventory of PCB capacitors. However, BPS may wish to notify its customers who assemble ballasts into lighting fixtures

NEI 000609

November 7, 1978

that EPA treats them as "manufacturers" and it appears that they will not be permitted to manufacture lighting fixtures containing PCB ballasts without an exemption after the ban goes into effect.

Chemical Substances. In writing the procedures for applying for exemptions, EPA is assuming that the rules for banning will apply to any chemical substance which contains 50 ppm or greater of PCBs (including pigments and precursors). It is rumored in the industry that the ban cutoff definition is to revert back to the 500 ppm figure used in the labeling rule. Be that as it may, anyone intending to manufacture a chemical containing more than 50 ppm or to manufacture an item containing such chemical would be well-advised to apply for an exemption now, as there will be no opportunity to do so after the closing date of December 1, 1978. Examples of materials that should be checked out and verified as under 50 ppm PCB are silicone products and Iralec.

Television sets, radio equipment, microwave ovens, and air conditioners. No equipment of this type may be manufactured or imported with PCB capacitors after the ban goes into effect, unless an exemption is obtained.

Other Equipment. In effect, PCB equipment means manufactured items that contain PCB articles performing a function in the equipment. In addition to the items in the previous paragraph, this definition would appear to apply to such things as major appliances, motors and drives containing PCB capacitors; and locomotives and commuter cars embodying PCB transformers. Manufacturing such items after the ban goes into effect will require an exemption.

Probability of Success in Obtaining Exemptions

The wholesale granting of exemptions is not anticipated. The standards to be applied appear in §6(e)(3)(B) of the Toxic Substances Control Act and include lack of "unreasonable risk" and "good faith efforts" to develop substitutes. EPA is expected to remind petitioners who are stuck with inventories of PCB components that the termination date for manufacture was announced in the act itself, October 11, 1976.

Labeling

Petitioners who are successful in obtaining an exemption permitting them to manufacture or assemble PCB equipment after January 1, 1979, must abide by the regulations for disposal and marking, FR 43 7150 (February 17, 1978). These rules state that any article or equipment manufactured after that date must be marked with a caution label as described therein.

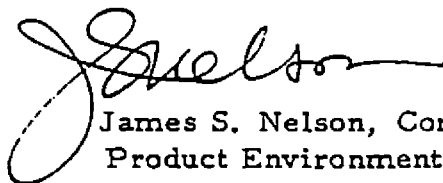
NEL 000610

November 7, 1978

Coordination

It will be appreciated if any GE component planning to file a petition or participate in the hearing will let us know, so that we may arrange for suitable coordination of the various affected interests.

Very truly yours,



James S. Nelson, Consultant-
Product Environmental Compatibility

JSN:cas

Enclosure

NEL 000611

GENERAL ELECTRIC

DISTRIBUTION LIST (Components with history of PCB Products)

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James E. Britt, Louisville

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Appliance Components Business Division

Donald W. Mohrman, Fort Wayne

Daryl Patton "

Contractor Equipment Business Division

Raymond C. Allen, Bridgeport

William M. Nave "

Data Communication Products Business Dept.

John W. Swett, Waynesboro

Javier Urioste "

Distribution Transformer Business Dept.

Delbert L. Williamson, Hickory, NC

Electronic Systems Division

Richard C. Hatch, Syracuse

Robert O. Richards "

Electronic Components Business Division

James F. Madole, Owensboro

John F. Repko, Syracuse

Capacitor Products Department

Donald F. Cross, Hudson Falls

George R. Menkart "

Frank D. Price "

Installation & Service Engineering Business Division

Ronald E. Brandon, Schenectady

(Continued)

NEL 000612

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Raymond W. Frahm, Rome
Andrew Glassanos, Pittsfield
Robert C. Osthoff "
William M. Rodgers, Rome

Lighting Business Group

Thomas P. Segerson, Nela Park
Alfred B. Gough, Danville, Illinois

Lighting Systems Department

Douglas B. Abrams, Hendersonville, NC
Reuel L. Davis, Jr. "

Major Appliance Business Group

Edward Conners, Louisville
Philip V. Otero "

Range Engineering Department

Robert V. Chou, Louisville

J. Olsson, med. Syst. - in ltr.

Mobile Radio Products Department

L. Keith Elrod, Lynchburg

Motors and Drives Business Division

Paul G. Cummings, Schenectady
Joseph L. Yosafat, Salem, VA

Switchgear Business Department

Charles H. Titus, Philadelphia

Television Business Department

Alford E. Allen, Portsmouth, VA

Transportation Systems Business Division

Jack C. Aiton, Erie
Leonard B. Gezon "
Lorne L. MacMonagle "

Copies also to:

W.R. Kruesi
J.M. Phillips
A.M. Toothaker

NEEL 000613

mined that this regulation will protect the public health.

Any person adversely affected by this regulation may, on or before December 1, 1978, file written objections with the Hearing Clerk, Environmental Protection Agency, Room M-3708, 401 M Street SW., Washington, D.C. 20460. Such objections should be submitted and should specify both the provisions of the regulation deemed to be objectionable and the grounds for the objections. If a hearing is requested, the objections must state the issues for the hearing. A hearing will be granted if the objections are supported by grounds legally sufficient to justify the relief sought.

Effective on November 1, 1978, part 180, subpart C, section 180.337 is amended by adding a tolerance for residues of oxytetracycline on peaches at 0.1 ppm as set forth below.

(Section 408(e) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 346a(e)).)

Dated: October 25, 1978.

EDWIN L. JOHNSON,
Deputy Assistant Administrator
for Pesticide Programs.

Part 180, subpart C section 180.337 is amended by adding the following new paragraph at the end of the section to read as follows:

§ 180.337 Oxytetracycline: tolerances for residues.

A tolerance of 0.1 part per million is established for residues of the pesticide oxytetracycline in or on the raw agricultural commodity peaches.

(FR Doc. 78-30790 Filed 10-31-78; 8:45 am)

[6560-01-M]

SUBCHAPTER R—TOXIC SUBSTANCES
CONTROL ACT

(FRL 998-31)

PART 750—PROCEDURES FOR RULE-
MAKING UNDER SECTION 6 OF
THE TOXIC SUBSTANCES CONTROL
ACT

Interim Procedural Rules for Polychlorinated Biphenyls (PCB's) Ban Exemption

AGENCY: Environmental Protection Agency.

ACTION: Procedures for filing and processing certain PCB exemption petitions under section 6(e)(3)(B) of the Toxic Substances Control Act (TSCA).

SUMMARY: Section 6(e)(3)(B) of TSCA authorizes the Administrator to grant, by rule, exemptions to the bans

on the manufacturing, processing, and distribution in commerce of PCB's established pursuant to section 6(e)(3)(A) of TSCA. Since the PCB manufacturing ban will become effective by regulation in early 1979, EPA wishes to inform affected parties now of the procedures which will be followed for the filing and processing of petitions for exemptions from the PCB manufacturing ban imposed by section 6(e)(3)(A). As this notice is strictly procedural, notice and public comment are unnecessary, and it is effective November 1, 1978.

DATES: Petitions for exemption from the 1979 PCB manufacturing ban must be received by December 1, 1978. These procedures are effective on November 1, 1978.

ADDRESS: Send petitions for exemptions to Office of Toxic Substances (TS-794), Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460, attention: Ms. Joni T. Repasch. Comments on these procedures may be sent to the same address.

FOR FURTHER INFORMATION CONTACT:

John W. Lyon, Office of General Counsel (A-132), Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460, telephone 202-755-0870.

SUPPLEMENTARY INFORMATION: On June 7, 1978, EPA published a proposed regulation (43 FR 24802) to implement the PCB manufacturing, processing, distribution in commerce, and use bans of section 6(e) of TSCA. EPA stated in the proposed rule at page 24807 that:

The final rule will describe the requirements for filing (exemption) petitions and for the information to be provided in the petitions.

EPA expects to issue its final rule concerning the PCB bans about January 1, 1979. However, if the regulation is promulgated as proposed, certain manufacturing and importing activities will not be able to continue after the effective date of the regulation unless the Agency grants exemptions for them. These activities include, but are not necessarily limited to, the following: Manufacture of PCB small capacitors, manufacture of PCB equipment (including such items as fluorescent light ballasts, television sets, air conditioners, and microwave ovens), manufacture of chemical substances which contain 50 ppm or greater of PCB's (including pigments and precursors), and importation of PCB's. EPA is issuing these procedures at this time to allow individuals who may be affected by the 1979 manufacturing ban to file exemption petitions at once so that the Agency may act on these petitions as early as possible in 1979.

For purposes of determining whether to file a PCB exemption petition, affected parties should assume that the final regulation will be promulgated as proposed. Only persons affected by the 1979 PCB manufacturing ban should file petitions for exemptions at this time. Persons affected by the July 1, 1979, PCB processing and distribution bans should not file petitions for exemptions until issuance of the final PCB ban regulation. The Agency is delaying processing of petitions for exemptions from the July 1, 1979, bans because the scope of the final PCB ban regulation will determine which persons might wish to seek exemptions from those bans.

These procedural rules require individual submission of petitions by manufacturers affected by the 1979 ban. EPA is imposing this requirement because: (1) The number of such manufacturers is small; and (2) the Agency needs the identity and location of each source of PCB's.

All petitions for exemption from the 1979 PCB manufacturing ban imposed by section 6(e)(3)(A) of TSCA must be received by the Agency within 30 days after publication of this notice. This deadline is being imposed to permit consolidation of all rulemaking on 1979 PCB manufacturing exemptions and the holding of one informal hearing on all petitions covered by the consolidation. In the absence of consolidation, the Agency would not be able to complete action on individual petitions in early 1979.

In determining whether to grant a petition for exemption to the PCB ban, EPA will apply the standards enunciated in section 6(e)(3)(B) of TSCA. Section 6(e)(3)(B) reads in pertinent part as follows:

... the Administrator may grant by rule such an exemption if the Administrator finds that—

- (i) An unreasonable risk of injury to health or environment would not result, and
- (ii) Good faith efforts have been made to develop a chemical substance which does not present an unreasonable risk of injury to health or the environment and which may be substituted for such polychlorinated biphenyl.

Although EPA is not issuing a form for petitions, petitions should include the information described in § 750.11(d) of the procedural rules.

Due to the need to grant or deny petitions on an expedited basis as early in 1979 as possible, the Administrator is delegating final Agency authority to grant or deny petitions under section 6(e)(3)(B) of TSCA submitted pursuant to these interim procedures to the Assistant Administrator for Toxic Substances. The Assistant Administrator will rule on petitions subsequent to opportunity for an informal hearing.

The procedural rules to be applicable to section 8(e) exemption proceed-

8*229-2287

NOVEMBER ACTIVITIES REPORT
James S. Nelson

December 1, 1978

Mr. J. F. McAllister
--Office--

III. PRODUCT ENVIRONMENTAL COMPATIBILITY

1. PCB Litigation

In the Goodrich suit over leakage from a capsized PCB transformer, the Company's confidence in its position and willingness to proceed with the trial resulted in an out-of-court settlement at no cost to GE. PQS has received a letter of thanks for information supporting its case from Medium Transformer.

2. Exemptions from PCB Ban

Components with a history of PCB component application were alerted to a transient opportunity to apply for exemption to the forthcoming ban on such manufacturing. In conjunction with Corporate Operating Services Legal Operation, PQS assisted in the preparation of a joint petition signed by Mr. Young in behalf of four components.

Assistance was also provided to the Component Sales Department in preparing one of its customers to respond to this opportunity.

REDACTED

NEL 000615

Mr. J.F. McAllister

- 2 -

December 1, 1978

REDACTED

J.S. Nelson

JSN:cas

NEL 000616

782462

8*229-2287

OCTOBER ACTIVITIES REPORT

James S. Nelson

November 1, 1978

Mr. J.F. McAllister

--Office--

III. PRODUCT ENVIRONMENTAL COMPATIBILITY

1. PCBs

Assistance was provided in the generation of post-hearing reply comments on regulations banning PCBs and in the drafting of a transmittal letter from James F. Young to the EPA. A NEMA letter on the same subject was reviewed and comments furnished through Mr. Kruesi.

Silicone Products Business Department is now operating its PCB incinerator on a long-term permit; however, they agreed to a civil penalty of \$25,000 to cover a short period during which they had to operate without a permit. EPA has limited the Waterford authorization to burning PCB wastes generated on site, despite the great need, nationally, for PCB destruction facilities. No reason is apparent for this limitation.

BF Goodrich has brought suit against GE in connection with a PCB spill from a transformer in Alabama in 1974. Assistance has been provided to the Medium Transformer engineer who is handling technical liaison with outside counsel.

2. Iralec

Iralec is a late entrant in the search for askarel substitutes. A product of Prodelec (Rhone Poulenc), it consists mainly of chlorinated benzenes and hydrogenated terphenyl. It has no fire point, is compatible with PCBs, low in cost, and appears to be an excellent cooling fluid and dielectric for servicing existing PCB transformers and also for new transformers, provided health, safety, and ecological parameters can be met. PQS is participating with interested departments, CR&D, and EPO in evaluating the climate for acceptance.

NEL 000607

Mr. J.F. McAllister

- 2 -

November 1, 1978

JSN:cas

J.S. Nelson

NEL 000608

782464

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



SUBJECT

PCB EXEMPTION

COPIES J. H. Claussen
J. F. McAllister
J. F. Young

25-103
A-1.17
PCB
Exempt

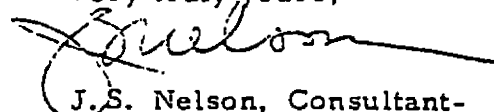
November 29, 1978

TO: Messrs. L. J. Campanella	Washington, DC
M. F. Connor	Fairfield
R. L. Davis, Jr.	Salem, VA
W. F. Faison	Fairfield
T. H. Fitzgerald	Waterford, NY
J. C. Flynn	Danville, IL
E. M. Foley	Washington, DC
A. B. Gough	Danville, IL
W. R. Kruesi	Fairfield
T. J. Managhan	Salem, VA
A. A. Mathews	Pittsfield, MA
P. R. Milroy	Hendersonville, NC
J. H. Nair	Waterford, NY
J. R. Olin	Salem, VA
J. F. Repko	Syracuse, NY
D. A. Ross	Salem, VA
E. L. Simons	Schenectady, NY

Gentlemen:

Enclosed is a copy of the consolidated petition for exemptions from the PCB manufacturing bans filed in behalf of four Company components. The original was sent to EPA by Federal Express U.S. mail (guaranteed next-day delivery) on November 29. We shall inform you promptly of any word received from the Agency with respect to this matter.

Very truly yours,



J. S. Nelson, Consultant-
Product Environmental Compatibility

JSN:cas

Enclosure

NEL 000617

782465

8*229-2287

J.F. McAllister
R.C. Osthoff
R.A. Stenger

PCB & CHLORINATED
BENZENE DERIVATIVES

December 7, 1978

Dr. John F. Brown, Jr.
Manager-Life Sciences Branch
Physical Chemistry Laboratory
K-1, 3B35, CR&D
Schenectady, NY

Dear John:

Thank you for your letter of November 30, 1978, bringing me up to date on the history of the efforts to analyze used transformer oil and related matters. I have relayed to Mr. Young the information that two laboratories looked for PCDF (polychlorinated dibenzofuran) in used transformer fluid and didn't find it, and mentioned the role you played in guiding the NIEHS interpretation of their findings. Beyond that, I share your feeling that it is still desirable to have something more than a "reluctant negative" to put this matter to rest.

Your letter to Bob Osthoff, November 27, 1978, suggests a strategy meeting to discuss the next step on PCDF and PCDPE (polychlorinated diphenyl ether) studies. Expanding upon our telephone conversation, I would like to put down some considerations that I think are pertinent to such planning:

1. Chlorinated benzenes are involved, making future studies of interest to Capacitors as well as to Transformers, and we suggest you seek Bob Stenger's participation.
2. McKinney has expressed a belief that the diphenyl ethers which he found in transformer oil are more likely to be derived from the chlorinated benzenes than from the PCBs. He then proceeds to conjecture that the ethers could be converted photochemically to PCDF or dioxins (both highly toxic) after disposal into the environment. To the extent that such a scenario is valid, it is a potential problem for both current product lines (transformer Iralec and capacitor Dielektrols).
3. As you point out in your letter, the fate of tri- and tetra-chlorinated benzenes in the environment becomes of increased interest now that these substances have been added to the priority list of TSCA 4(e).

NEL 000618

December 7, 1978

4. In order to get the assessment of PCDF in used transformer oil into publishable form, it may be appropriate as you suggest, to utilize CR&D's newly acquired high-resolution equipment to make the analyses. It would be desirable, this time around, to have well-documented samples both for the used fluid and the control. Perhaps Feuerstein could be of assistance in sample collection, for the used oil. The control, ideally, should be fresh fluid that has gone through our manufacturing processes, including the fullers' earth filtration. One of the Service Shops might also be a source for unused transformer PCB fluid. Failing that, fluid drawn from a transformer that was one of the last to be manufactured and consequently has seen little service, might be an acceptable substitute.
5. If a sample is available, it might help to give a complete story if we also analyzed Aroclor 1016, as processed for our most recent PCB capacitor production, for the presence of PCDF, at the same time.
6. The fluids to be analyzed for PCDPE content should possibly include:
 - o aged transformer askarel fluid from a transformer of known history
 - o "new" transformer askarel fluid equivalent to factory-processed
 - o new power capacitor dielectric from current production
 - o new small industrial capacitor dielectric from current production
 - o new Iralec
 - o commercial-grades of chlorinated benzenes used in formulation of the above
 - o samples of the same fluids analyzed by NIEHS.

Again, John, let me express our thanks for your enlightening report of the very substantial progress that has been made in achieving understanding of this complex matter.

Very truly yours,

James S. Nelson

JSN:cas

782467

NEI 000619

8*229-2287

DECEMBER ACTIVITIES REPORT
James S. Nelson

December 20, 1978

Mr. J.F. McAllister
--Office--

REDACTED

3. PCB and Chlorinated Benzene Derivatives

After completion of studies by two outside laboratories, there is still no evidence of the production of chlorinated dibenzofuran during the aging of transformer Pyranol. However, tri- and tetrachlorinated benzenes have been added to the TOSCA priority list (along with the glycidyl ether mentioned in item 2) and the conduct of further studies is being discussed, with the object of fuller understanding of the fate of these materials and their degradation products.

NEL 000620

782468

Mr. J.F. McAllister

- 2 -

December 20, 1978

REDACTED

J.S. Nelson

JSN:cas

NEL 000621

782469

8*229-2287

LC 118
J. Claussen
B. Dunn Gen'l Purp. Ins. Co.
J.F. McAllister

December 19, 1978

Mr. Donald W. Mohrman
Appliance Components Support Operation
1635 Broadway, Bldg. 8-2
Fort, Wayne, IN 46804

Dear Don:

This note is to confirm our telephone conversation relative to interpretation of the rule for labeling certain items, "No PCBs," under §761.20(a)(6) of the Disposal and Marking Requirements for PCBs, 40 CFR 761.

This rule, in its entirety, appears as follows in the Federal Register of February 17, 1978, 43 FR 7150:

"(6) Each large low voltage capacitor, each small capacitor normally used in alternating current circuits, and each fluorescent light ballast manufactured between July 1, 1978 and July 1, 1998 that does not contain PCB's shall be marked by the manufacturer at the time of manufacture with the statement, 'No PCB's'. The mark shall be of similar durability and readability as other markings that indicate electrical information, part numbers, or manufacturer's name."

Additional interpretations of this rule are to be found in the Federal Register for August 2, 1978, 43 FR 33918:

- (1) "Manufacture" (the 20th word in the definition) is to be interpreted (in this rule only) to mean "built" and to exclude the meaning, "imported."
- (2) Only items specifically listed in the rule are subject to it: i.e., certain capacitors, and fluorescent ballasts.
- (3) "The definition of "Small Capacitor" (§761.2(c)(1)) is 'a capacitor which contains less than 1.36 kg (3 lbs.) of dielectric fluid.' EPA did not intend to include in this definition dry capacitors (i.e., those capacitors which have never contained any dielectric fluid). Also, the definition of 'Fluorescent Light Ballast' (§761.2(1)) does not apply to those ballasts which do

NEI 000622

Mr. Donald W. Mohrman

- 2 -

December 19, 1978

not contain a capacitor. Accordingly, the negative labeling requirements in §761.20(a)(6) do not apply to those small capacitors which contain no detectable amounts of dielectric fluid nor do they apply to those fluorescent light ballasts which do not contain a capacitor."

Conversation with Bernie Dunn established that the capacitors you inquired about, which are used as motor-starting capacitors, are electrolytic capacitors. They contain no dielectric fluid. The fluid saturating the paper is an electrolyte, not a dielectric. In both construction and appearance, such capacitors are easily distinguishable from small capacitors of the type once made with PCBs, and need no label of any type under the PCB rules.

Very truly yours,

James S. Nelson, Consultant-
Product Environmental Compatibility

JSN:cas

NEI 000623

LETTERBOOK

J.S. Nelson

1979

NEL 000624

782472

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



8*229-2287

SUBJECT

COPIES: J.H. Claussen
W.F. Faison
J.F. McAllister
E.L. Simons
J.F. Young

M-1.16

**EFFECTIVE DATE
OF PCB BAN**

January 4, 1979

TO: DISTRIBUTION

Gentlemen:

The Toxic Substances Control Act contains three Statutory PCB prohibitions:

<u>Statutory Date</u>	<u>Prohibition</u>	<u>Section of Law</u>
January 1, 1978	General prohibition against non-totally enclosed activities	6(e)(2)
January 1, 1979	No manufacturing for commercial purposes	6(e)(3)(A)(i)
July 1, 1979	No processing or distribution in commerce	6(e)(3)(A)(ii)

Currently, EPA is operating under an announced policy of not enforcing any of these statutory provisions. A year ago (42 FR 65264, Dec. 30, 1977), EPA announced that it would not enforce the general prohibition against non totally enclosed activities (which they were having trouble defining) until the ban regulation is effective, which at that time was expected to be not before July 1, 1978. The effective date has not yet been pinned down.

A new announcement appeared in the Federal Register for January 2, 1979 (44 FR 108, copy enclosed), which reiterates the policy on the Section 6(e)(2) enforcement and makes an equivalent statement with respect to 6(e)(3)(A)(i). Enforcement is to begin 30 days after the regulation is promulgated in final form. Thus, it will be sometime in February, at the earliest, before the manufacture of PCB transformers, PCB capacitors, and equipment incorporating such articles will be prohibited. The sale of such articles or equipment, manufactured prior to the effective date of the ban on manufacturing them, may continue until the date to be established for banning distribution in commerce, which will not be before midyear. The same applies to renewal parts or modules and to chemical substances containing enough PCB to qualify as PCB substances.

NEL 000625

January 4, 1979

In addition, it should be noted that those components participating in the GE consolidated petition for exemption under the ban may continue whatever activity is the subject of the petition until the petition has been acted upon, whether or not such action occurs after the effective date established as above.

It will be appreciated if each recipient of this letter will suitably inform any person with an interest in the subject in his component or organizationally-related components, whose name does not appear on the distribution list.

Very truly yours,



James S. Nelson, Consultant-
Product Environmental Compatibility

JSN:cas

Enclosure

NEI 000626

DISTRIBUTION LIST

(Components with history of PCB Products)

Air Conditioning Business Division

James E. Britt, Louisville

Stanley A. Gorski "

Charles M. Madanick "

Apparatus Service Business Division

Edward W. Feuerstein, Schenectady

Appliance Components Business Division

Donald W. Mohrman, Fort Wayne

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Robert C. Osthoff "

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Andrew A. Matthews, Pittsfield

NEEL 000627

NEEL 000628

Distribution List (Continued)

Copies also to:

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M.F. Connor, Fairfield, CT
E.M. Foley, Washington, DC
W.R. Kruesi, Fairfield, CT
J.M. Phillips, Schenectady, NY
A.M. Toothaker " "

NEEL 000629

[6560-01-M]

ENVIRONMENTAL PROTECTION AGENCY

(FRL 1031-5)

POLYCHLORINATED BIPHENYLS (PCBs)

Toxic Substances Control Act; Policy for
Implementation and Enforcement

AGENCY: Environmental Protection
Agency (EPA).

ACTION: Policy for Implementation
and enforcement of Sections 6(e)(2)
and 6(e)(3) of the Toxic Substances
Control Act (TSCA).

SUMMARY: EPA will not implement
or enforce the prohibitions on PCB
manufacturing (including importa-
tion), processing, distribution in com-
merce or use established by Sections
6(e)(2) and 6(e)(3) of TSCA, 15 U.S.C.
2605(e)(2) and 2605(e)(3), until thirty
days after the proposed regulation im-
plementing Sections 6(e)(2) and 6(e)(3)
of TSCA (43 FR 24802-17, June 7,
1978) is promulgated in final form.
With respect to PCB manufacturing
activities (including importation) for
which petitions for exemptions have
been filed pursuant to Section
6(e)(3)(B) of TSCA, enforcement will
not occur until EPA has acted on the
pertinent petition.

FOR FURTHER INFORMATION CONTACT:

Peter P. Principe, Office of Toxic
Substances (TS-794), Environmental
Protection Agency, 401 M Street
SW., Washington, D.C. 20460, tele-
phone: (202) 755-0920.

SUPPLEMENTARY INFORMATION:
Section 6(e)(2) of TSCA (Pub. L. 94-
469, 90 Stat. 2003, 15 U.S.C. 2601 *et*
seq.) prohibits PCB manufacture (in-
cluding importation), processing, dis-
tribution in commerce and use on any
manner other than in a totally en-
closed manner on or after January 1,
1978. However, Section 6(e)(2)(B) of
TSCA allows the Agency to authorize
continuation of PCB activities in other
than a totally enclosed manner. The
final regulation for Sections 6(e)(2)
and 6(e)(3) will define key terms, such
as "PCB" and "totally enclosed
manner", which will affect the scope
of the 6(e)(2) prohibitions. The regula-
tion is also expected to authorize some
PCB activities which are not totally
enclosed pursuant to Section
6(e)(2)(B). Therefore, enforcement of
Section 6(e)(2) is not considered ap-
propriate by EPA until it has promul-

gated the forthcoming regulation.
EPA announced on December 30, 1977
that it is not implementing and en-
forcing Section 6(e)(2) until 30 days
after the regulation for that section is
promulgated by the Agency. See 42
FR 65264, December 30, 1977.

Pursuant to Section 6(e)(3) of TSCA,
all PCB manufacture (including im-
portation) is prohibited effective Janu-
ary 1, 1979. However, under Section
6(e)(3)(B), persons affected by the
Section 6(e)(3) PCB prohibitions have
the right to petition EPA for exemp-
tions from the prohibitions. On No-
vember 1, 1978, EPA published interim
procedures for the filing of petitions
for exemptions to the prohibition on
manufacturing. (43 FR 50905). Numer-
ous exemption petitions have been re-
ceived by the Agency. The Agency
does not consider enforcement of the
manufacturing prohibition of Section
6(e)(3) against a particular activity ap-
propriate (1) until EPA has issued the
regulation for Section 6(e)(3), and (2)
if a petition for an exemption for the
particular activity has been filed, until
EPA has ruled on that petition.

The Agency expects to promulgate
the regulation implementing Sections
6(e)(2) and 6(e)(3) of TSCA in the
near future. To accomplish that objec-
tive, EPA published its proposed regu-
lation on June 7, 1978 (43 FR 24802).
A comment period followed, and the
Agency held ten days of informal
hearings and one day of cross-exami-
nation of an Agency contractor by
hearing participants. The Agency also
provided a reply comment period
which closed on October 10, 1978.

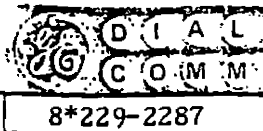
Although EPA expects to issue the
TSCA §§ 6(e)(2) and 6(e)(3) regulation
shortly, the regulation will not be
ready for promulgation by January 1,
1979. Therefore, EPA will not imple-
ment and enforce Sections 6(e)(2) and
6(e)(3) until thirty days after promul-
gation of the regulation. Persons who
have filed petitions for exemptions
from the forthcoming Section 6(e)(3)
prohibition on PCB manufacturing
(including importation) may continue
the activity for which exemption is
sought until EPA has acted on the
particular pending petition. The ques-
tion of whether petitions may be filed
on a class basis is expected to be ad-
dressed in the forthcoming Notice of
Proposed Rulemaking concerning the
exemption petitions.

Dated: December 26, 1978.

JOHN P. DEKANY,
Acting Assistant Administrator
for Toxic Substances.

(FR Doc. 78-36361 Filed 12-29-78; 8:45 am)

PRODUCT QUALITY STAFF
GENERAL ELECTRIC
FAIRFIELD, CONNECTICUT 06431



COPIES: J.F. McAllister

SUBJECT

January 9, 1979

Mr. J.F. Young
EZE

Dear Jim:

Your note of January 8, attached to a copy of the EPO Information Letter of December 21, 1978, asks some questions about communication to product people on PCB marking requirements and inquires generally into the subject of letters covering matters of interest to specialists in product design, plant facilities, and employee health.

While there is always room for improved practices, we believe that in this instance there has been adequate communication. We wrote to the components on our PCB list in March, 1978, pointing out the product implications of the rules for marking and disposal that had been issued by EPA in February. Simultaneously, Ed Simons wrote an information letter to those with responsibility for facility environmental considerations, pointing out the things they would be responsible for. Each letter made reference to the other. In April, after EPA liberalized its interpretation of the marking rules, a letter of explanation went to the PCB products people, together with information about a source of printed labels. In November, our letter soliciting participation in a consolidated petition for exemption under the PCB ban, again reminded the product people that successful petitioners would need to abide by the labeling rule that would become effective January 1, 1979. The EPO Information Letter that gave rise to your comments is another such reminder, but with special emphasis on the matters of interest to facilities people.

In general, EPO and PQS discuss communications of this type in advance, agreeing who should do the primary drafting.

Your suggestion of jointly issued letters is a sound one, and we have used that technique on occasion--for example, in communicating the import of the Noise Control Act to people in both engineering and manufacturing.

The development and promulgation of a program for handling the reporting of substantial chemical risk information was the subject of close coordination with Corporate Medical as well as with EPO, and the same material went to distribution lists maintained by each staff component.

782479

NEI 000631

GENERAL ELECTRIC

Mr. J.F. Young

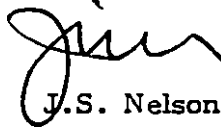
- 2 -

January 9, 1979

Occasionally, other corporate staff components may be involved, as was the case last year when we assisted the Material Resource and Traffic Operation and Corporate Legal in the preparation of bulletins concerning warranty statements related to the TOSCA Inventory.

To sum up, it is our feeling that the occasions for joint communication of the same information to different functions or specialized groups within Operations are rare enough for handling each instance on an ad hoc basis, and that the coordination among staff with respect to such communications can be accomplished without further formalization.

Very truly yours,

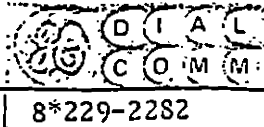


J.S. Nelson

JSN:cas

NEEL 000632

PRODUCT QUALITY STAFF
GENERAL ELECTRIC
FAIRFIELD, CONNECTICUT 06431



JF Brown
JT Coe
COPIES: JS Nelson
HD Pocock, Jr., M.D.

SUBJECT

- J. S. Nelson Memo on proposed
NIOSH PCB criterion

January 23, 1979

Mr. James F. Young
E2E

Dear Jim:

I asked Jim Nelson to update me with respect to implications of the NIOSH recommendation on maximum worker exposure to airborne PCB (one microgram per cubic meter, or about 0.7 parts per billion by weight). He prepared the attached memo after discussion with knowledgeable staff colleagues.

Although the primary thrust of the NIOSH recommendation is employee-health directed, and the burden of dealing with it on that account falls mainly on Dr. Casey and his staff, I thought you would like to be informed and, should need or opportunity arise, be supportive of a program being considered to establish a scientific basis for a less drastic criterion.

Sincerely,

A handwritten signature in dark ink, appearing to be "JFM", written over a stylized, angular graphic element.

John F. McAllister

JFMCA:rss
Attachment

NEL 000633

January 22, 1979

MEMORANDUM: IMPLICATIONS FOR GE OF THE PROPOSED OSHA
STANDARD FOR PCBs IN THE WORKPLACE

Background. In September, 1977, the National Institute for Occupational Safety and Health (NIOSH) issued "Criteria for a recommended standard... Occupational Exposure to Polychlorinated Biphenyls (PCBs)." This "Criteria Document" recommends to OSHA a workplace standard of no more than 1 microgram PCB per cubic meter of air. Having already gone out of the business of manufacturing products containing PCBs, GE paid relatively little attention to this proposal--regarding it as "beating a dead horse." Recent developments suggest, however, that the proposal is very much "alive" with respect to possible GE impact and response.

These developments are (1) Ege's finding that our plants which formerly processed PCBs have--today--PCB in the air in excess of the proposed limit--despite extensive cleanup and refurbishing activities and (2) CR&D's acquisition of new equipment and proposal of a research approach that could conceivably play a significant role in counteracting the NIOSH proposal. This memorandum is the result of discussion with a number of interested staff and operations people and is intended to point the way towards a consensus.

Continuing Vulnerability

Former discharges and existing products carry the potential for lawsuits that could be encouraged by the tightening of OSHA, FDA, and EPA standards and made more difficult to defend. Currently, there exists little solid data, and almost none in published literature, that clearly separates GE use of PCB from the materials and circumstances that brought about the Yusho incident and the widespread characterization of the PCB family as "highly toxic" and "carcinogenic." What appears to be needed to achieve such separation is a program that would develop more solid support for the thesis that the underlying cause of the Yusho poisonings and at least the worst of the toxic and oncogenic effects reported in the scientific literature is not the intrinsic properties of PCBs, but rather, the polychlorinated dibenzofuran (PCDF) present as an impurity in PCBs under certain conditions that are not universal.

For several years, John Brown has been calling attention to indications that this thesis is valid, and there are indications that the number of scientists ready to accept it may be growing. Prior efforts at substantiation have included, for example, attempts at three laboratories to prove that our PCBs (new or aged) contain no PCDF. None of these resulted in finding PCDF in new or used PCB, yet none of these efforts really proved to everyone's satisfaction that no PCDF is present.

NEEL 000634

January 22, 1979

Among the incentives for getting a better data base are the following continuing vulnerabilities that persist despite our exit from the manufacture of PCB capacitors and transformers:

- (1) The proposal by NIOSH, in its criteria document, to limit PCB in the workplace to 1 microgram per cubic meter of air. If this standard, or one near to it, is adopted by OSHA, Ege's data indicate inability to comply, even in plants where PCB has not been used at all for a long period.
- (2) Lawsuits brought by people who have used or serviced our products (e.g., a recent out-of-court settlement involving the servicing of PCB transformers).
- (3) Lawsuits by employees who in the future may claim illness due to PCB exposure (one employee is now claiming illness due to his purchase and use, around his farm, of scrap PCB).
- (4) Lawsuits brought on behalf of fishing interests and other users of the Hudson, the Housatonic, and other bodies of water.
- (5) Lawsuits conceivably to be brought by those experiencing product failure with accompanying release of PCB. (The criteria document reports an instance of the burn-out of an unspecified number of fluorescent lamp ballasts. Three days later, the air in the room contained 2 micrograms PCB per cubic meter--twice the proposed standard.)

Research Needed

What research is needed to protect against these threats?

Evidence that the reputed toxicity/tumorigenicity of PCB is explainable in terms of the amount of polychlorinated dibenzofuran present as an impurity.

1. Controlled experiment. Inasmuch as most of the data marshalled in support of the NIOSH proposal consists of animal feeding studies, an elegant defense would be a controlled experiment in which half a group of test animals was fed a PCB mixture known to be free of PCDF and the other half fed the same mixture laced with a measured amount of PCDF. To carry out such an experiment would take perhaps two years and cost at least several hundred thousand dollars. Before such an experiment could be carried out, it would be necessary to develop and validate a means for quantifying PCDF as a constituent of PCB mixtures.

NEEL 000635

2. Epidemiological studies. It has been stated that Dr. Selikoff's studies of GE workers at Hudson Falls/Fort Edward have failed to reveal either excess carcinogenicity or statistically significant classical symptoms of PCB-related illness. These findings suggest that the exposure of GE employees is not as serious as reading the Criteria Document would lead one to believe. These findings could be related to the PCDF thesis and their impact on the scientific establishment increased if it can be shown that the GE mixtures were relatively free of PCDF. It is understood that the laboratory in Hudson Falls has a collection of samples of incoming PCB supplied with each shipment by the vendor for quality control purposes. Given a method reliably measuring the PCDF content of these samples, past worker exposure to PCB in these plants could be related to PCDF exposure.

3. Reexamination and reinterpretation of published studies.

The scientists upon whose findings NIOSH largely rests its case--such as Renate Kimbrough and James Allen--could be asked to supply samples of the fluids that they used in their rodent and primate tests, and these samples could be analyzed for PCDF content. To do this would require first the development and validation of a method for measuring the quantity of PCDF present as an impurity. Once a method is proven, the individual tests would be inexpensive.

4. Development and validation of a method for quantifying PCDF against a background of a much larger quantity of PCB mixture.

It will be observed that each of the prior research possibilities depends critically upon this one. John Brown sees a possibility of success in developing a good PCDF measurement technology, as suggested by his letter of January 16 to Dr. Casey. One approach he has in mind is perchlorination. All the PCBs in a sample would be converted to decachlorobiphenyl, and all the PCDFs would become octochlorodibenzofuran. Thus there would be an easier job of quantification, compared to the almost hopeless task of separating out and standardizing the many overlapping peaks resulting from chromatographic analyses of such complex entities. The cost of this work, assuming early success, would be under \$100,000 and might be a lot less.

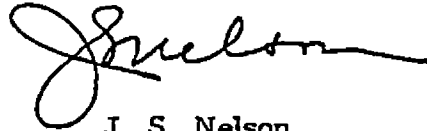
Discussion

A frontal attack on the proposed standard would be successful, if OSHA should accept the notion that carcinogenicity attributed to PCB is due to PCDF and that some PCBs (e.g., GE capacitor and transformer formulations and their derivatives in service) do not contain PCDF. A first step in this attack is to develop a sound, creditable method for PCDF quantification.

NEL 000636

January 22, 1979

The development of a PCDF analytical method might also enable us to generate data to strengthen the defense of the types of lawsuits enumerated above, pending acceptance of the whole proposition on the part of OSHA, FDA, and EPA.



J. S. Nelson

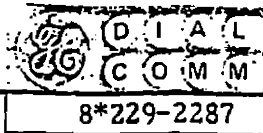
JSN:rss

NEEL 000637

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



SUBJECT

COPIES: J.F. McAllister

50-10
M-1.8

January 29, 1979

Mr. J.F. Young
E2E

Dear Jim:

At Jack McAllister's suggestion, I am enclosing two communications from John Brown, in further explanation of the research proposal discussed in my memorandum of January 22 about the OSHA PCB standard.

Very truly yours,

A handwritten signature in cursive script, appearing to read "J.S. Nelson".

J.S. Nelson

JSN:cas

Enclosures

NEEL 000638



COPIES:

SUBJECT

JANUARY ACTIVITIES REPORT
James S. Nelson

January 31, 1979

Mr. J.F. McAllister
--Office--

III. PRODUCT ENVIRONMENTAL COMPATIBILITY

1. PCB Bans

A letter describing the status of implementation of the three statutory bans on PCBs was sent to interested components.

2. Defensive Research on PCBs

A memorandum on the implications for GE of the NIOSH criteria document proposing rigid OSHA standards for PCBs in the workplace, and discussing proposed defensive research, was prepared to facilitate staff deliberations.

REDACTED


J.S. Nelson

JSN:cas

NEI 000639

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



SUBJECT

CASE Report on PCB

COPIES: J.F. Brown w/report copy
E.L. Simons "
W.C. Hart "
R.L. Reinhart

*M-1.6
Back p. 5+*

February 13, 1979

J.F. McAllister
--Office--

Dear Jack:

As you know, in passing along the copy of PCB and the Housatonic River (Connecticut Academy of Science and Engineering) that he received as a member of the Academy, Jim Young asked if we can endorse the position and the recommendations.

I have discussed this matter with Dick Reinhart, who heads a Program Management Team on the Housatonic River problem. The report evolved from a watchdog committee effort established by Congressman Toby Moffett (6th District, Connecticut) and the principal author is Dr. Charles R. Frink, of the Connecticut Agricultural Experiment Station, and Vice-Chairman of the ad hoc Technical Committee on Housatonic River Pollution of the Academy. By means of plant visits and project aid (bibliographic searches, etc.), Reinhart was able to establish a good working relationship and an open-minded attitude on the part of Dr. Frink and his associates. The result is that the report, on the whole, is favorable in its treatment of GE involvement, and the recommendations do not call for any heroic measures to be taken with respect to cleaning up the Housatonic.

Some of the PCB application description is out of date, and the science reporting misses some of the subtleties of PCDF relationships--most importantly, what I must still call our private conviction that GE PCBs do not contain PCDF. If there are particulars in which we would like to try to set the record straight, Reinhart believes the way is open to offer new data or new interpretations of old information to the Academy through Dr. Frink. The Housatonic Program Management Team is familiar with the Academy's report, and has not assumed in the past that they would be called upon for an assessment or endorsement. However, if circumstances warrant, Dick says they would be pleased to take a closer look.

Very truly yours,


J.S. Nelson

JSN:cas

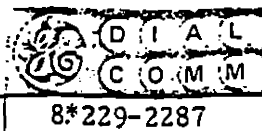
NEL 000640

782488

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GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



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FEBRUARY ACTIVITIES REPORT
James S. Nelson

February 28, 1979

Mr. J.F. McAllister
--Office--

REDACTED

NEL 000641

782489

Mr. J. F. McAllister

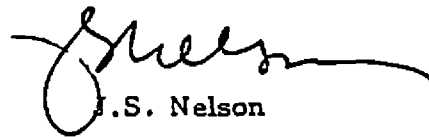
- 2 -

February 28, 1979

REDACTED

4. PCB Incineration

Some background material has been sent to Mickey Anderson who is making inquiries about the suitability of PCB incineration as a business venture for the Apparatus Service Business Division.


J.S. Nelson

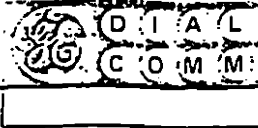
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NEL 000642

PRODUCT QUALITY STAFF

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FAIRFIELD, CONNECTICUT 06431



26 31

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MARCH ACTIVITIES REPORT
James S. Nelson

April 2, 1979

Mr. J.F. McAllister
Office

REDACTED

4. PCB

Dr. Osthoff sought our views on the appropriateness of Large Transformer's Technical Resources Operation increasing its PCB sample testing activities for customers in accordance with the increased demand they are experiencing. We endorsed this activity after consultation with John Claussen.

NEL 000643

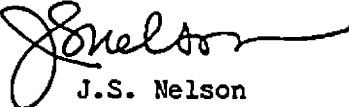
Mr. J.F. McAllister

- 2 -

April 2, 1979

In the aftermath of EPA's finding of violation of PCB storage regulations at Hudson Falls and Fort Edward, Dr. Simons has recommended that other components handling PCBs initiate a critical review of facilities and procedures.

REDACTED


J.S. Nelson

JSN:cas

NEL 000644

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



SUBJECT: ... 8*229-2287

PCB Ban: Final Rule
Product Implications

COPIES: J.H. Claussen
W.F. Faison
E.M. Foley
J.F. McAllister
E.L. Simons
J.F. Young

M-1-16
pcb

April 23, 1979

To: DISTRIBUTION

Gentlemen: I am writing to you to manufacture phen...

On April 17 at about 3:00 p.m., Mr. Costle signed 40 CFR Part 761, "Polychlorinated Biphenyls (PCBs)--Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions, Final Rule." Publication in the Federal Register is expected at some time during the period April 25 through May 2, with an effective date 30 days from publication. Through the good offices of Ted Foley, advance copies have been received here and at EPO. The document, in typescript, runs to 142 pages in the preamble, 14 pages devoted to the record of rulemaking and bibliography, and 88 pages for the rule itself.

In this letter we address the highlights of product implications as we presently understand them so that you may get a feeling for the probable impact of this document on your various businesses as soon as possible. Definitive interpretations will evolve more slowly, after detailed analysis by all concerned.

To facilitate the gaining of in-depth understanding, a meeting is planned for May 8 in Schenectady under the auspices of Ed Simons and John Claussen, with attendance invited by those who participated in the generation of Corporate comments on the proposed rules and/or petitions for exemption from the manufacturing ban. RECO will distribute copies of the Rule in conjunction with separate notice of that meeting.

Scope. This rulemaking addresses all three of the statutory prohibitions in the Toxic Substances Control Act affecting PCBs.

NEJ 000645

April 23, 1979

<u>Statutory Date</u>	<u>Prohibition</u>	<u>Section of Law</u>	<u>Effective Date Established by the Final Rule</u>
1-1-78	No non-totally enclosed activities	6(e)(2)	30 days after publication, i.e., about May 27, 1979
1-1-79	No manufacturing; now interpreted to mean no production of the chemical itself	6(e)(3)(A)(i)	30 days after publication, i.e., about May 27, 1979
7-1-79	No processing--now interpreted to mean no production of transformers, capacitors, etc., or equipment containing such--and no distribution	6(e)(3)(A)(ii)	July 1, 1979

Exemptions and Petitions

Petitions for exemption that have already been filed will be the subject of a separate "Notice of Proposed Rulemaking" scheduled for the same issue of the Federal Register. No advance copy of this Notice is extant at this writing. More than 70 petitions for exemption were received by EPA. The notice will identify each petition and, "in most cases, the action that EPA proposes to take on individual petitions."

Rules establishing procedures for submitting petitions for exemption from the processing and distribution prohibitions will be published "in the near future."

In view of the fact (noted in "Scope," above) that EPA has changed definitions so that certain activities formerly deemed "manufacturing" are now "processing," EPA may conceivably require the refiling of some of the petitions they have already received, adopting the new terminology.

It could turn out that the policy with respect to processing exemptions will be more liberal than some of us have anticipated, in view of the following statement appearing in the Summary of Economic Consequences (XV, B): "...this regulation could potentially have a very costly impact on sellers of electrical equipment containing PCB capacitors if EPA does not provide exemptions from the prohibition on distribution in commerce of PCB Equipment. These costs will be carefully considered in the separate rulemaking concerning exemptions to the July 1, 1979, distribution in commerce ban."

Applicability

Section 761.1, Applicability, provides (among other things) that, "unless it is otherwise specifically provided, the terms PCB and PCBs are used in this rule to refer to any chemical substances and combinations of substances

NEL 000646

April 23, 1979

that contain 50 ppm or greater of PCBs, as defined in § 761.2(s), including any byproduct, intermediate, or impurity manufactured at any point in a process."

The rules for labeling and disposal have been rewritten and incorporated in the present rule, with applicability extended to 50 ppm; however, the 500 ppm concept reappears in a new form, the establishment of a category known as "PCB-Contaminated Transformers"--see definitions, below.

Definitions

Selected significant new definitions are reproduced below:

§ 761.2 Definitions

(s) "PCB" and "PCBs" means any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance."

(t) "PCB Article" means any manufactured article, other than a PCB Container, that contains PCBs and whose surface(s) has been in direct contact with PCBs. "PCB Article" includes capacitors, transformers, electric motors, pumps, pipes and any other manufactured item...

(w) "PCB Equipment" means any manufactured item, other than a PCB Container or a PCB Article Container, which contains a PCB Article or other PCB equipment, and fluorescent light ballasts and fixtures.

(x) "PCB Item" is defined as any PCB Article, PCB Article Container, PCB Container, or PCB Equipment, that deliberately or unintentionally contains or has as a part of it any PCB or PCBs at a concentration of 50 ppm or greater.

(y) "PCB Transformer" means any transformer that contains 500 ppm PCB or greater. (This definition is interpreted as applying to the fluid in the transformer, and not its total bulk.)

(z) "PCB-Contaminated Transformer" means any transformer that contains 50 ppm or greater of PCB but less than 500 ppm PCB (See § 761.31(a)(4) for provisions permitting reclassifying PCB Transformers to PCB-Contaminated Transformers.)

"Process." The EPA has dropped its definition of "Process for Commercial Purposes" and reverted to the definition contained in the Statute, verbatim:

(bb) "Process" means the preparation of a chemical substance or mixture, after its manufacture, for distribution in commerce:

- (1) In the same form or physical state as, or in a different form or physical state from, that in which it was received by the person so preparing such substance or mixture, or

NEL 000647

April 23, 1979

- (2) As part of an article containing the chemical substance or mixture.

"Manufacture." The EPA has dropped its definition of "Manufacture for Commercial Purposes" and reverted to the definition contained in the Statute, with editorial changes only: (n) "Manufacture" means to produce, manufacture, or import into the customs territory of the United States."

The use of the statutory definitions for "processing" and "manufacturing," combined with the new definition of "PCB" is consistent with the reinterpretation of the statutory bans previously noted. The new definitions of PCB Transformers and PCB-Contaminated Transformers appear to answer industry's principal objection to the 50 ppm applicability rule, as discussed below.

Implications for GE Product Lines and Company Components

- Capacitor Products Department. No surprises noted here. The manufacturing ban, § 6(e)(3)(A)(i) no longer is considered applicable to the production of capacitors, but such activity is banned nevertheless under 6(e)(2) as a non-totally-enclosed activity, 30 days after printing of the Notice in the Federal Register, because the manufacturing processes are themselves not "totally enclosed."

As in the proposed rule, small capacitors may be disposed of in municipal solid waste (unless the capacitors are owned by manufacturers of capacitors or capacitor-containing equipment).

- Large Transformer Business Division:

Transformers (except Railroad Transformers). As with the case of capacitors, manufacturing of PCB transformers is banned under the "non-totally enclosed" provision, 30 days after the Rule is promulgated in the Federal Register. This determination is not based on the degree to which the transformer is sealed, but depends upon the fact that the manufacturing processes are not themselves "totally enclosed."

Under the final rule, transformers are in effect classified into three groups: those whose fluid contains 500 ppm PCB or more, termed "PCB Transformers"; those containing from 50 ppm to 500 ppm, termed "PCB-Contaminated Transformers," and those containing less than 50 ppm. There are different rules for each class to govern servicing, rebuilding, and disposal.

A PCB Transformer is one that contains 500 ppm or more PCB. § 761.31(a)(3) provides that "any servicing (including rebuilding) of PCB Transformers that requires the removal of the transformer coil from the transformer casing is prohibited. PCB Transformers may be topped off with PCB dielectric fluid."

NEL 000648

April 23, 1979

At ultimate disposition, the coolant requires disposal in an approved incinerator. After flushing and draining, the PCB Transformer carcass may be disposed of in a Chemical Waste Landfill.

A PCB Transformer may be drained and refilled with new dielectric of a non-PCB type, placed back in service for three months, and then tested for possible reclassification as a PCB-Contaminated Transformer (50-500 ppm) or as a non-PCB transformer (less than 50 ppm).

A PCB-Contaminated Transformer (50-500 ppm) may be serviced or rebuilt as desired. Drained fluid need not go to an approved incinerator, but may be added in quantities of less than 10% to the fuel of a high-efficiency boiler, such as a utility boiler, under specified controls, or disposed of in an approved chemical waste landfill.

If you are willing to assume that your oil transformer is contaminated (i.e., contains between 50 ppm and 500 ppm of PCB), there is no requirement to test it. You may test it, optionally, to seek status as a non-PCB transformer, containing less than 50 ppm, and subject to less burdensome disposal requirements. EPA's presumption is that every large fluid transformer is either a PCB Transformer or a PCB-Contaminated Transformer. We shall have to determine whether this concept will continue to be applied to new production of oil transformers in facilities that have never been used for PCB, and whether the EPA will apply this concept to such apparatus as silicone fluid transformers or chlorofluorocarbon vapor-cooled transformers. These matters are not discussed in the Rule or its Preamble.

No labels need be applied to PCB-Contaminated Transformers.

The disposal of a drained PCB-Contaminated transformer body is not regulated.

"Non-PCB" transformers come under the rule in one respect. Even if tests show less than 50 ppm of PCB in the fluid, the waste fluid may not be used for dust-control, as a sealant, or as a coating, if it contains any detectable amount of PCB. Otherwise, the term "Non-PCB Transformer" is not defined in the Rule, and no restrictions apply.

- Transformer Servicing by Service Shops. Adding PCB to a customer's transformer in servicing the product is considered by the EPA to be "distributing PCBs in commerce" and cannot be performed unless the EPA grants an exemption to the service shop.

The discussion in the Preamble of how to recategorize a PCB transformer as a PCB-contaminated transformer (see explanation under "Transformers," above) seems based on the assumption that such work will be done by the owner/operator rather than by a service shop. The requirement for three month's operation before testing and reclassification would obviously make it difficult to perform such conversion in a service shop.

NEEL 000649

April 23, 1979

- Testing and Analysis in Company Laboratories. Our interpretation has been that a Company laboratory may receive and analyze a specimen of transformer dielectric belonging to a client without requiring an EPA authorization or exemption. However, it appears that such samples obtained after the effective date of the Rule must be originally packaged in 5.0 mL containers, hermetically sealed, to conform with the definition of "small quantities for research and development," a concept that includes samples for analysis. *Presumably, this is not a problem for the Company.*
- GESCO Inventory. In order to sell equipment such as fluorescent ballasts known or presumed to contain PCB capacitors, after 7-1-79, an exemption must be obtained from EPA, from the ban on distribution in commerce. Rules for applying for such exemption are to be published in the near future, as previously noted.
- Silicone Products Business Department. EPA has changed the ban regulation proposal under which we sought to establish that we do not need an exemption to manufacture phenylchlorosilanes. Note that the Applicability rule, quoted above, refers specifically to "any byproduct, intermediate, or impurity manufactured at any point in a process." Apparently, annual exemption from the PCB manufacturing ban will be required for the manufacture of phenylchlorosilanes. This point is addressed directly in the Preamble. "All manufacturing or processing operations must be adequately controlled so that PCBs are not present at concentrations greater than 50 ppm at any point in the manufacturing process except when concentrating waste streams."
- Transportation Systems Business Division:

Railroad Transformers. Railroad transformers and railroad transformer manufacturing are both regarded as not meeting the criteria for being "totally enclosed." However, EPA has recognized that the 1000-odd electric locomotives and self-powered cars could not have their transformers immediately replaced without an unacceptable curtailment of railroad service. They initially proposed a phased reduction in PCB content of RR transformers. In the final rule, both the percent PCB residue and the timetable have been liberalized in response to industry comments. EPA is requiring that railroad transformers contain no more than six percent PCB by January 1, 1982. By January 1, 1984, the concentration of PCBs in the transformers must not exceed 1,000 ppm.
- Ballasts, Drive Systems and Outdoor Lighting Fixtures. See comments above on "Exemptions and Petitions."

Generic Issues Commented upon by GE

In extending applicability to 50 ppm, EPA is still being guided by regulatory feasibility rather than any showing of "unreasonable risk"; however, the new rule is far less burdensome than the proposal: transformer testing and labeling

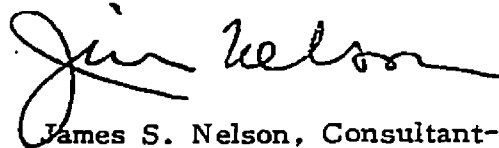
NEL 000650

To: Distribution

- 7 -

April 23, 1979

is not required, additional disposal options have been introduced for PCB-contaminated transformers in the 50-500 ppm range, and waste streams from processes individually containing less than 50 ppm may be concentrated to a value greater than that for purposes of disposal, without an exemption being required.



James S. Nelson, Consultant-
Product Environmental Compatibility

JSN:cas

NEL 000651

GENERAL ELECTRIC

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NEEL 000654



4/2

COPIES:

SUBJECT

APRIL ACTIVITIES REPORT
--James S. Nelson--

May 2, 1979

Mr. J.F. McAllister
--Office--

REDACTED

4. PCB Ban: Final Rule

A pre-publication copy of the 244-page PCB ban rule was obtained from EPA by Ted Foley and reviewed. An interpretive summary was prepared by Mr. Nelson and distributed to 60 people in the 23 components with an involvement in PCB products. Federal Register appearance of this document is now estimated to occur the week of May 14. A meeting of interested parties will be held in Schenectady in cooperation with John Claussen and Ed Simons.


J.S. Nelson

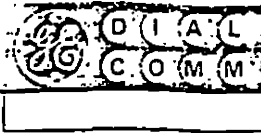
JSN:cas

NEL 000655

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



COPIES:

SUBJECT

- May Activities Report

June 1, 1979

Mr. J. F. McAllister
Office

III. PRODUCT ENVIRONMENTAL COMPATIBILITY (J. S. Nelson)

1. PCB

A meeting was held in Schenectady on May 8, sponsored jointly with Environmental Protection Operation, to review the impact on operating components of the PCB ban rule to be published in the Federal Register of May 31. In a related action, advance copies of a rule for petitioning for exemptions (to be published in the same Federal Register number) were distributed to interested operating components, together with the outline of a plan for coordinated GE petitions (J. S. Nelson letter of May 31, 1979).

REDACTED


James S. Nelson

JSN:sdf

NEL 000656

782504

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431

8*229-2287

SUBJECT

- Petitions for Exemption
from PCB Rules

COPIES: JH Claussen
WF Faison
EM Foley
JF McAllister
EL Simons
JF Young

May 30, 1979

TO: Distribution

Gentlemen:

The EPA has written a new rule for petitioning for permission to continue to process and distribute in commerce certain PCB articles and equipments and to perform certain servicing operations. This rule, entitled "Interim Procedural Rules for Exemptions From the Polychlorinated Biphenyl (PCB) Processing and Distribution in Commerce Prohibitions," was signed on May 11, 1979 by the Acting Assistant Administrator for Toxic Substances and is expected to appear in the Federal Register of May 31, 1979. An advance copy is enclosed.

Any GE component requiring an exemption under this new rule must arrange for filing a petition with EPA by July 1, 1979. The act of filing will permit the requested activity to be performed at least until EPA acts upon the petition and issues a Final Rule in January, 1980. Those components that have already filed a petition (under the old definition of "manufacturing") need not re-file. Silicone Products' petition is being handled as a "manufacturing" petition under the new definition of manufacturing. The other components' petitions will be treated as "processing" petitions and require only reaffirmation.

NEEL 000657

782505

GENERAL ELECTRIC

To: Distribution

-2-

May 30, 1979

The following is a tabulation of our present understanding of the status of existing petitions and a list of those that may be needed, supplementing John Claussen's letter of May 18:

Component	Activity Requiring Exemption	EPA Code*	Action Needed
** Silicone Products Business Dept.	The production of phenyl-chlorosilanes with PCB as unwanted byproduct.	N.A.	EPA is reserving decision on previously filed petition; Department to supply more information upon receipt of request from EPA.
**Ballast Product Section	Processing ballasts with PCB capacitors (if such permission is granted to others), and importing capacitors for such purpose.	7	Reaffirm original petition. For this purpose, EPA will apparently treat importation in the same manner as domestic assembly, so the petition, as filed, is suitable for consideration as a "processing" petition.
**Lighting Systems Department	Building ballasts and fixtures with PCB capacitors and importing capacitors.	7,8	Same as above
**Motor and Drives Business Division	Assembling capacitor motors and equipment incorporating capacitor motors, utilizing existing stock of capacitors.	7,8	Reaffirm petition.
Apparatus Service Business Division (See also last item in tabulation)	Servicing of transformers with PCB fluid, railroad transformers, mining equipment.	N.A.	File petition on individual basis, as no "class petition" code is applicable.
	Servicing PCB transformers with Iralec, in present situation of Iralec contaminated with more than 50 ppm PCB.	1	Petition must be filed if contaminated Iralec is to be used.
Transportation Systems Business Division	Joint petition with ASBD for Metroliner overhaul contract completion.	7	File petition with ASBD.
GESCO	Distribution of PCB equipment in inventory.	9	File petition for equipment sale.
	Distribution of PCB articles (capacitors) in inventory.	4	Consider filing a petition under Code 4 to cover distribution of capacitors by GESCO and its customers for servicing equipment.

*Basis for petition as listed on page 3-7 of advance copy of Processing Rule, with provision for coverage of others in the distribution chain. N.A. = not applicable.

**Included in consolidated petition filed Nov. 29, 1978.

NEL 000658

GENERAL ELECTRIC

To: Distribution

-3-

May 30, 1979

Component	Activity Requiring Exemption	EPA Code	Action Needed
Major Appliance Business Group	Continued sale by GE's distributors and retailers who have PCB appliances in inventory.	9	File petition for each type of appliance, to cover each person in the distribution chain, (without need for naming each distributor or retailer).
Television Bus. Department	Same	9	Same. (Considering class petition with EIA).
Air Conditioning Bus. Division	Same	9	Same as MABG.
Capacitor Products Department, Large Transformer Bus. Division, Corporate Research and Development, and ASBD.	Process and distribute small quantities for research and development; receive and analyze customer samples.	5	Petition may (or may not) be needed to authorize sending fluids to researchers such as Dr. Selikoff or the EPA at Research Triangle Park. Clarification should be requested from EPA. A written statement should also be requested on whether samples for analysis of customer problems require exemption.

John H. Claussen, Counsel-Environmental Protection and the undersigned are available to give such help as may be needed to produce coordinated petitions. If your component requires a petition, and wishes to have it consolidated with other Company petitions and forwarded with a common cover letter (as was done for the first round of "manufacturing" petitions), adherence to the following very tight schedule will be necessary:

Draft of component petition or reaffirmation statement, with supporting information as specified in the enclosure, to Claussen & Nelson	June 13
Draft of consolidated petition assembled from Component drafts	June 20
Final document mailed to EPA	June 27

Please call me at 8*229-2287 or John Claussen at 8*235-9058 to signal your intention.

Very truly yours,


James S. Nelson, Consultant
Product Environmental Compatibility

JSN:rss

782507

NEL 000659

DISTRIBUTION LIST
(Components with history of PCB Products)

Air Conditioning Business Division

James E. Britt, Louisville
Stanley A. Gorski "
Charles M. Madanick "

Apparatus Service Business Division

A. Melcher Anderson, Atlanta
Edward W. Feuerstein, Schenectady
David Hecker "

Appliance Components Business Division

Donald W. Mohrman, Fort Wayne
Daryl Patton "

Contractor Equipment Business Division

Raymond C. Allen, Bridgeport
William M. Nave "

Data Communication Products Business Department

John W. Swett, Waynesboro
Javier Urioste "

Distribution Transformer Business Department

N. M. Neagle, Hickory, N.C.
P. L. Waldon "
Delbert L. Williamson "

Electronic Systems Division

Richard C. Hatch, Syracuse
Robert O. Richards "

Electronic Components Business Division

James F. Madole, Owensboro
John F. Repko, Syracuse

Capacitor Products Department

Ruth Arisman, Hudson Falls
Frank Price "

GESCO

H. F. Boyer, Bridgeport
W. S. Gray "

Installation & Service Engineering Business Division

George N. Bull, Schenectady

NEL 000660

Distribution List (continued)

Large Transformer Business Division

Edward L. Dobbins, Pittsfield
 Raymond W. Frahm, Rome
 Andrew Glassanos, Pittsfield
 Robert C. Osthoff "
 William M. Rodgers, Rome

Lighting Business Group

Thomas P. Segerson, Nela Park

Lamp Products Division

Alfred B. Gough, Danville, Ill.
 James C. Flynn "
 Douglas E. Duffies, Nela Park

Lighting Systems Department

Douglas B. Abrams, Hendersonville, N.C.
 Reuel L. Davis, Jr. "
~~Philip R. Milroy~~ "

Major Appliance Business Group

Edward Conners, Louisville
 Philip V. Otero "

Range Engineering Department

Robert V. Chou, Louisville

Medical Systems

J. Olsson, Milwaukee

Mobile Radio Products Department

Raymond E. Baker, Lynchburg
 L. Keith Elrod "

Motors and Drives Business Division

Paul G. Cummings, Schenectady
 Donald A. Ross, Salem, Va.
 Malcolm Olson, Erie, Pa.
 Randolph L. Houlton, Nashville, Tenn.
 Joseph L. Yosafat, Salem, Va.
 Thomas J. Managhan "
 James R. Olin "

Silicone Products Department

Thomas H. Fitzgerald, Waterford, N. Y.
 Edward M. Jerum "

NET 000661

Distribution List (continued)

Switchgear Business Department
Charles H. Titus, Philadelphia

Television Business Department
Alford E. Allen, Portsmouth, Va.
James P. Flynn "

Transportation Systems Business Division
Lorne L. MacMonagle, Erie
Roger Boucher "

Copies also to:

L. J. Campanella, Washington, D. C.
W. R. Kruesi, Fairfield, Conn.
J. M. Phillips, Schenectady
A. M. Toothaker "
J. F. Brown, CR&D "

PRODUCT QUALITY STAFF
GENERAL ELECTRIC
FAIRFIELD, CONNECTICUT 06431



SUBJECT

COPIES: J. H. Claussen
R. L. Davis, Jr.
bcc: J. F. McAllister

May 31, 1979

Mr. Jim Wilcoxson
Manager-Distributor Sales
Lighting Systems Department
Hendersonville, N. C.

Dear Jim:

In our telephone conversation of May 4, you expressed concern that some of your distributors may have unsold equipment in stock, containing PCB capacitors. A rule published in today's Federal Register provides several options to take care of such situations. An advance copy of this rule, together with a cover letter on the subject mailed to a number of people including three at Lighting Systems, is enclosed.

Depending upon the circumstances, a trade association may request an exemption in behalf of its members, a distributor may petition in his own behalf, or the manufacturer (LSD) may petition in behalf of its distributors and retailers down the line.

If you feel that a GE petition is in order for your situation, it is suggested that you get together with Reuel Davis and coordinate with us as described in the aforementioned letter.

Very truly yours,


James S. Nelson, Consultant
Product Environmental Compatibility

JSN:sdf

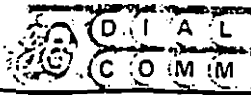
NEL 000663

782511

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



SUBJECT

PCB Petitions Status

COPIES: L.J. Campanella
J.H. Claussen
W.F. Faison
E.M. Foley
J.F. McAllister
J.F. Young

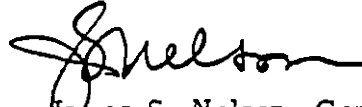
June 18, 1979

To: Messrs. Reuel L. Davis, Jr.
Thomas H. Fitzgerald
Alfred B. Gough
Edward M. Jerum
Thomas J. Managhan
James R. Olin
Donald A. Ross
Thomas P. Segerson

Gentlemen:

Enclosed for your information is a letter from EPA relative to the previously filed petitions for exemption from the PCB ban rule, and Mr. Young's reply. As you are aware, a new round of petitions and reaffirmation statement is being prepared by the components involved and coordinated through John Claussen's office, with participation by the undersigned.

Very truly yours,

A handwritten signature in cursive script, appearing to read "J. Nelson".

James S. Nelson, Consultant-
Product Environmental Compatibility

JSN:cas

Enclosures

NEL 000664

782512

GENERAL ELECTRIC
GENERAL ELECTRIC COMPANY
FAIRFIELD, CONNECTICUT 06431

JAMES F. YOUNG
VICE PRESIDENT-TECHNICAL RESOURCES

June 18, 1979

Mr. John P. DeKany
Deputy Assistant Administrator for
Chemical Control
Office of Toxic Substances
United States Environmental Protection Agency
Washington, D. C. 20460

Dear Mr. DeKany:

Thank you for your letter and its enclosures relative to General Electric petitions for exemption from the PCB Prohibition Rule. We understand that, of the four petitions previously submitted, only the one dealing with an exemption to continue to manufacture phenylchlorosilanes with unintentional PCB impurities is to be evaluated as a part of the rulemaking for manufacturing exemptions. We shall undertake to provide answers to the five questions contained in your letter within the thirty-day time period requested. Inasmuch as your letter was undated and received here on June 12, 1979, we trust it will be satisfactory to reply by the time of the hearing on July 9, 1979.

We are in the process of restudying the other three petitions, now classified as processing and distribution, to determine what modification, if any, is appropriate under the new rule governing such submissions and other developments. We shall communicate separately with respect to this group and additional petitions of this nature that we plan to submit.

Sincerely,



JFY:sdf

cc: Harold J. Snyder

NEL 000665



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF TOXIC SUBSTANCES

RECEIVED

JUN 12 1979

JAMES F. YOUNG

Mr. James F. Young, Vice President
Technical Resources
General Electric Company
3135 Easton Turnpike
Fairfield, CT 06431

Dear Mr. Young:

This letter is a follow-up to a conversation that Ms. Lucy Sibold of my office had with Mr. Lewis Campanella of your company on May 17, 1979. Ms. Sibold informed Mr. Campanella of the results of the Environmental Protection Agency's (EPA) evaluation of your requests for exemptions from the PCB Prohibition Rule. EPA has decided that it will not evaluate, at this time, three of your company's four exemption requests, but will evaluate them during the processing and distribution in commerce exemption rulemaking. These three exemptions dealt with the manufacture of equipment, ballast transformers, lighting fixtures, and motors that contain PCB capacitors. EPA has redefined the term "manufacture" such that the production of equipment that contains PCB components is no longer considered "manufacture" but is considered "processing". As a result, this activity is no longer subject to the January 1 ban on manufacture but is subject to the July 1, ban on processing and distribution of PCBs. (See the enclosed notice of manufacturing exemptions (44 FR 31564)).

With respect to your fourth exemption request to continue to manufacture phenylchlorosilanes with unintentional PCB impurities, EPA has not proposed a disposition on your petition due to the technical complexity of your exemption request.

NEL 000666

I would like to emphasize that this is not our final disposition on your petition on phenylchlorosilanes. As a matter of fact, it has been determined that more information is needed before EPA can make a decision. In order to assist EPA in making an adequate assessment of this request, the Agency asks that you answer the following questions:

1. Please state whether there is any worker exposure to PCBs in the manufacture of phenylchlorosilanes. If so, what is the extent of the exposure? Also, please indicate any procedures that have been taken to minimize worker exposure.
2. Please describe in detail how PCBs are removed and concentrated for disposal during the phenylchlorosilane purification process.
3. Please state the quantity of PCB water effluents and air emissions resulting from the manufacture of phenylchlorosilanes.
4. What would the economic impact of a denial of this exemption request be on both you and your customers?
5. Please explain specifically what efforts you have made to find a substitute which does not result in the production of PCBs.

Please furnish two copies of the request information within thirty days from the date of this letter to the Hearing Clerk at the following address:

Ms. Linda Thomson (TS-794)
Office of Toxic Substances
Environmental Protection Agency
401 M St., SW
Washington, DC 20460

If you wish to claim confidential status for a portion of this response, please see Section 750.16 of the Interim Procedural Rules for PCB Exemptions (43 FR 50905, November 1, 1978) which explains how confidential material may be filed.

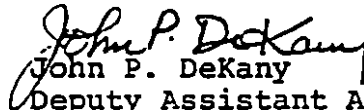
We welcome your comments and invite you to participate in our hearings on these petitions. We anticipate that the hearing will be held beginning July 9, 1979 in Washington, DC. The exact location will be made available through our Industry Assistance Office at (800) 424-9065.

NEL 000667

Also enclosed with this letter are two other pertinent Federal Register notices. The first is a copy of the procedural rules governing the rulemaking and hearing process for PCBs manufacturing exemptions (43 FR 50905). The second is a copy of rules describing the procedures for filing for an exemption from the processing and distribution in commerce bans (44 FR 31560).

If you have any questions about this letter, please contact Harold J. Snyder at (202) 755-1188.

Sincerely,


John P. DeKany
Deputy Assistant Administrator
for Chemical Control

cc: Lewis J. Campanella, Esq.
Counsel - Regulatory Affairs
General Electric Company
777 14th Street, NW
Washington, DC 20005

NEL 000668

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY

FAIRFIELD, CONNECTICUT 06431

JAMES F. YOUNG
VICE PRESIDENT-TECHNICAL RESOURCES

June 29, 1979

Document Control Officer (TS-793)
Office of Toxic Substances
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Attention: Docket Number OTS/066002

Dear Sir:

In accordance with interim procedural rules promulgated by the Agency on May 31, 1979 (44 FR 31558), the General Electric Company submits the enclosed petition for individual and class exemptions from the bans on processing and distribution in commerce of polychlorinated biphenyls (PCBs).

Activities for which exemptions are requested have been grouped into the following categories:

- 1) Distribution of PCB Equipment (individual and class);
- 2) Distribution of PCB Capacitors for Purposes of Repair (individual and class);
- 3) Distribution of Other PCB Capacitors (individual);
- 4) Processing of PCB Capacitors into PCB Equipment and Subsequent Distribution (individual);
- 5) Processing of PCB Equipment into Other PCB Equipment (class);
- 6) Processing and Distribution with respect to Servicing of Transformers (individual); and
- 7) Processing and Distribution with respect to Test Samples and R&D (individual).

Of the four "manufacturing" exemptions requested in our 11/28/78 letter, only one is classified as a "manufacturing" activity under the definitions set forth in the 5/31/79 final rule. Our petition for this manufacturing exemption, which applies to the manufacture of phenylchlorosilanes with unintentional PCB impurities by our Silicone Products Department in Waterford, New York, continues to be active. (In this connection, it is our interpretation that the final ban regulations do not require a processing exemption for this activity. If the Agency considers a processing exemption necessary for continuation of this activity, please consider the pending petition amended to include processing.) The three other requests contained in our 11/28/78 letter, now classified as involving processing and/or distribution activities, are included in this petition in modified form in accordance with the 5/31/79 interim procedural rules applying to processing and distribution.

NEI 000669

PETITION BY THE GENERAL ELECTRIC COMPANY
FOR PROCESSING AND DISTRIBUTION EXEMPTIONS
UNDER SECTION 6(e)(3)(B) OF THE
TOXIC SUBSTANCES CONTROL ACT

In accordance with Part 750, Subpart C, of Title 40 of the Code of Federal Regulations (44 FR 31558; May 31, 1979), the General Electric Company hereby petitions the U.S. Environmental Protection Agency for the following processing and distribution exemptions under Section 6(e)(3)(B) of the Toxic Substances Control Act (15 USC 2605(e)):

NO. 1 - DISTRIBUTION OF PCB EQUIPMENT (Individual and class
exemptions)

(1)* Identification of Petitioner

The name, address and telephone number of the petitioner for all exemptions requested in this petition are:

James F. Young, Vice-President-Technical Resources
General Electric Company
Fairfield, Connecticut 06431
Telephone (203) 373-2406

(2), (5) & (9) Exemptions Requested, Estimated Amounts of PCBs and
Distributor Information (confidential in part)

Individual exemptions are requested to continue distribution in commerce of PCB equipment from existing inventories by several organizational components of General Electric including but not limited to the General Electric Supply Company Business Division, Television Business Department, Motors and Drives Business Division, Major

* Information is supplied in the format specified in 40 CFR 750.31(d). Items (1) and (4) apply to all requests in this petition, and are not repeated.

EXHIBIT C
DISTRIBUTION OF PCB CAPACITORS
FOR PURPOSES OF REPAIR

<u>Type of Capacitor</u>	<u>Estimated Number to be Distributed</u>	<u>Estimated Total Amount of PCBs (lbs.)</u>	<u>Economic Consequences of Denial</u>
Countertop Microwave Oven	206	39	\$ 1,040 ¹
Room Air Conditioners	6,415	2,245	68,600 ²
Central Air Conditioners, Packaged Terminal Air Conditioners, Furnaces	<u>796</u>	<u>833</u>	<u>7,200</u> ³
TOTAL	7,597	3,117	\$76,840

- 1 Based upon replacement cost of \$400, disposal cost for PCB capacitors of \$400, shipment costs of \$40, and administrative, labor and other costs of \$200.
- 2 Based upon replacement cost of \$36,000, disposal cost for PCB capacitors of \$13,000, shipment costs of \$3,600, and administrative, labor and other costs of \$16,000.
- 3 Based upon replacement cost of \$4,000, disposal cost for PCB capacitors of \$2,000, shipment costs of \$200, and administrative, labor and other costs of \$1,000.

NIEL 000671

EXHIBIT PAGES
CONTAINING CONFIDENTIAL INFORMATION
TO ACCOMPANY PETITION BY THE
GENERAL ELECTRIC COMPANY FOR
PROCESSING AND DISTRIBUTING
EXEMPTIONS UNDER SECTION 6(e)(3)(B)
OF THE TOXIC SUBSTANCES
CONTROL ACT

June 29, 1979

NEEL 000672

CONFIDENTIAL

EXHIBIT A

DISTRIBUTION OF PCB EQUIPMENT

<u>Type of Equipment</u>	<u>Number to be Distributed</u>			<u>Number of Distributors</u>	<u>Estimated Amt. of PCBs per Item (lbs.)</u>	<u>Estimated Total Amt. of PCBs (lbs.)</u>
	<u>GE¹</u>	<u>Other²</u>	<u>Total</u>			
Fluorescent lighting fixtures	44,000	not available	44,000+	30,000 ⁷	.06	2,640
High intensity discharge (HID) lighting fixtures	4,000	not available	4,000+	30,000	.50	2,000
Fluorescent & HID lighting ballasts (95% are fluorescent)	33,000	400,000	433,000	31,600 ⁸	.06 - .50	35,560
Electric motors, fractional to 5 hp (majority are fractional hp)	600	not available	600+	30,000 ⁷	.55	330
Exhaust and circulating fans (1/3 hp motors)	100	not available	100+	30,000 ⁷	.18	18
Television receivers (25 inch color)	600	4,300	4,900	6,000	.10	490
Electrical Drive Systems equipment ³	400	not applicable ⁶	400	not applicable ⁶	.25	100.
Room Air Conditioners	not available ⁵	not available ⁵	24,500	18,000	.35	8,575
Packaged/Terminal Air Conditioners	"	"	1,000	200	.35	350

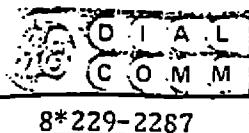
NET 000673

700501

EXHIBIT B
ECONOMIC CONSEQUENCES OF DENIAL -
DISTRIBUTION OF PCB EQUIPMENT

<u>Type of Equipment</u>	<u>Cost of Denial</u>		<u>Total</u>
	<u>GE</u>	<u>Other</u>	
Fluorescent Lighting Fixtures ¹	\$ 725,000	not available	\$ 725,000+
High Intensity Discharge Lighting Fixtures ¹	225,000	not available	225,000+
Fluorescent & HID Ballasts ¹	330,000	\$ 4,000,000	4,330,000
Electric Motors ¹ (fractional to 5 hp)	55,200	not available	55,200+
Exhaust & Circulating Fans ¹ (with 1/3 hp motors)	10,000	not available	10,000+
Television Receivers ² (25 inch color)	27,000	193,500	220,500
Electric Drive Systems Equipment ³	20,000	not applicable	20,000
Room Air Conditioners ⁴	not available	not available	2,352,000
Packaged/Terminal Air Conditioners ⁵	not available	not available	55,000
Central Air Conditioners ⁶	not available	not available	62,100
Furnaces (home heating) ⁷	not available	not available	18,750
Microwave Ovens ⁸	not available	not available	2,868,400
Control Equipment ⁹ - Transportation and Drilling Operations	120,750	not applicable	120,750
TOTAL	\$1,512,950+	\$4,193,500+	\$11,062,700+

PRODUCT QUALITY STAFF
GENERAL ELECTRIC
FAIRFIELD, CONNECTICUT 06431



M-1.17 PCB
Exem

SUBJECT

8*229-2287

• PCB Processing and
Distribution Exemptions

COPIES: L.J. Campanella
J.H. Claussen
W.F. Faison
E.M. Foley
J.F. McAllister
E.L. Simons
J.F. Young
Sector Technologists

54

July 2, 1979

TO: DISTRIBUTION

Gentlemen:

Enclosed is a copy of the consolidated petition for PCB processing and distribution exemptions delivered to EPA today. A copy is being sent to one or more individuals in each component participating and mentioned in the petition. Kindly share your copy with others who have a need to know, bearing in mind, of course, that confidential information pertaining to other components is included.

Mr. Young has indicated his appreciation of the cooperation that made it possible to produce this statement in the short time available, to which John Claussen and I add our thanks, also.

Very truly yours,

James S. Nelson, Consultant-
Product Environment Compatibility

JSN:cas

Enclosures

NEL 000674

782523

DISTRIBUTION

J.F. Brown, Jr.

R. Boucher

C.R. Breese

G.N. Bull

R.L. Davis

E.L. Dobbins

E.W. Feuerstein

J.P. Flynn

A.B. Gough

W.S. Gray

D. Hecker

B. Hunter

E.M. Jerum

L.L. MacMonagle

T.J. Managhan

R.C. Osthoff

P.V. Otero

F. Price

J.F. Repko

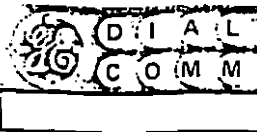
J.K. Restricks

D.A. Ross

J.P. Slattery

J.M. Trani

NEL 000675



COPIES:

55

SUBJECT

- June Activities Report

July 3, 1979

Mr. J.F. McAllister
Office

III. PRODUCT ENVIRONMENTAL COMPATIBILITY

1. TSCA Ban on Processing and Distributing PCBs

Assistance was provided in the development of a consolidated petition for exemptions to the PCB ban rule on processing and distribution, in behalf of seventeen departments and divisions. This document was forwarded to EPA by Mr. Young, with a cover letter, and receipt was acknowledged by EPA on July 2, to Mr. Foley. Record copies were mailed to all participating components.

2. TSCA Ban on Manufacturing PCBs

As a consequence of EPA's interpretation that the ban on manufacturing PCBs applies also to the formation of monochlorinated and dichlorinated biphenyls as unwanted byproducts not appearing in the end product, Silicone Products was constrained to petition for exemption last November. As a meeting in Waterford on June 19 and by other means, Mr. Nelson has participated in the development of a follow-up strategy for this petition. Included in this effort is the development of answers to five specific questions posed by EPA and consideration being given to litigating the issue of applicability of the ban to inadvertent byproducts stripped from the product and destroyed.

REDACTED

NEL 000676

July 3, 1979

4. Information Letter on PCBs

Jointly with EPO, an information letter on the new PCB rules was distributed throughout the Company. Responses revealed two applications of the chemical previously unknown to EPO or PQS: the use in pigments at the Chelsea paint plant of Laminated and Insulating Products and the use in pigments for certain plastics. (The Chelsea application will be covered by a class petition filed by the National Paint and Coatings Association. Plastics Division elected to destroy its small inventory of pigments containing PCB and make use of available substitutes.)

REDACTED

Very truly yours,


J.S. Nelson

JSN:cas

NEL 000677

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



COPIES:

SUBJECT
July Activities Report
James S. Nelson

July 30, 1979

Mr. J.F. McAllister
Office

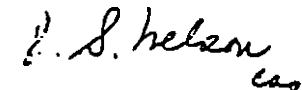
III. PRODUCT ENVIRONMENTAL COMPATIBILITY

I. PCBs

At the request of Silicone Products Department, Mr. Nelson participated as a resource person with the team testifying before EPA with regard to SPBD's petition for an exemption from the PCB manufacturing ban, and later provided comments on their draft of Reply Comments.

At this writing, a final determination has not been made as to the advisability of SPBD challenging in court the applicability of the manufacturing ban to its inadvertent byproduct situation. The issue hinges on legal advice as to the likelihood of success.

REDACTED


J.S. Nelson

JSN:cas

NEEL 000678

782527

PRODUCT QUALITY STAFF
GENERAL ELECTRIC
FAIRFIELD, CONNECTICUT 06431



COPIES:

SUBJECT

- August Activities Report
James S. Nelson

September 7, 1979

Mr. J.F. McAllister
- Office -

REDACTED

3. PCBs

As a companion strategy to their petition for exemption from the PCB manufacturing ban, Silicone Products Business Department has filed suit to test EPA's interpretation of the PCB ban in TSCA as applying to unwanted byproducts not appearing in the final product.

Handwritten signature of J.S. Nelson.
J.S. Nelson

JSN:cas

NEL 000679

782528

LETTERBOOK

S.S. Nelson

1980

NEL 000680

782529

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



8*229-2287

SUBJECT

"WEEPING" TRANSFORMERS

COPIES: T. L. Mayes
J. F. McAllister
R. L. Reinhart
E. L. Dobbins
N. M. Neagle

W. T. Smith 52

*LB#22
(file ~~446~~
0-145)*

March 21, 1980

Dr. R. C. Osthoff, Manager
Large Transformer Technical Resources
Pittsfield

Dear Bob:

In our telephone conversation of March 21, 1980, we agreed that responsibility for determining what response may be appropriate to EPA's request for information on the phenomenon of PCB transformer "weeping" (45 FR 14232, copy attached) lies with LTBD. While EEI's letter referenced in the Federal Register may have triggered this request for information, the attached news item from Air/Water Pollution Report also seems pertinent.

Jellinek has taken the position before the House Commerce Oversight Subcommittee that transformers generally do not leak and are not a major source of environmental contamination. I am sure he would welcome any data that we could supply in support of his contention.

Very truly yours,


James S. Nelson

JSN:dem
Attach.

NEL 000681

782530

40 CFR Part 250

(FRL 1428-4)

Hazardous Waste and Hazardous Waste Management, Availability of Information on Hazardous Waste Testing Procedures

AGENCY: Environmental Protection Agency.

ACTION: Notice of Availability of information on hazardous waste testing procedures.

SUMMARY: The Environmental Protection Agency (EPA) is today making available to the public a report on hazardous waste testing procedures which was completed and published after the close of the comment period on EPA's proposed regulations implementing Section 3001 of the Resource Conservation and Recovery Act of 1976 (RCRA), as amended (43 FR 58949-58968, December 18, 1978).

DATES: Comments on this report are due on or before April 4, 1980.

ADDRESSES: Comments should be addressed to Deborah Villari, Office of Solid Waste (WH-562), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460, (202) 755-9173. Comments should be identified as referring to the Section 3001 regulatory docket.

Copies of the report described in this notice are available for reading at the EPA Library-Public Information Reference Unit (Room 2402) and the RCRA Docket Room (Room 2711), both located at 401 M Street, S.W., Washington, D.C. 20460, and at all EPA Regional libraries during the hours of 9:00 a.m. to 4:30 p.m., Monday through Friday. Copies may also be ordered from Ed Cox, Solid Waste Information, U.S. Environmental Protection Agency, 28 West St. Claire Street, Cincinnati, Ohio, 45268, (513) 684-5362 (Order Number SW-844). EPA plans to provide the report noticed today free of charge to all who request copies. However, the Agency may charge \$0.20 per page for photocopying if the available copies run out.

FOR FURTHER INFORMATION CONTACT: Deborah Villari, Office of Solid Waste (WH-562), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460 (202) 755-9173.

SUPPLEMENTARY INFORMATION: During the development of its proposed Section 3001 regulations, EPA initiated several studies to develop and evaluate test methodology for use in these regulations. In a number of cases, reports of progress on those studies have only recently become available.

The purpose of this notice is to announce the availability of one of these progress reports for public comment.

The report which EPA is making available to the public today is: "Toxicity of Leachates (Order Number SW-844), Oak Ridge National Laboratory, Oak Ridge, TN 37830."

This report represents a multidisciplinary research effort that was undertaken by the Oak Ridge National Laboratory, under an interagency agreement, to assist EPA in developing test procedures for use in its Section 3001 regulations. This progress report covers work performed during the period April 1978 to May 1979, and is a followup on a previous progress report noticed at 44 FR 58725 (October 2, 1979) and 44 FR 78827 (December 28, 1979).

In the course of this study, the Oak Ridge National Laboratory conducted the Extraction Procedures proposed at 43 FR 58958 on several wastes in order to evaluate the procedure from an operational standpoint. These extracts were then chemically and biologically studied in order to determine the potential utility of selected analytical and bioassay procedures as tools for identifying hazardous wastes. This work also includes procedures for preparing organic concentrates from the extracts.

Comments on this report should be submitted to EPA on or before April 4, 1980. The purpose of making this information available to the public is to allow comments on the accuracy of the data contained in the report and the conclusions reached, not to reopen the comment period of the EPA's proposed Section 3001 regulations. Commenters should limit the scope of their written submissions accordingly.

Dated: February 28, 1980.

Eckardt C. Beck,

Assistant Administrator for Water and Waste Management.

(FR Doc. 80-4699 Filed 3-4-80; 8:46 am)

BILLING CODE 5560-01-M

40 CFR Part 761

(FRL 1425-3; OPTS 82008 (PCB/N-1))

Polychlorinated Biphenyls (PCBs); Request for Information on PCB Transformers

AGENCY: Environmental Protection Agency (EPA).

ACTION: Request for Information on PCB Transformers and PCB-Contaminated Transformers.

SUMMARY: EPA is requesting information on certain PCB transformer characteristics apparently referred to in the electrical utility industry as

"weeping" or "sweating". The Agency has identified below some pertinent questions for response. EPA will evaluate the responses and data submitted to determine if any amendments to the PCB regulation should be proposed.

DATE: Written comments on this notice are requested and should be received no later than April 4, 1980.

ADDRESS: All comments should be sent to: Joni T. Repasch, Document Control Officer (TS-793), Office of Pesticides and Toxic Substances, U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460, Attn: Docket Number OPTS/62008.

FOR FURTHER INFORMATION CONTACT: Thomas Barber, Environmental Scientist, Office of Pesticides and Toxic Substances (TS-794), U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460, Telephone: (202) 755-0920; or John Ritch, Director, Industry Assistance Office (TS-799), U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460, Telephone toll free: (800) 424-9065, (in Washington, D.C. call 554-1404).

SUPPLEMENTARY INFORMATION: It has come to EPA's attention that an undefined number of PCB transformers and PCB-contaminated transformers may exhibit a phenomenon which is sometimes referred to in the electric utility industry as "weeping" or "sweating". Apparently, when a transformer "weeps" or "sweats," spots of dielectric fluid may appear on the exterior of the transformer, particularly at the gasket seals of the bushing terminals. According to a letter to the Agency dated November 28, 1979 from counsel for the Utility Solid Waste Activity Group, the Edison Electric Institute, and the National Rural Electric Cooperative Association, "these 'sweats' are the result of age, weather conditions and temperature changes which take place within the [transformer] equipment as the demand for electricity increases and decreases over time."

EPA requests information on the phenomenon of "weeping" or "sweating" and has identified below some pertinent questions. Responses to each question for each of the different transformer types (e.g., pole mounted, substation, pad mounted, etc.), would be especially helpful.

1. What percentage of each of the different types of transformers exhibit this "weeping" or "sweating" phenomenon?

¹ The terms "PCB Transformers" and "PCB-Contaminated Transformers" are defined in Section 761.2(y) and (z) of the PCB regulation (34 FR 31514, 31544, May 31, 1979).

2. What is the average rate of fluid loss (as well as the largest rate of loss observed) from a "weeping" transformer?

3. How can this phenomenon be reduced or eliminated?

4. Is this phenomenon associated with all transformer gaskets, or are there particular gaskets that do not "weep" dielectric fluid even under pressure and after years of use?

5. When or under what conditions does a "weep" become sufficiently large to impair the performance of the transformer? How long does this take after "weeping" begins?

6. When does a transformer begin to "weep"? Does it occur at a particular age, or under severe conditions of operating temperature or electrical load (as a percentage of maximum rated load)?

7. What is the usual industry response to "weeping" transformers when they are identified? (i.e., is the "weeping" ignored, or are the "weeping" transformers scheduled for maintenance)?

Persons are also encouraged to submit any other data or information that is relevant or might be helpful to EPA in understanding the "weeping" problem. EPA will evaluate the responses and data submitted to determine if any amendments to the PCB regulation (44 FR 31514, May 31, 1979) should be proposed.

[Section 6 of the Toxic Substances Control Act (90 Stat. 2020; 15 U.S.C. 2605)]

Date: February 25, 1980.

Sтивен D. Jellinek,

Assistant Administrator for Pesticides and Toxic Substances.

[FR Doc. 80-7049 Filed 3-4-80; 8:45 am]

BILLING CODE 6560-01-M

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office for Civil Rights

45 CFR Part 37

Equal Opportunity in Employment Provisions Applicable to the Public Broadcasting Service, National Public Radio, and Public Telecommunications Entities Receiving Federal Funds from the Corporation for Public Broadcasting.

AGENCY: Office for Civil Rights, U.S. Department of Health, Education, and Welfare.

ACTION: Reopening of Comment Period on Previously Published Notice of Proposed Rulemaking.

SUMMARY: The Office for Civil Rights (OCR), U.S. Department of Health, Education, and Welfare (HEW), is reopening the comment period on the proposed rules for the administration of the equal opportunity in employment provisions under the Public Telecommunications Financing Act of 1978, Pub. L. 95-567, 92 Stat. 2405, 47 U.S.C. 398. The Notice of Proposed Rulemaking (NPRM) was published in the Federal Register on December 21, 1979 (44 FR 75678). Comments on the NPRM were to be submitted by February 19, 1980 in order to receive full consideration. Few comments were received by OCR during the original comment period and numerous requests to extend the comment period were received from parties affected by the proposed rules who were unable to prepare comments by February 19, 1980. In order to allow all interested parties to participate in the rulemaking process, the comment period is reopened until April 1, 1980. It should be noted, however, that all of the comments received thus far are still on file and will be reviewed and considered along with any new or amended comments.

DATES: The comment period is reopened and comments should be submitted on or before April 1, 1980. Comments which have already been submitted should not be resubmitted.

ADDRESS: Comments should be filed with: Director Office for Civil Rights, U.S. Department of Health, Education, and Welfare, P.O. Box 8219, Washington, D.C. 20024.

FOR FURTHER INFORMATION CONTACT: Wendy B. Pailen, (202) 472-3218.

Dated: February 22, 1980.

Roma J. Stewart,

Director, Office for Civil Rights, Department of Health, Education, and Welfare.

Dated: February 28, 1980.

Nathan J. Stark,

Acting Secretary, Department of Health, Education, and Welfare.

[FR Doc. 80-8848 Filed 3-4-80; 8:45 am]

BILLING CODE 4110-12-M

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 15

[Gen. Docket No. 78-391]

Improvements to UHF Television Reception; Order Extending Time for Filing Comments and Reply Comments

AGENCY: Federal Communications Commission.

ACTION: Order.

**HEALTH COUNCIL STRONGLY CRITICIZES
PROPOSED AIR CARCINOGEN POLICY**

its proposed air carcinogen policy, the American Industrial Health Council charged recently. Proposed policy "reflects an unrealistic perspective upon the incidence and causes of cancer," AIHC said in comments submitted to the agency.

The carcinogen policy is designed to identify and regulate hazardous air pollutants. Under the proposal, pollutants are to be classified as hazardous if EPA determines they "present a significant carcinogenic risk to human health" as a result of emissions from one or more stationary sources. After classification, industry would be required to install best available technology to control hazardous pollutants.

However, AIHC charges that the EPA policy fails to establish the need for such a "sweeping, extensive regulatory program" because the agency fails to "establish that ambient air exposure to industrial chemicals is a significant cause of cancer." In addition, the council objects to EPA's intention to include the risk criteria as part of the regulations and urges the agency to issue the criteria as separate guidance. AIHC warns that inclusion of risk criteria as regulations will make modifying the criteria a cumbersome, formal rulemaking proceeding.

In related news, a study commissioned by AIHC estimates that costs associated with the hazardous pollutant policy being considered by EPA are "likely to exceed" \$100-million per year, thus making the proposal subject to an economic impact analysis. The agency has said the proposed rules would not be that expensive, however EPA is directed by the Clean Air Act to ignore costs when setting ambient air standards.

* * *

**REP. DINGELL CONDEMNS EPA
'MISHANDLING' OF BAN ON PCBs**

Phase-out regulations for polychlorinated biphenyls (PCBs) issued last year by the Environmental Protection Agency represent a "flagrant breach of the intent of Congress to protect public health and the environment from future exposures to PCBs," Rep. John Dingell (D-Mich.) told the House Commerce Oversight Subcommittee Feb. 28. Ban on PCBs was mandated by Congress under the Toxic Substances Control Act of 1976 and the manufacture of PCBs not intended for "totally enclosed" uses was banned by EPA last year (A/WPR, June 18, 1979, p. 247). However, Dingell argued that those EPA regulations actually exempt 99% of PCBs currently in use.

Dingell strongly urged EPA to require the phase-out of electric utility transformers using PCBs. These transformers are not "totally enclosed" uses of PCBs, he charged, adding that they leak regularly. Dingell cited a General Services Administration survey which found that over 50% of PCB transformers in the Washington, D.C., area "are now leaking, or show signs of past leaks." EPA is guilty of "regulatory illiteracy" in allowing the continued use of PCBs in transformers, he told the subcommittee. Author of the TSCA provisions on phasing out PCBs, Dingell classified EPA's classification of PCB transformers as a "totally enclosed" use, a "broad and invalid interpretation" of Congressional intent that "flies in the face of common English and common sense."

EPA's Steve Jellinek, Assistant Administrator of the Office of Pesticides and Toxic Substances, "respectfully disagreed" with Dingell's accusations and argued that the transformers generally do not leak and are not a major source of environmental contamination. The agency is now seeking information on how often PCBs condense on the outside of transformers.

* * *

**BACTERIA INHIBITION KEY TO CONTROL
OF ACID MINE DRAINAGE, INTERIOR SAYS**

Inhibiting the bacteria that promote acid formation is the key to tackling the problem of acid mine drainage, an extensive stream pollutant, according to the Interior Department's Bureau of Mines. Recent research indicates that raising the iron content of mine water to 100 parts per million cuts acid production substantially.

According to a paper prepared by a BuMines contractor, sulfuric acid solutions containing iron are formed when pyrite is exposed to oxygen and water in the mine. The chemical reaction is greatly enhanced by two kinds of abundant bacteria, which operate in sequence. The presence of a soluble iron compound in concentrations of 100 ppm inhibits the first species of bacteria, thus breaking the acid-producing chain of events, research has shown.

To date, chemical treatment of mine effluents — which have polluted thousands of miles of Appalachian streams — or burial of waste piles, were the least costly ways to combat the problem. Under this new approach, the acid mine water itself would be used to inhibit further acid production.

782533

NEL 000684

L.B.F. 26
(file 0-145)

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



SUBJECT

WEeping TRANSFORMERS

COPIES: J. H. Claussen
E. L. Dobbins
E. W. Feuerstein
E. M. Foley
W. R. Kruesi
J. F. McAllister
E. L. Simons

March 31, 1980

Dr. Robert C. Osthoff
Large Transformer Business
Division
100 Woodlawn Avenue
Pittsfield, MA 01201

Dear Bob,

Attached is a copy of the EEI letter on "weeping" transformers and EPA's reply. Contrary to what I was told on the telephone by EPA's Dr. Barber (whose name was given in the March 5 Federal Register request for information), this letter was not unsolicited, but was requested by EPA following two meetings on the subject last November. The initiative for the first meeting remains unclear.

It appears from the exchange of correspondence that the focus is less on transformers designated "PCB Transformers" than it is on oil transformers, the weeping of which may give rise to a presumption of PCB leakage due to contamination. Both could be involved.

Bill Kruesi, who obtained the correspondence for us, tells me that NEMA plans to comment, but is looking for guidance as to what to say.

Dr. Barber assured me that any information we can provide will be accepted and considered, even though not within the official comment period noted in the register (ending April 4). I will appreciate it if anyone having background information on this subject will forward it to you (with copy to me) to assist in the development of appropriate comments to be sent either by NEMA or GE. It would appear that the industry comments should be well documented to forestall efforts by the Environmental Defense Fund to use the "weeping" phenomenon to destroy EPA's regulatory stance on transformers as "closed systems".

Very truly yours,


James S. Nelson

JSN:dem
Attach.

NEL 000685

782534

Dear Mr. Lyon:

As a follow-up to our recent meetings concerning "sweating" transformers and at the request of our clients, the Utility Solid Waste Activities Group, the Edison Electric Institute and the National Rural Electric Cooperative Association, I am writing to insure that you and the Agency have a clear concept of the matters discussed. On November 10th, we advised you that a small percentage of transformers may be subject to "sweats" or "weeps," resulting in minor oil spots on the exterior of the transformers. Our clients felt that it was appropriate to discuss these circumstances with the Agency in light of the need for a continuing dialogue on the PCB regulations.

At your request, we met again with you and others from EPA on November 20th to discuss the technical aspects of this matter. We explained that transformers are essential to the transmission and distribution of electricity. At the time of manufacture, considerable care is taken to insure that the transformer is a totally sealed unit. The transformer is filled with dielectric fluid to the prescribed level, and the weld seams and bushings are powdered. If there is any evidence of oil seeping, repairs are made. Thus, when the transformer is initially placed in service, it is a completely sealed can and is intended to be used in a totally enclosed manner.

NEL 000686

John W. Lyon, Esquire
November 23, 1979
Page Two

During the normal course of operation of transformers, minor "weeps" or "sweats" may develop, primarily at the gasket seals of the bushing terminals. These "sweats" are the result of age, weather conditions and temperature changes which take place within the equipment as the demand for electricity increases and decreases over time. The resulting amount of oil appearing on the outside surface of the tank is quite small and does not affect the performance of the transformer. The actual quantity of PCBs which may be on the surface of the transformer is extremely minute, since in most cases the concentration of PCBs in the transformer oil is less than 50 ppm. Thus, we are talking about a very low concentration of PCBs in a very minute quantity of oil on the surface of a small percentage of transformers currently in use.

It is technically impossible to eliminate these minor "sweats." Utility companies would be forced to inspect over 35 million transformers to insure that all "sweating" equipment—though only a small portion of the total transformers in use—was removed from service. Even if all existing "sweats" could be eliminated, there is no way to guarantee that equipment which is not "sweating" today will also not be "sweating" tomorrow.

Furthermore, removal of even a small portion of transformers from service could have a severe impact on the operating capacity of a utility. In many cases, it would force utilities to curtail the availability of electricity, resulting in power outages, and in some cases it could cause system shutdowns.

As we indicated to you on November 20th, in our view the minor "weeps" and "sweats" from a small percentage of transformers pose essentially no risk to health or the environment. As you and others from EPA stated at our meetings, the matter appears to be de minimis. 

In accordance with our discussion, we are sending copies of this letter to counsel in the pending litigation.

Sincerely,

Toni K. Allen

Toni K. Allen

cc: Richard Donney, Esq.
Ruth Bell, Esq.
Mr. William Gunter
Angus MacBeth, Esq.
Jacqueline M. Warren, Esq.
John W. Ubinger, Jr., Esq.
J. Roy Spradley, Jr., Esq.
Steven Rosenthal, Esq.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

December 5, 1979

OFFICE OF
GENERAL COUNSEL

Toni K. Allen, Esq.
Wald, Harkrader & Ross
1300 Nineteenth Street, N.W.
Washington, D.C. 20036

Dear Ms. Allen:

The Agency appreciates receiving your letter of November 28th. However, there has apparently been a misunderstanding of the Agency's position as expressed at the meetings on November 9th and 20th. At the November meetings, we did not have enough information concerning PCB "weeps" or "sweats" from transformers to take any position on the status of such equipment under the PCB regulation. It was for this reason that we requested the letter which you furnished on November 28th.

We expect to use your letter as a basis for gathering further information on this matter in the near future.

Sincerely,

A handwritten signature in dark ink, appearing to read "John W. Lyon".

John W. Lyon
Attorney

Toxic Substances Division (A-132T)

cc: Jacqueline M. Warren, Esq.
Peter J. Nickles, Esq.
Jeffery O. Cerar, Esq.
Lawrence A. Demase, Esq.
Angus MacBeth, Esq.

NEL 000688

03-25-
LB 28

PRODUCT QUALITY STAFF
GENERAL  ELECTRIC
FAIRFIELD, CONNECTICUT 06431



COPIES:

SUBJECT

- March Activities Report
-J.S.Nelson-

April 8, 1980

Mr. J. F. McAllister
- Office -

REDACTED

NEL 000689

-2-

4. "Weeping" Transformers

Prompted by a disclosure from Edison Electric Institute, EPA has requested information on a phenomenon of "weeping" or "sweating" transformers. The concern is that dampness on the exterior of some transformers may indicate seepage of PCB or PCB-contaminated oil from the interior and could strengthen the hand of the Environmental Defence Fund in litigation seeking to prove that transformers are not "totally enclosed applications" within the meaning of TSCA. PQS has arranged for Medium Transformer and Power Delivery Service representatives to consult with NEMA on the development of industry comments.

J. S. Nelson

JSN:dem

NEL 000690

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GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



COPIES:

SUBJECT

- Inventory Audit, Toxic Substances Control Act

June 4, 1980

Mr. J. F. McAllister
Office

On June 3, 1980, EPA Region II inspectors conducted an audit of CR&D's compliance with the rules for reporting substances for the TSCA inventory of chemical substances in commercial use. Advance notice was about one week. Preparation for the audit was conducted by Dr. Reinhard Sidor, Manager-Occupational Safety & Health, CR&D, and Robert L. Grant, Counsel, R&D Legal Operation, in consultation with EPO. EPA took the occasion to do an audit of compliance with the rules for handling PCBs, as well.

I have requested Bob Grant's help in answering four questions with respect to the inventory audit:

- (1) How many inventory submissions were filed by CR&D?
- (2) How many of these have been questioned by the auditors?
- (3) What does CR&D now have to do to satisfy EPA?
- (4) What internal review is planned of the information to be supplied to EPA to satisfy the audit?

Mr. Grant advised that preliminary answers are:

- (1) Approximately 27, two of which were late submissions, which circumstance may have triggered the audit. (Over 350 were submitted by the Company as a whole.)
- (2) One of the submissions was an intermediate sold to Medical Systems Business Division, which in turn made a sale to a medical device producer. Such a transaction is under the jurisdiction of the Federal Food, Drug and Cosmetic Act, therefore does not involve a "chemical substance" as defined in TSCA, and should not have been submitted for the inventory. CR&D personnel received the impression that EPA will not treat this as a major instance of noncompliance.

782540

NEL 000691

Mr. J. F. McAllister

-2-

June 4, 1980

Virtually all the other CR&D submissions are lacking in sufficient documentation of commercialization to satisfy the auditors. In a typical case, CR&D developed a chemical, sold it to an operating component, which resold to a customer, but the invoice will not state explicitly that the ultimate sale involved the particular chemical substance.

- (3) Within the next two to three weeks, CR&D must assemble a dossier confirming that all submissions have indeed been "commercialized."
- (4) No specific plans were mentioned for internal review, but the seed has been planted. Mr. Grant advised that CR&D's health and safety people are preparing a report on the audit, and he will see to it that we receive a copy.

There were no problems with the PCB audit, thanks in part, perhaps, to a pre-audit last Friday by EPO, which had learned from another company to expect a PCB audit in conjunction with the announced inventory audit.


J. S. Nelson

JSN:sdf

NEEL 000692

Y. 0330Q
LB 53

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FAIRFIELD, CONNECTICUT 06431



COPIES:

SUBJECT

- August Activities Report
-J. S. Nelson-

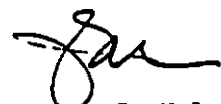
September 2, 1980

Mr. J. F. McAllister
- Office -

REDACTED

4. PCB

Product Quality Staff has been requested by Dr. Osthoff to convene a review panel to assist in the Company's response to an invitation from Electric Power Research Institute to bid on the development and assessment of a method of destroying PCBs in transformer oil.


J. S. Nelson

.JSN:dm

782542

NEL 000693

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COPIES:

SUBJECT

- September Activities Report
-J. S. Nelson-

September 29, 1980

Mr. J. F. McAllister
- Office -

REDACTED

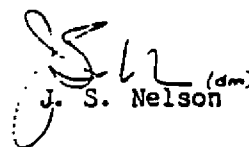
3. Service Shop Handling of PCB

At the request of the Service Shops, Mr. Nelson participated in the EPO audit of PCB practices at the Houston Service Shop, September 30 and October 1.

REDACTED

5. PCB Detoxification Project

A meeting was held in Schenectady on September 12 to review plans for responding to EPRI's invitation to bid on a process for removing PCBs from transformer oil.


J. S. Nelson (dm)

JSN:dem

NEEL 000694

PRODUCT QUALITY STAFF
GENERAL  ELECTRIC
FAIRFIELD, CONNECTICUT 06431



SUBJECT

PCB STATUS

COPIES: J. F. Brown
J. F. McAllister

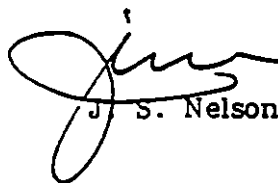
September 25, 1980

Mr. J. T. Coe
EIA

Dear Jerry,

We concur with your proposal to call EPA's attention to the D. Brown, M. Jones epidemiological study of PCBs in capacitor plants and think your draft letter excellent. Nevertheless, we believe it is unfortunate that the section of that study labeled "Conclusions" conveys, by itself, a distorted impression of support for the idea that occupational exposure may cause deaths from liver cancer and cirrhosis of the liver, failing entirely to take note of the lack of excess cancer mortality among exposed capacitor workers and the finding of no increase in mortality with increasing length of exposure. It is suggested that, in your proposed communication with the authors, this matter be brought to their attention so that they may make appropriate changes before publication.

Very truly yours,



J. S. Nelson

JSN:dem

NEL 000695

782544

(File)

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



8*229-2287

SUBJECT

PIERCE PACKING COMPANY CASE: PCB

COPIES: J. F. Brown
J. T. Coe
J. F. McAllister
H. D. Pocock

October 3, 1980

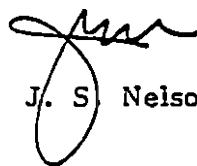
John C. Dutton
Consultant-Engineering Standards
Medium Transformer Products Dept.
Rome, Georgia

Dear John,

Yesterday you inquired about the status of GE's "white paper" on the toxicity of PCBs, in the belief that it will contain information useful in protecting the Company's interests in the chicken feed episode (Pierce Packing Company). I am enclosing a draft labeled 7-17-80. This document has not been cleared for publication; hence I suggest that you make no copy for anyone outside the Company or any citation in external communications without permission from the authors.

It stands to reason that, if necessary, a document specifically addressing technical points at issue in the Pierce Packing Company case could be produced. For example, I understand that a large number of chickens was destroyed because of exposure to contaminated feed. Dr. Brown tells me that chickens are especially sensitive to PCDF and if the feed had contained important amounts of that contaminant, the chickens would have died and no-one would have needed to order their destruction.

Very truly yours,



J. S. Nelson

JSN:dem

Enc.

NEL 000696

782545

LB 59
(f m 1.8)

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



COPIES: J.F. McAllister

SUBJECT

October 9, 1980

Mr. J. R. Donnalley, Vice President
Corporate Environmental Issues Project
E3A - Fairfield

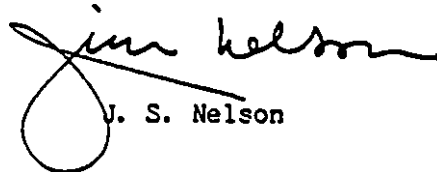
Dear Mr. Donnalley:

Jack McAllister suggested you might wish a copy of the enclosed. Mr. John Dutton, Medium Transformer Department, is serving as technical liaison to the lawyers in preparing GE's defence in the Pierce Packing Company case. Some 400 parties are involved in this PCB case, with estimated claims about \$30 million. Anticipated claims include "failure to warn", a possible allegation of faulty welding on the transformer involved, and a general allegation of "defective design." I understand that Electric Mutual currently assigns a reserve of \$300,000 to this file.

The incident has been described to me as follows: Pierce bought an old, used General Electric PCB transformer and had it stored in an area where they also stored unusable byproducts. A pick-up truck backed into a compressor that toppled over and struck the transformer, puncturing the cooling tubes and releasing a quantity of the coolant. This, in turn, drained into process water used in the preparation of bonemeal feed.

September 29 was the deadline set by the court for affirmative pleadings, with responses due October 29.

Very truly yours,


J. S. Nelson

JSN:dem
Enc.

NEL 000697

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PRODUCT QUALITY STAFF

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FAIRFIELD, CONNECTICUT 06431



8*229-2287

COPIES: L. J. Utzig

SUBJECT

- October Activities Report
-J. S. Nelson-

November 6, 1980

Mr. J. F. McAllister
- Office -

IV. PRODUCT ENVIRONMENTAL COMPATIBILITY (J. S. Nelson)

1. Pierce Packing Company Case (PCB)

Information was provided to Medium Transformer Department to assist them in building a defense in the Pierce Packing Company case, involving a spill of PCB that contaminated chicken feed.

REDACTED

5. PCB Program

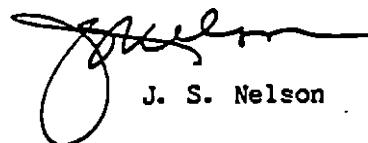
Mr. Nelson represented PQS in a review of CR&D's proposed PCB research program, held in Schenectady for Mr. Donnalley.

7. Service Shop Audit

Mr. Nelson participated in the EPO audit of PCB handling practices at the Cincinnati Service Shop.

NEL 000698

REDACTED


J. S. Nelson

JSN:dem

NEL 000699

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



SUBJECT

• EDF Suit

COPIES: J. F. McAllister

bcc: L. J. Utzig

November 10, 1980

Dr. James R. Donnalley, Jr.
Vice President, CEIP

Dear Jim:

I have received a telephone call from Dr. Fred Hoerger, Director, Regulatory & Legislative Issues, Health & Environmental Sciences, Dow Chemical Company (whom I know through CMA and AIHC activities) that may be pertinent to efforts to strategize industry/Company response to the situation created by the Washington Appeals Court decision in the EDF suit against EPA. Dow Chemical, of course, has the same interest as our Silicone Products Division in EPA's regulation of chlorinated biphenyl as an incidental byproduct or intermediate in the production of certain silicones -- complicated, in their case, I believe, by failure to apply for an exemption. *(Dow Chemical makes Dowtherm G, a heat transfer fluid containing monochlorinated biphenyls.)*

Dr. Hoerger stated that Dow Chemical had been considering ways in which to get out from under EPA's position that monochlorinated biphenyl is a polychlorinated biphenyl as governed by TSCA. They lost their hearing before an administrative law judge on this point, and have been considering filing a citizen's petition, to be followed by litigation if the petition were not granted. They do not feel confident of success by this means, and are now contemplating the possibility of remedial legislation -- or, at least, wondering aloud if such might be appropriate and feasible.

As I see it, the rationale of such a legislative effort, which might take the form of an amendment to TSCA §6(e) is that Congress intended to legislate against the production of PCBs as a prime product so that all products using it would eventually be phased out of the economy. As the judge acknowledges in a footnote on p. 29 of his decision, it is at least possible that Congress did not intend to regulate the incidental manufacture of PCBs. The legislative history indicates that Congress intended transformers and capacitors to be used throughout their natural life. Apparently, Congress never contemplated the complications arising from attempts to define PCB liquids in terms of parts per million. The present situation has become circular, in that the judge used EPA's own (exaggerated) description of the harmful effects of very small

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quantities liberated into the environment to invalidate their rule that PCBs "begin" at 50 ppm. The Brown/Coe/Pocock paper on Human Health Effects of Electrical Grade PCB's introduces new epidemiological evidence that might serve to reopen the whole question of just how much regulation is needed to protect the public.

Should you be interested in pursuing this subject with anyone at Dow, please advise if there is any way we may be of service.

Very truly yours,



James S. Nelson

JSN:sdf

NEL 000701

bcc: L. Utzig

CE # 67

11.121

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



SUBJECT

NEMA RESPONSE TO EDF DECISION

COPIES: R. Blume
W. Kruesi
J. McAllister
S. Read
E. Simons

November 11, 1980

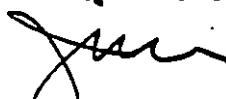
Dr. J. R. Donnalley, Jr.
E 3 A

Dear Jim:

In a recent conversation you expressed interest in the interpretation attributed to NEMA (National Electrical Manufacturers Association) staff of the impact of the EDF decision on electric utilities and other users of transformers and capacitors. Bill Kruesi has been in touch with NEMA staff, which is supported by a working group of industry representatives and attorneys (including Susan Read). The NEMA outside counsel is a Mr. Rosenthal. As I understand it, this group's concern is that the decision, by itself, at least technically, removes the basis for continued use of non-railroad transformers and capacitors. Because transformers and capacitors (if intact and nonleaking) were classified by the EPA in its May 19 rule as "totally enclosed" they were thus exempt from the ban regulation and were never the subject of "use authorizations". The use authorizations upheld by the judge are for 11 specific non-totally-enclosed uses, such as railroad transformers, hydraulic systems, and heat transfer systems. Utility and industrial transformers and capacitors are thus left, at least until EPA carries out the judge's instruction, with neither an exemption nor an authorization for continued use. This lack of legitimacy appears to affect oil transformers as well as PCB transformers, because of the presumption that oil transformers are contaminated to some degree by PCB and the 50 ppm cutoff has been struck down.

To remedy this situation, NEMA, acting in concert with EEI (Edison Electric Institute) has filed motions with the object of allowing EPA to continue to apply the May 19 rules until they come out with new rules or new justification for the old rules. We understand that such motions are unlikely to be opposed in principle by EDF or the court; in fact, this is the outcome probably anticipated by all parties. No-one really wishes to turn out the nation's lights.

Very truly yours,


J. S. Nelson

JSN:dem

NEL 000702

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bcc: L. Utzig

6.2.74

1/21/80

PRODUCT QUALITY STAFF

GENERAL ELECTRIC

FAIRFIELD, CONNECTICUT 06431



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SUBJECT

- STRATEGY IN REGARD TO EDF DECISION

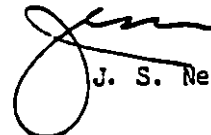
COPIES:

J.F. Brown
R.L. Blume
M.F. Connor
J.R. Donnalley
E.M. Foley
W.R. Kruesi
S.P. Read
E.L. Simons

December 2, 1980

J. F. McAllister
-Office-

The attached memorandum responds to your recent request for a description of the strategy being followed by industry in the wake of the Appeal Court's decision upsetting important elements of EPA's rules implementing the TSCA ban on PCBs. A copy of the memorandum is being furnished to you for your information, and more is expected from the industry.


J. S. Nelson

JSN:dem
Attach.

NEL 000703

782552

MEMORANDUM: STRATEGY DEVELOPMENT FOLLOWING EDF DECISION

The Washington Appeals Court Decision of October 30, 1980 set aside EPA's cutoff, at 50 ppm for PCB materials coming under ban regulations. It also set aside EPA's classification of capacitors, nonrailroad transformers, and electromagnets as "totally enclosed". The court remanded the record in both instances to the Agency for further proceedings. The court upheld the 11 specific non-totally-enclosed use authorizations, including those for railroad transformers, hydraulic systems, and heat transfer systems. In a footnote, the judge found that, in his opinion, Congress did not intend to exclude incidentally manufactured PCBs from the Act, but intended "to include all commercial sources".

This memorandum identifies parties principally affected by this decision and discusses the short and long range strategies being followed or contemplated.

1. Components and Companies Principally Affected

The decision, on its face and unmodified by acceptance of motions to stay its immediate effect, brings under the PCB ban regulations any product or material that contains any amount of PCB and the continued use of any PCB or oil dielectric transformer, any PCB capacitor, and very possibly any non-PCB capacitor made in a plant formerly making PCB capacitors. In short, the entire electric utility industry and virtually all manufacturing and commerce is implicated; however, there is a small group of Company components and outside companies whose interests are directly affected and who, by the prompt actions now in progress, may presumably prevent disruptive immediate consequences. This directly-affected nucleus consists, at least in part, of the following:

1.1 GE COMPONENTS

<u>Component</u>	<u>Involvement</u>
Apparatus Service Business Division	Repair/disposal services for PCB transformers in selected Service Shops; servicing of oil transformers (presumed contaminated with PCB) in all shops; waste disposal.
Large Transformer Business Division	Legitimacy of oil transformers with low-level contamination (in ppm).
Capacitor Products Department	"Left over" contamination from former production of PCB capacitors could presumably show up in parts-per-billion contamination of small industrial units. Power capacitors, made with a manifold treat system, are less likely to be affected.

NEEL 000704

1.1 GE COMPONENTS (cont.)

<u>Component</u>	<u>Involvement</u>
Silicone Products Business Division	High performance silicones are made by the phenylchlorosilane process which produces both monochlorobiphenyl and dichlorobiphenyl as intermediates. A few parts per million remain in the end product.

1.2 OTHER COMPANIES

<u>Company</u>	<u>Involvement</u>
Dow Chemical Company	The company's heat-exchange product, "Dowtherm G" is based on monochlorinated biphenyl (classified by EPA as a PCB, with concurrence of an administrative law judge).
Dow Corning Company	Dow Corning has stated that chlorinated biphenyls are produced in its silicone manufacture in excess of 50 ppm during intermediate stages, and that its final product contains "less than 1 ppm".
Stauffer Chemical Company	PCBs are said to be generated in intermediate stages of production of the pesticide EPN and in the production of nylon dyes, benzene phosphonic acid and sodium benzene phosphenate. Amounts in the final products were negligible compared to the 50 ppm cutoff. Stauffer also has a polysiloxane product, presumably containing some PCB.
Olin Chemical Company	PCBs are said to be an intermediate in the production of the fungicide PCNB.
Various manufacturers of paints and coatings	According to the National Paint & Coatings Association and the Chemical Specialties Manufacturers Association, which both represent these manufacturers, certain diarylide and phythalocyanine pigments contain more than 50 ppm PCB.

NEL 000705

1.2 OTHER COMPANIES (cont.)

<u>Company</u>	<u>Involvement</u>
Manufacturers of transformers	Competitive manufacturers of transformers, and their related service facilities, are believed to be affected in the same way as the corresponding GE components.
Manufacturers of utility and industrial capacitors	Virtually all manufacturers of liquid-filled capacitors formerly used PCB and may expect some contamination in present products, regardless of dielectric now in use.

2. Short Term Strategies

As a precautionary step, the Environmental Protection Operation issued an information letter on November 6, stating that the court's decision brings under the PCB ban regulations all materials that contain any level of PCBs and counseling operating components that materials with less than 50 ppm of PCBs must be handled under the same marking, storage, and disposal rules that apply in the 50-500 ppm range. Apparatus Service Business Division sent a telegram to service shops advising them not to sell, as scrap, material containing "any detectable" PCB. These two instructions anticipated the early issuance of a mandate implementing the decision; however, motions filed by the intervenors in behalf of industry (and by GE, Silicone Products Division) will delay the mandate for the time being.

It appears to be in the interest of all concerned parties that the issuance of a mandate or order to implement the appeal court's decision be delayed until the EPA develops new rules, or acceptable justification for the old rules. The ideal outcome would be for the court to issue an affirmative order to that effect. The chances for success will be materially improved if all parties can agree on a petition for such an affirmative order, and negotiations to that end are now going on.

Industry is represented in these negotiations with EDF and EPA by an "intervenor" group, including NEMA, EIA, EEI, and some other associations and individual manufacturers. Steven S. Rosenthal is lead counsel for NEMA. General Electric interests in the intervenor coalition are being served through the participation of Susan Read (EPO) in the lawyers' discussions and through Bill Kruesi's interaction with NEMA staff (Mr. Kruesi is Chairman, Federal Product Regulation Committee of NEMA).

The intervenors are also filing (November 26) a petition for rehearing of the case by the entire court of appeals. If granted, this petition would automatically stay issuance of a mandate, pending results of the rehearing.

NEL 000706

The NEMA ad hoc task force considered and rejected the idea of petitioning for Supreme Court review of the Court of Appeals ruling.

The intervenors are not expected to attack directly the judge's gratuitous finding with regard to intermediates/byproducts. The monochlorobiphenyl and dichlorobiphenyl incident to the phenylchlorosilane process by which a portion of SPD's product line is produced are mostly removed and destroyed by incineration. A fraction of a part per billion may still be detected in waste water, and work area air samples have ranged from 0.002 mg/m³ to 0.015 mg/m³. Concentration carrying over to the final product is a few parts per million -- well below 50 ppm.

Silicone Products Division had achieved an agreement with the same court that the intermediate/byproduct issue would not be litigated until EPA had acted on SPD's petition for an exemption from the manufacturing ban rule, filed November 28, 1978. The judge's finding (at footnote 37, in a matter not really before the court) that TSCA applies to incidentally-manufactured PCBs, appears to violate the court's agreement with SPD to separate this issue from the EDF case. Accordingly, outside counsel for SPD has filed (November 13) a motion for clarification along with a motion for rehearing. SPD is also planning to broaden its original petition to include exemption for the chlorinated diphenyls present in the final product.

It would appear from the information in section (1.2) above that several chemical manufacturers have an interest in this byproduct problem, and we understand that the possibility of a joint program for relief, coordinated by the Chemical Manufacturers Association, is being explored.

It should be noted in passing that Dow Chemical's efforts to get monochlorobiphenyl excluded from the definition of polychlorinated biphenyl -- even if successful -- would not solve SPD's problem, as the latter's unwanted byproduct includes also dichlorinated biphenyl.

3. Long Term Strategies

It would appear that the intervenor group and those with byproduct problems have not as yet formulated an integrated strategy for relatively long range resolution of the PCB regulations problem. Several possibilities are indicated:

3.1 Authorizations

Persuade EPA to add additional non-totally enclosed use authorizations to cover all transformers and capacitors now in use, and all products of any nature containing inadvertent contamination by small amounts of PCB, whether now in use or manufactured in the future.

3.2 Exemptions

Request exemptions, by individual or class action, for all the uses indicated above.

NEEL 000707

3.3 Re-justify EPA De Minimis and Enclosure Criteria

Work with EPA to provide them with new concepts and data to justify a cutoff of 50 ppm (or some other viable level) and new definitions of what constitutes a "totally enclosed" system or product.

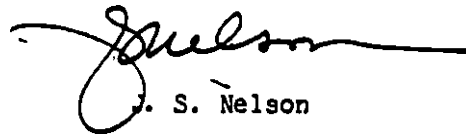
3.4 Amend TSCA

The ultimate correction would be to amend TSCA, repealing § 6,² thus leaving PCBs to be regulated under the same law as any other chemical substance. Alternatively, § 6 could be amended to give EPA the administrative discretion to restore the ban rules as originally promulgated, or it could be amended to exclude inadvertent byproducts, low-level contamination, monochlorinated biphenyl and perhaps dichlorinated biphenyl from regulation as PCBs.

Discussion

The authorization and exemption strategies are not permanent, and would be subject periodically to administrative convenience and political influence. The re-justification and amendment strategies would depend, in varying degrees, upon the success of efforts to set the record straight on the toxicology of PCBs. A good part of the information needed is already in place, and more is expected from the current CR&D research program.

Dow Chemical is known to be considering a legislative strategy, and so also is Silicone Products Division, with key features yet to be determined.


J. S. Nelson

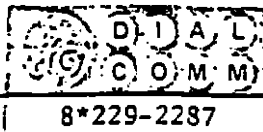
JSN:dem
12/2/80

NEL 000708

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

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COPIES: L.J.Utzig

SUBJECT

• November Activities Report
- J.S. Nelson -

December 2, 1980

Mr. J. F. McAllister .
-Office -

IV. PRODUCT ENVIRONMENTAL COMPATIBILITY (J. S. Nelson)

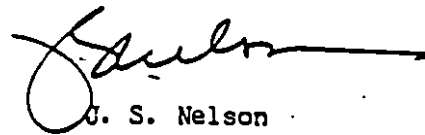
1. PCBs

In the aftermath of the judge's decision in the EDF case (remanding for further consideration the EPA's floor of 50 ppm for regulation of PCBs and the Agency's treatment of capacitors and transformers as "totally enclosed") interested parties within the Company have been informed of Dow Chemical's interest in exploring a legislative solution; and Mr. Donnelley's office and Silicone Products have been kept informed of NEMA activities in behalf of the intervenor group.

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REDACTED


J. S. Nelson

JSN:dem

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NEL 000711

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LETTERBOOK

J. S. Nelson

1981

←

PRODUCT QUALITY STAFF

GENERAL ELECTRIC

FAIRFIELD, CONNECTICUT 06431



COPIES: L. J. Utzig

SUBJECT

December Activities Report
-J.S. Nelson-

January 5, 1981

Mr. J. F. McAllister
- Office -

IV. PRODUCT ENVIRONMENTAL COMPATIBILITY (J. S. Nelson)1. Regulatory Modification

As an input to the Office of Management & Budget Transition Team, three opportunities for regulatory modification were identified and described: CPSC hazard reports, OSHA carcinogen regulation; and proposed EPA airborne carcinogen rules. Five submissions were made by Dr. Simons: PCB Disposal, EPA requirement for vice-president's signatures, inclusion of storm water runoff in NPDES permit system, and redundant regulation of wastewater treatment facilities under both the NPDES system and the RCRA permit system. The invitation to submit items was also extended to J. T. Coe, T. C. Doty, D. J. Watson and D. J. Dillon (J. L. Moore).

REDACTED

A handwritten signature in black ink, appearing to read "J. S. Nelson".

J. S. Nelson

JSN:dem

NEL 000712

January 12, 1981

PROPOSAL TO SUPPLY EPA WITH INFORMATION FOR RULEMAKING
ON USES OF PCBS BY THE ELECTRIC UTILITY INDUSTRY

INTENT TO PROVIDE INFORMATION

To assist EPA in the development of an adequate rule-making record for the regulation of PCBs, USWAG will retain independent contractor(s), acceptable to EPA, ^{1/} to conduct a study on current PCB usage in utility equipment used for the production of electricity. ^{2/} This study will address the effects of the use of PCB-containing equipment on human health and the environment. It is expected that data will be supplied on: types of electrical equipment; leakage phenomena, including the incidence and magnitude of leaks; feasibility of containment, inspection and maintenance; and feasibility of transformer and capacitor phase out. Additionally, several other areas of inquiry will be included, such as the impact of a regulatory cutoff above or below 50 ppm; the health effects of PCBs; a pathway analysis for PCBs that may be released into the environment from electrical systems; ^{3/} nonelectrical materials

- 1/ To insure the timely commencement of the study, EPA will promptly respond as to the acceptability of the contractor(s) proposed.
- 2/ Other uses of similar equipment by other industries may vary and for this reason will not be covered. In addition, other equipment containing PCBs, such as small capacitors, that is used more broadly throughout the industrial, commercial and residential sectors will not be included.
- 3/ In addition to the information contained in the study, USWAG reserves the right to submit to EPA such other studies, information, and data (e.g., problems of testing and development of testing protocols) as USWAG believes are necessary or appropriate to further rulemaking.

NEL 000713

January 12, 1981

- 2 -

potentially containing PCBs; and viable substitutes for PCBs. Finally, an overall economic analysis would be developed to reflect both costs incurred to date to comply with the TSCA-PCB regulations as well as the incremental costs of new regulatory approaches.

It is contemplated that the study will be completed within nine months and portions of it will be submitted to EPA prior to that time.^{4/} If it appears that USWAG will be unable to complete the study within nine months despite good faith efforts to do so, it may request an additional period of up to three months for its work. EPA and EDF will not unreasonably withhold their consent to such extension, after considering USWAG's efforts to date and the circumstances necessitating the extension.

SCOPE OF THE INFORMATION GATHERING EFFORT

The scope of information gathering will be divided into several discrete tasks, as set forth below.

^{4/} Since some brief period of time will be necessary to engage consultants and develop sampling protocols following acceptance of the scope of work by the parties, the study period should commence no sooner than one month following the issuance of a stay of mandate by the Court.

NEI 000714

January 12, 1981

- 3 -

1. Compilation of a complete listing of all types of electrical equipment that contain mineral oil or other fluid containing PCBs.

The first task will be to list and quantify such equipment, describe its use, geographical location,^{5/} and distribution of ranges of PCB concentrations. Descriptions of equipment maintenance procedures and of measures taken for worker protection also will be provided. The inventory of equipment will include: transformers, capacitors, electromagnets, electrical switches, voltage regulators, and underground cable systems as well as any other utility equipment identified as containing PCBs. A complete narrative on each category of equipment will be provided covering its function, configuration and chemical content.

2. Frequency of leaks or ruptures.

For purposes of the study, "leak" will be defined quantitatively. Leaks may be described as small, as moderate or as ruptures.^{6/} Small leaks include all instances in which a PCB Article has any PCBs on any portion of its external surface, but no PCBs have run off the surface of the Article. Moderate leaks include instances in which a leak results in any quantity of PCBs running off the surface of the Article. Initially, ruptures will

^{5/} Geographical location shall include not only various geographical regions of the United States but also various types of terrains (e.g., deserts, swamps, near or over waterways).

^{6/} Further differentiations of leaks may be necessary.

NEL 000715

January 12, 1981

- 4 -

mean leaks causing immediate cessation of equipment function, although other definitions may be applied. For each type of electrical equipment, an attempt will be made to determine the frequency of leak or rupture, the volume of liquid lost, equipment type, and geographical location. These leaks may conform to a frequency distribution of magnitude according to different variables. Equipment type, geographic location, age and electrical loading (to the extent data are available) are factors to be evaluated. The relationship between equipment failure and subsequent leaking will be studied.^{7/}

3. Feasibility of a program to contain, inspect and maintain different electrical equipment items.

This task will be to identify a number of inspection and maintenance programs and to provide cost estimates and technological feasibility evaluations with respect to each program. Variables to be considered may include electrical equipment type, geographical location, and potential for exposure to different concentrations and quantities of PCBs. At a minimum, the following programs shall be evaluated:

^{7/} The evaluation will also reflect the viability of substitutes, and the results of this phase of the study likely will be reflected in the feasibility analyses of inspection and maintenance and equipment phase out.

NEL 000716

- (a) A program to provide complete containment of any PCBs which might leak from each category of electrical equipment.
- (b) A program to inspect visually, at various frequencies ranging from weekly to annually, all items within each category of electrical equipment for leakage and to correct all moderate leaks detected.

4. Feasibility of a phase-out program for transformers and capacitors.

The approach to this effort will be similar to the feasibility of inspection, maintenance and containment as described above. Alternative approaches will be assessed, including the following:

- (a) 2, 5, 10 & 20-year phase outs of PCB Transformers;
- (b) 2, 5, 10 & 20-year phase outs of PCB-Contaminated Transformers;
- (c) 2, 5, 10 & 20-year phase outs of PCB Capacitors.^{8/}

In this aspect of the study, the availability of replacement equipment and liquids will be examined, as well as their suitability,^{9/}

^{8/} The time frames will be measured from January 1982.

^{9/} For example, it may be necessary to assess the toxicity and flammability of substitute fluids, in addition to developing data on the availability of equipment and raw materials.

the availability of storage and disposal facilities, and the feasibility of reducing or eliminating PCB concentrations by retrofilling.^{10/} An attempt also will be made to analyze the effect an increased demand for replacement equipment may have on prices.

5. Literature Search.

A comprehensive literature search and review of the health effects of PCBs will be undertaken and an attempt will be made to assess the risks posed by phenomena such as small leaks and ruptures.

6. Pathway analysis.

An attempt will be made to examine the environmental pathways that PCBs could take if they escape from electrical equipment. Conditions reflecting normal operation of transformers and capacitors will be evaluated, as well as those involving equipment that has exploded or otherwise suddenly released PCB-containing fluid into the environment. For example, volatility and transport mechanisms (such as surface water drainage, groundwater infiltration and ground cover embodiment and/or release) would be considered.

^{10/} In evaluating substitutes for PCBs, including retrofilling, the contractor performing the study shall seek and consider information from manufacturers of substitutes and independent servicing companies.

January 12, 1981

- 7 -

7. Non-electrical system sources of PCBs.

Certain non-enclosed uses of PCBs, such as burning of fuel oil, may be critical to human needs and to the continued operation of the electric utility and other industries. Thus, the study will also seek to determine the risks and benefits of permitting the continuation of these uses.

SAMPLING PROCEDURES

The study must reflect a statistical approach that assures a high degree of confidence in the validity of the results.

OVERSIGHT

It is contemplated that EPA, EDF, USWAG and the contractor performing the study will meet for progress reports periodically and with sufficient frequency to keep EPA and EDF abreast of the progress of the study. EPA and EDF, at their own expense, will have the right to review all underlying data generated in connection with the study. It is understood that identification of particular companies, facilities and locations may be masked. While it is not anticipated, review of the ongoing study may result in the need for additional information or for the refocusing of certain portions of this study. Such revisions may result in a delay of the completion date.

NEL 000719

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bcc: L. J. Utzig

PRODUCT QUALITY STAFF
GENERAL  ELECTRIC
FAIRFIELD, CONNECTICUT 06431



SUBJECT

COPIES: J. R. Donnalley, Jr.
J. F. McAllister
M. F. Connor

NEW PCB RULEMAKING
INITIATIVE BY CMA

February 3, 1981

TO: R. Arisman	A. Glassanos
E. R. Baker	S. B. Hamilton
R. L. Blume	W. R. Kruesi
J. Cloonan	S. P. Read
J. T. Coe	E. L. Simons
E. W. Feuerstein	

The enclosed announcement from CMA was distributed at the Chemical Regulations Advisory Committee meeting last week (attended by Marty Connor and me). CMA is considering a special advocacy program on EPA's anticipated rulemaking in the aftermath of the EDF suit and will hold an organization meeting on February 11. Although the emphasis of the CMA program will be on inadvertent byproduct rules, the totally-enclosed concept, appropriate parts-per-million cutoff, and toxicology are also to be addressed.

I have discussed this matter with Jim Donnalley, and he agrees that our participation in this scoping session is appropriate. Accordingly, I have registered to attend, and I am distributing this notice to ascertain the interest of others in attending or in counseling me with respect to representing their viewpoints. Please note that the agenda includes discussion of a basis for sharing the cost of whatever program is settled upon.

A handwritten signature in black ink, appearing to read "Jim Nelson".

James S. Nelson, Consultant-
Product Environmental Compatibility

JSN:dem
Enc.

NEL 000720



CHEMICAL MANUFACTURERS ASSOCIATION

January 23, 1981

TO: Chemical Regulations Advisory Committee Contacts
of CMA

SUBJECT: A Cooperative Advocacy Program on EPA's
Anticipated Rulemaking on PCB's

For the last few weeks, CMA staff, with guidance from selected company members, have participated in an intense schedule of meetings with the Environmental Protection Agency (EPA), the Environmental Defense Fund, and other interested industry groups in an effort to identify an appropriate response to the recent decision in *EDF v. EPA*, 79-1580 (D.C. Circuit, decided October 30, 1980). The court's decision overturns EPA's determination to exclude from its regulations PCBs at concentrations less than 50 ppm and EPA's particular definition of totally enclosed uses of PCBs. In the absence of court relief, PCBs would be banned, regardless of their concentration, and whether intentionally manufactured or inadvertently generated in products, waste streams, or processes.

Accordingly CMA, on the advice of interested company members, has already agreed to assist EPA in gathering information pertaining to the generation of PCBs below 50 ppm. EPA would use a description of our data gathering program to convince the court to stay its mandate. That stay would permit the Agency to obtain information from CMA and the public in general which the Agency would use to develop further rulemaking plans and schedules relating to PCBs below 50 ppm. With the assistance of the Edison Electric Institute, EPA is obtaining data for use in defining the totally enclosed uses which should be exempted from regulations. CMA also intends to volunteer information on this issue.

CMA must agree with EPA and EDF on the details of its data gathering effort prior to February 20, 1981. It is essential that interested CMA members assist in the continuing efforts to identify the details of an appropriate data gathering program, and to provide an industry response to Advanced Notice of Proposed Rulemaking (ANPR) and rulemaking proposals to be issued by the Agency.

A brief summary of the issues and impact of the anticipated PCB rules on various segments of the chemical industry is attached so that you can evaluate the impact of EPA's regulatory effort on your company (Exhibit A). It is

NEEL 000721

anticipated that EPA will publish an ANPR within the next 60 days.

The Dow Chemical Company has requested that CMA undertake a special advocacy program on EPA's anticipated rule-making. An initial meeting to explore the interest of various companies in participating in this program is scheduled for February 11, 1981. The agenda for the meeting is enclosed as Exhibit B of this letter.

Your company is invited to send a representative(s) to this meeting to discuss the state of present knowledge and future planning related to such an advocacy program. If you plan to attend, or your company is interested in such a program, please return the enclosed form (Exhibit C) to Dr. Shah at your earliest convenience. Dr. Shah can be reached at 202-887-1192, if you need additional information.

Sincerely,

Geraldine V. Cox/HCS

Geraldine V. Cox, Ph.D.
Vice President and
Technical Director

GVC:law

Enclosures

NEEL 000722

RECEIVED JAN 19 1981



THE DOW CHEMICAL COMPANY

January 12, 1981

MIDLAND, MICHIGAN 48640

Dr. Geraldine V. Cox
Technical Vice President
Chemical Manufacturers Association
2501 M Street, N.W.
Washington, D. C. 20037

Dear Dr. Cox:

The Dow Chemical Company requests formation of a CMA Special Projects Group to address industry issues created by the recent court decision on PCB's.

On October 30, 1980 the United States Court of Appeals for the District of Columbia Circuit issued an opinion on EDF vs. EPA, et al. This opinion sets "aside the regulations dealing with the 50 ppm cut off and the classification of certain PCB uses as totally enclosed and remands those portions of the record for further proceedings consistent with this opinion."

The current rule (44 F.R. 31514) specifically exempts all substances that contain less than 50 ppm of PCB's. To change this cut off could have major impact on the use of equipment containing substances contaminated with PCB but more importantly a change in the cut off could have major impact on the manufacture of many chemicals where some inadvertent PCB is produced or present. The extent of this impact is unknown. The Agency had few comments on this subject when they proposed the rule. Some petitions for exemption to the manufacturing ban have been filed since the rule was published. These exemption requests include manufacture of chemicals via chlorination, manufacture using chlorinated intermediates, manufacture using chlorinated solvents and manufacture via use of materials contaminated with PCB's. Other situations may exist. All of the exemptions involve situations where the PCB concentration was 50 ppm or over since that was the regulation. More exemption petitions would be expected if the "cut off" was lowered from the current 50 ppm limit.

These petitions for exemption demonstrate the broad impact that the court decision could have. The chemical industry needs to obtain substantive data as to the real impact of a lower "cut off" and assess the risk as defined in Section 6(c) of TSCA. A SPAG group assigned to this task could collect initial data to help the Agency frame and scope the rulemaking that the court has ordered and provide input during rulemaking to ensure that all components of the 6(c)

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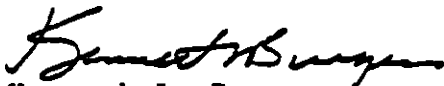
Dr. Geraldine V. Cox
January 12, 1981
Page - 2

findings are evaluated in developing a reasonable regulation. An immediate goal would be the development of sufficient information to encourage the court to stay the mandate during the rulemaking procedure. A part of this information would include the impact of the "totally enclosed" definition as well as the deletion of the 50 ppm cut off.

Major problems exist in developing substantive data due to difficulty in analysis of PCB's as a contaminate in various processes, products and waste. The analysis of (previously) commercial PCB's in water has been well studied and excellent methods are available for trace contamination. However, the PCB's homologues and isomers that were not a part of the commercial product have not been the subject of much analytical development. The many media other than water, that could be subject to analysis if the 50 ppm cut off is eliminated, will lead to a formidable problem.

A rule proceeding that covers a broad spectrum of the chemical industry has been ordered by the court. The problem is complex and must be addressed in technical, legal and advocacy terms. The scope of the problem is yet to be defined. The formation of a CMA SPAG group is recommended to (1) define the scope of the problem, (2) generate substantive data and provide risk assessment, and (3) advocate these findings in a regulatory proceeding.

Sincerely,



Kenneth L. Burgess
Chemicals and Plastics Regulations
Regulatory and Legislative Issues
Health and Environmental Sciences
1803 Building

dmw

NEI 000724

782573

AGENDA

Polychlorinated Biphenyls Special Program

Date - February 11, 1981
Time - 10 a.m. to 3 p.m.
Place - Terrace Conference Room
Chemical Manufacturers Association
2501 M Street, N.W.
Washington, D.C. 20037

1. Introduction of attendees and selection of chairman for the meeting
2. Anti-trust regulation
3. Review of anticipated rule making
4. Review of issues and work in progress under CRAC
5. Identification of objectives
6. Decision point - is there a need or not to form a PCB Advocacy Group

If yes,

7. Development of plans for CMA participation in the rulemaking
8. Review of CMA support services in effectively implementing the plans developed by the program panel
9. Budget projection and basis for cost sharing
10. Selection of program chairman
11. Set date for next meeting

NEEL 000725

NO 14

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



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SUBJECT

- January Activities Report
-J. S. Nelson-

February 3, 1981

Mr. J. F. McAllister
- Office -

REDACTED

3. PCB

Mr. Nelson was a "silent partner" to GE voting representatives in a NEMA conference call at which it was decided to recommend that NEMA sign the joint petition for a stay in the mandate for the EDF case. The petition was filed and had the desired effect of postponing the mandate, at least until plans for responding to the chemical industry byproduct issue can be firmed, but the judge has not yet signed the recommended order that accompanied the petition.

Discussions were held with a Goldman-Sachs partner who is raising capital for a new venture to destroy PCBs in sea-going incinerators similar to the Vulcanus. The information developed was forwarded to ASBD.

The Chemical Manufacturers Association is forming a new committee to develop input to the EPA rulemaking process in the wake of the EDF decision. CMA will concentrate on the byproduct issue, but intends to address the "fully contained" and toxicological issues as well. With the concurrence of Dr. Donnalley, Mr. Nelson will attend the organizational meeting.

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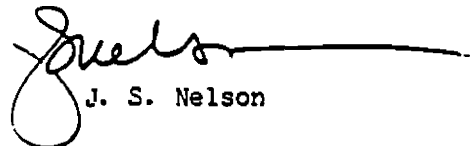
-2-

News media have reported the presence of PCB-laden oil in gas meters in the New York metropolitan area. With the help of Gas Turbine Division, the probable cause was run to earth and the information provided to CEIP and appropriate operations managers.

4. CMA

Mr. Nelson and Mr. Connors attended the Chemical Regulations Advisory Committee of the Chemical Manufacturers Association, at which the above PCB initiative was announced. Other issues highlighted were: testing rules, record-keeping, premanufacturing notices, significant new uses, OSHA labeling rule proposal, and post-election changes in Congress. Information on the OSHA rule is being forwarded to Legal Services and Corporate Health & Safety for the development of Corporate Comments.

REDACTED


J. S. Nelson

JSN:dem

NEEL 000727

LB 16
(file M118)

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FAIRFIELD, CONNECTICUT 06431



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SUBJECT

MEETING WITH CEIP STAFF
FEBRUARY 6, 1981

February 9, 1981

Mr. J. F. McAllister
Office

Dear Jack,

On February 6, 1981, at the invitation of Dr. Donnalley (letter enclosed), I addressed the CEIP staff meeting on the history of PCBs and the activity at CMA. Present, in addition to Dr. Donnalley, were:

- Dr. Stephen B. Hamilton (formerly from Wire and Cable)
- Mr. Bryce I. McDonald (formerly of Kennecott Copper, and before that, GE)
- Mr. Robert S. Friedman (recently President, GE Asia, Co., Singapore)
- Mr. Glen L. Bowler (who also serves Corporate Finance Staff) and
- Mrs. Susan P. Read (who also serves Corporate Operating Services Legal Operation, i.e., EPO)

The history of PCBs was reviewed, with illustration of the progress made in containing the ecological problem largely at private initiative, a full year before the enactment of TSCA.

It was explained that the Chemical Manufacturers Association had in the past issued only one formal comment on a proposed PCB rule (in 1977) and had not believed itself to be seriously involved until the decision was handed down in the EDF case, threatening to bring virtually any application of chlorinated hydrocarbon chemistry within the compass of the TSCA §6(e) ban on PCBs. I volunteered to keep the staff informed, primarily through Susan Read, of the plans of the special activity group being formed to address this problem.

The following documents were distributed at the meeting:

- (1) PCB Chronology, October 13, 1975
- (2) PCB Chronology Update I (1/26/77 and II (2/6/81)
- (3) Selected PCB Notices and Regulations in the Federal Register, 1972-1981.

Copies of these papers are enclosed.

Very truly yours,

J. S. Nelson

JSN:dem
Enc.

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NEEL 000728

LS-19

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



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SUBJECT

- February Activities Report
-J. S. Nelson-

March 2, 1981

Mr. J. F. McAllister
-Office-

IV. PRODUCT ENVIRONMENTAL COMPATIBILITY (J. S. Nelson)

1. PCBs

With the concurrence of Dr. Donnalley, Mr. Nelson has participated in the formation of a Special Project within the Chemical Manufacturers Association to deal with problems raised by the court decision in the Environmental Defense Fund case. Two meetings were held in February, and a petition was filed with the court. A survey of the incidental or inadvertent production of PCBs by member companies of CMA is in preparation.

REDACTED


J. S. Nelson

JSN:dem

NEL 000729

782578

CHARTER

CMA Polychlorinated Biphenyls (PCB) Program Panel

The Polychlorinated Biphenyl Program Panel has been established in response to the court decision in Environmental Defense Fund v. Environmental Protection Agency No. 79-1580 (D.C. Circuit, October 30, 1980).

The panel will be responsible for developing support for a general exclusion from the regulation of PCBs in any concentration which do not pose unreasonable risk to health or environment. The findings required by TSCA 6(c)(~~C~~) will be the basis for developing such support. Industry will include a qualitative identification of technology problems and cost which may be imposed as well as administrative problems to be expected by the Agency if a regulatory cutoff lower than 50 ppm is proposed. The Panel will select and supervise contractors hired to prepared reports on the scope of the problem and on current information on the toxicity of PCBs as it relates to PCBs. The Panel will prepare an appropriate response to specific questions posed by EPA's Advance Notice of Proposed Rulemaking (ANPR) on both the "totally enclosed" and "50 ppm" issues. After submission of data generated by the initial scoping survey, and working with the Agency during the ANPR the Panel will advocate reasonable rules throughout the remainder of the rule making process.

The Program Panel will also be responsible for certain administrative matters, including the election of officers, deciding the basis for sharing the costs of the program among the participating companies, designation of appropriate task and/or working groups, and liaison with interested non-participating parties.

The Program Panel will function as a special committee under CMA's bylaws, and as such will be subject to the Special Programs Guidelines.

NEL 000730

DRAFT

PCB-2-D

INCIDENCE AND PREVALENCE
OF THE INCIDENTAL MANUFACTURE
OF PCBs AT CONCENTRATIONS BELOW 50 ppm

This paper is divided into three parts. The first part establishes the importance that firms should place on making a carefully considered response to this search for information on incidental generation of PCBs. The second part provides information on the types of processing situations which can lead to PCB generation. The third part discusses what is currently known about the prevalence of the incidental generation problem.

THE NEED FOR A CAREFULLY CONSIDERED RESPONSE

The District of Columbia Court of Appeal remanded the 50 ppm cut-off with the following words:

"EPA's ad hoc consideration of economic impact and disposal requirements, leading to a conclusion that the fifty ppm cutoff 'provides adequate protection for human health and the environment,' Preamble to Final Ban Regulations, 44 Fed. Reg. 31,516 (1979), is neither as rigorous nor as strict as the statutorily required unreasonable risk determination based on the subsection 6(c) (1) criteria. Thus, we remand this part of the record to EPA for further proceedings."

In the Preamble to the final rule (44 FR 31516) the Agency notes the lack of data for the 50 ppm cut-off:

"The Preamble to the proposed Ban Rule emphasized that EPA must select a cut-off point that it can reasonably administer in order to attain the objectives of Sec. 6(e) of TSCA (see 43 FR 24804, June 7, 1978).

"Before selecting 50 ppm PCB as the cut-off point, EPA considered several other options, including retaining the 500 ppm PCB cut-off originally specified in the Disposal and Marking Rule, and lowering the cut-off concentration to 10 ppm or even 1 ppm. The 500 ppm PCB option was favored by affected industries because it would reduce the costs of complying with the rule, but no evidence was presented that indicated that industry is technologically or economically unable to comply with the more stringent standard."

NEL 000731

The economic impact statement issued as a part of the Support Document for this proposed rule deals with the lack of information in two sentences:

"Other chemicals: No information exists in the record to support any estimate of the impact of the ban regulation on companies such as Alcoa and Dow Corning that are inadvertently manufacturing PCB's in chemicals and other dry pigments. These chemical processes will be subject to the same ban provisions or, alternatively, the need to obtain exemptions from the manufacturing, processing, distribution in commerce, and use ban regulations as described above for dry pigments."

In this new consideration of rule making on incidental generation of PCB, EPA is not initially planning on its own behalf to conduct any systematic data collection from industry. EPA intends to rely on information provided by individual firms and the results of this CMA survey. However, EPA must have data if it expects to fulfill the court order relative to an unreasonable risk determination based on TSCA Subsection 6(c)(1) criteria. The burden is therefore on the chemical industry to provide a cohesive, comprehensive picture of the quantity of PCB generated and the fate of such incidental PCB.

Individual firms filing comments to EPA on an ANPR will not produce the level of cohesiveness or comprehensiveness of data which should be used in preparing the court required risk assessment. Considered responses to the CMA survey are necessary to accomplish that goal. It is believed within a number of firms that a comprehensive picture of the quantity and fate of PCB from incidental manufacture will demonstrate minimum risk, and that the broad prevalence of incidental manufacture in a wide variety of processes will show the need for an exemption from regulation. If the believed prevalence of the problem were not demonstrated by the CMA survey, either because of a lack of industry participation, or failure to

NEEL 000732

make a considered review of manufacturing operations, the result could be that EPA would then decide that a rational course of action would be to require firms to request an annual process by process exemption under Subsection 6(e)(3)(B).

PROCESSING SITUATIONS LEADING TO THE INCIDENTAL GENERATION OF PCB

There is very little information available on the manufacturing process situations which can lead to the generation of PCB. It is an area of trace chemistry that has not been substantively discussed in the literature. One publication of significance is "The Chemistry of PCBs" by Hutzinger, CRC Press (1974).

Hutzinger illustrates 41 different chemical reactions that can lead to PCBs. These vary from chlorination and Diels-Alder reactions, to Ullman reactions that couple two halogenated benzene molecules. The fact that good yields can be achieved with the right conditions and right catalysts must lead to the suspicion that trace quantities may be generated with many conditions and many catalysts. This is of special concern when one has halogenated aromatics present, or halogenated aliphatics that can cyclize to low yields of aromatics under conditions of the system. Low concentrations of such products may result in the production of some PCB's which may then build up in a system.

Hutzinger also notes:

"The outstanding physical and chemical characteristics of PCB are their thermal stability, resistance to oxidation, acid, bases, and other chemical agents as well as their excellent dielectric (electrically insulating) properties."

One aspect of the stability, relative to trace impurities, is simply that most PCB's in a system will not degrade or further react.

NEL 000733

The analytical problem is also important in establishing the presence of PCB in a manufacturing operation. Analysis of incidental PCB's can be difficult because, by EPA standards, one must analyze for all degrees of chlorination (1-10). The common use of standards composed of commercial PCB's is not an acceptable procedure since all homologues and isomers are not present in commercial products. It will usually be necessary to qualitatively identify individual peaks from a gas chromatographic separation prior to quantification of total PCB's. Mass spectrometry is the most common method of compound identification and sometimes can be used for quantification as well. Other methods are acceptable according to the preamble of the PCB Ban Rule:

"Persons who manufacture or process chemicals in a manner that could result in the production of PCBs as a primary product, impurity, intermediate, precursor, or byproduct are responsible for determining whether PCBs have been produced. They will have to conduct tests using good analytical chemistry and investigate ways to improve their ability to detect and quantify PCBs." (44 FR 31538)

THE PREVALENCE OF PCBs IN MANUFACTURING OPERATIONS

The study of trace chemistry leading to detectable PCB's in a process or product is difficult and generalities must be judged by reference to known examples. An environmental engineer in EPA's Pesticide and Toxic Substances Office has been cited (CHEMICAL WEEK, 1/14/81) as stating that "a very large segment" of the industry could be affected. He further said PCB's can be formed any time a material containing hydrocarbons is chlorinated in the presence of heat, or when a chlorinated solvent is recycled. EPA has the advantage of examining all of the data in the current petitions for exemption from the manufacturing ban and the processing and distribution ban. A quick perusal of the non-confidential parts of these petitions indicates that some times concentrations above 50 ppm PCB's are reached at some point in the operation during manufacture utilizing the following types of reactions:

NEEL 000734

- o Chlorination
 - of alkanes
 - of alkenes
 - of aromatics
- o Use of chlorinated intermediates in chemical reactions
- o Recycling chlorinated solvents
 - aromatic or
 - aliphatic
- o Use of contaminated raw materials (below 50 ppm PCB's)

Most operations are now engineered to get maximum yield of raw materials to finished product. Frequently this means recycling part of the reactor output in order to improve yield. Since, as noted previously, PCB's are thermally and chemically stable, recycling can lead to concentration buildup. The PCB's building up in such a system could be from ambient sources (water), contaminated raw materials, or trace quantities generated during the operation. An example of this problem may be useful.

- If (a) raw materials contained 2.5 ppb of PCB's, or
 (b) generation of PCB's was such that 2.5 ppb was created, or
 (c) water containing 1 ppb was used at a volume of 2.5 parts water per part organic (solubilities are such that most organics will extract most of the PCB from water),

And in any of the three cases -

- (d) 2.5% of the reactor stream was recycled after stripping product out and the recycle contained all of the PCB's.

Then (e) the recycle stream would increase in PCB concentration by 100 ppb for each reactor volume put through the system. (All PCB's are in 1/40 of the original volume.)

NEL 000735

Many continuous systems will deliver several reactor volumes per day and operate for months. Such a system will build up PCB's until losses, to waste or product, equal input but the recycle stream may contain readily detectable PCB concentrations. A knowledge of the properties of PCB's and the operating conditions of the plant can give an estimate as to the potential for build-up.

From the above presentation, it is possible to develop generalities but no specifics as to when PCB's may be present in a system at detectable levels. Hydrocarbons in the presence of chlorine or compounds of chlorine may result in some generation of PCB's. Temperature and catalysts play some role but this has not been quantified. Recycling in some part of the operation may lead to concentrating the PCB's to detectable levels depending on a wide variety of engineering variables.

NEEL 000736

AGENDA

Proposed Program on Polychlorinated Biphenyl

DATE: February 24, 1981

PLACE: General Conference Room
CMA Offices
2501 M Street, N.W.
Washington, D.C. 20037

TIME: 10:00 A.M.

- 1.0 Report on Status of Joint Motion for Stay of Mandate
- 2.0 Report on Status of EPA/USDA/FDA Proposed Regulations
- 3.0 Review of Formating and Clarity of 50 ppm Questionnaire and Instuctions
- 4.0 Review of Draft of Questionnaire Letter Describing Potential Incidence of PCBs to Recipients of Survey
- 5.0 Discussion of Issues which should be Addressed in CMA's "Totally Enclosed" Survey
- 6.0 Discussion of Proposed Charter for Special Program on PCBs

NEL 000737

Polychlorinated Biphenyls

Initial Meeting - February 11, 1981

Terrace Conference Room, CMA Offices

ATTENDEES

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NEL 000738

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NEL 000739

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NEL 000740

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NEEL 000741

ATTENDANCE RECORD

Date February 24, 1981Meeting PCBsLocation CMA General Conference Room

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	Mike Neville	Dow Chemical	2030 Dow Center Midland, TX 79701 517-636-2269
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	Judy DeFranco	Hercules Inc.	910 Market St Wilmington, DE 19899 302 575 5636
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	DAVID F. Zoll	CMA	" "
	Gerald A. McDermott	P&G	Hillcrest 7162 Reading Rd. Cincinnati, Ohio 45243 513 763-4428
	Thomas A. Robinson	Vulcan Metals Co.	P.O. Box 12283, WICHITA KS 67277 316/524-4211
	John P. Murphy	Stauffer	Westport Ct. 06881 203-222-3493
	Richard J. Barone	Olmi	275 Winchester Ave New Haven, Conn 06511 (203) 759-6191
	MARTIN F. CONNOR	General Electric	777-141481 Arlington, VA 22204 (202) 637-4116
	JAMES S. NELSON	GENERAL ELECTRIC	FAIRFIELD, CT 06431 (203) 373-2257

TEL 000742

CMA ATTENDANCE SHEET

(please print)

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LB 21
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FAIRFIELD, CONNECTICUT 06431



COPIES: J. F. McAllister
A. Toothaker

SUBJECT

March 10, 1981

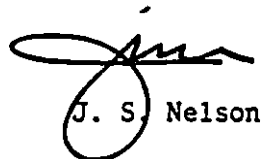
R. S. Friedman
CEIP
W2I

Dear Bob:

Enclosed are the only print references I could find to the approval of PCB incinerators -- Rollins in January and Ensco a short time later, in late January or early February. Anne Toothaker is sending a copy of Chemical Regulation Reporter, which contains a little more detail.

Note that large capacitors may no longer be land-filled. I understand that EPO will be including this item in a newsletter to be issued shortly on the interim rules imposed as a result of the EDF case.

Very truly yours,

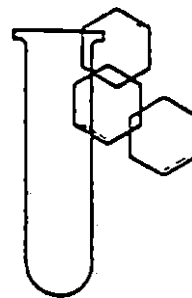

J. S. Nelson

JSN:dem
Enc.

NEL 000744

PESTICIDE & TOXIC CHEMICAL

NEWS



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Publisher: Louis Rothschild, Jr. March 4, 1981

COURT RATIFIES PCB INTERIM PROGRAM AMONG SERIES OF PCB ACTIONS

In a series of actions related to TSCA controls of polychlorinated biphenyls, EPA let the March 1 deadline for ending the landfill disposal of large-volume PCB capacitors take effect, decided not to pursue its regulation on PCBs in food and feed handling establishments and received an order from the U.S. Court of Appeals which in effect implements a series of "interim steps" on the way to new PCB regulations (See Jan. 28, Page 5).

The court's order allows an 18-month stay of its earlier mandate for an EPA rewrite of two-thirds of its PCB regulations, a decision based on a suit brought by the Environmental Defense Fund (See Nov. 5, Page 3). But the new order makes effective interim rules which call, among other things, for weekly inspections of PCB-equipment in food and feed establishments. EPA decided that this measure would make unnecessary a separate rule on these establishments (See Dec. 3, Page 2).

The separate non-action by EPA -- to allow the deadline to take effect against landfill disposal of large PCB-containing capacitors -- was based on the recent approval of an incineration facility at El Dorado, Ark., operated by Ensco, which can crush the capacitors and destroy them and their contents (See Feb. 4, Page 2).

Major provisions of the EPA "interim measures" program approved by the U.S. Court of Appeals for the District of Columbia Circuit, were:

Food and feed risk PCB equipment -- Weekly visual inspection; recording of all leaks and reporting to EPA regional offices within five business days; servicing within two days for moderate leaks (any quantity of PCBs leaking off the equipment); maintenance of records (available to EPA) for three years.

Non-food or feed establishments -- Quarterly inspections; recording, servicing of moderate leaks within two days; three-year record keeping, to be available to EPA.

The court also ordered Edison Electric Institute to take a series of actions, working through the Utilities Solid Waste Activities Group, including contracts to compile data on "types of electrical equipment; leakage phenomena, including incidence and magnitude of leaks; feasibility of containment, inspection and maintenance, and feasibility of transformer and capacitor phase-out."

The court said: "Additionally, several other areas of inquiry will be included, such as the impact of a regulatory cutoff above or below 50 p.p.m.; the health effects of PCBs; a pathway analysis for PCBs that may be released into the environment from electrical systems; nonelectrical materials potentially containing PCBs, and viable substitutes for PCBs."

Alternative phase-out schedules to be investigated include two, five and 20-year phase outs. The court added: "EPA and EDF, at their own expense, will have the right to review all underlying data generated in connection with the study."

FOUR COMPANIES SUBMIT SUBSTANTIAL RISK REPORTS UNDER TSCA REQUIREMENTS

Gulf Oil, Dow Chemical, Glyco Chemicals and an unnamed manufacturer have submitted substantial risk reports to EPA under requirements of TSCA Section 8(e).

Gulf reported on results of mutagenicity assays of four company products, identified by brand name. Positive results with metabolic activation were found for three products, Superquench 70, Process 63 and Process 65. Results were negative for the first two without activation. For Process 63, results without activation were inconclusive. Results also were inconclusive both with and without activation in mutagenicity tests of the company's 100 Texas Oil. Gulf said it is evaluating these results.

Dow reported on recently-developed toxicity data on ethylene glycol monomethyl ether (EGME), 2-methoxyethanol, stating that a 1,000 p.p.m. exposure to rabbits for nine days during an 11-day interval was lethal. "Hematological, testicular and lymphoid effects were found in rats, mice and rabbits exposed to 1,000 p.p.m.," Dow said, adding:

"Similar but less pronounced changes were noted in some animals in the 300 p.p.m. group. No adverse effects were attributed to the 100 p.p.m. exposure level."

Glyco Chemicals, Williamsport, Pa., reported a summary of toxicological data on three related halogenated dimethylhydantoin derivatives, identified as:

(1) 2,4-imidazolidinedione, 3-bromo-1-chloro-5,5-dimethyl (BCDMH); (2) 2,4-imidazolidinedione, 1,3-dichloro-5,5-dimethyl (DCDMH); and (3) 2,4-imidazolidinedione, 1,3-dibromo-5,5-dimethyl (DBDMH).

The company said BCDMH is in R&D stages at Glyco, although it is registered and sold as a pesticide by at least one other company. "We are seeking to develop applications for it in markets which have been served by DCDMH ... for over 25 years," the company said, giving the following "toxicologists' conclusions" regarding BCDMH:

"Moderately severe irritant to the skin; severe irritant to the eyes, causing irreversible cellular damage to eye tissue; at the higher oral dosage levels, systemic effects

NEEL 000746

ADMINISTRATOR RUMOR of the week, with some foundation, is for New Mexico professor John Hernandez.

R.L.P. FLORIO (D-N.J.), Chairman of the Subcommittee on Transportation and Tourism of the Committee on Interstate and Foreign Commerce has "respectfully requested" President Reagan to keep intact presidential orders signed by former President Carter that relate to superfund implementation. It's reported that the Office of Management and Budget (OMB) is considering reorganizing EPA, which could affect the administration of the superfund program (See Jan. 21, Page 16).

ETHYLENE OXIDE cancer risk confirmed after conclusion of studies sponsored by a dozen companies and first reported to EPA in a substantial risk report in 1979 (See Sept. 19, 1979, Page 6). OSHA and NIOSH are recommending cancer hazard warning labels.

2,4,5-T pre-trial benefits briefs have been filed by EPA, Dow, USDA, Farmer's Union, the National Forest Products Association and the National Cattlemen's Association in connection with the ongoing 2,4,5-T cancellation hearing (See Jan. 21, Page 24).

DOW CHEMICAL was turned down by EPA Administrative Law Judge Herbert Perlman on a "request for discovery" of EPA records concerning the definition of polychlorinated biphenyls. "For the purposes of assessing a civil penalty in this proceeding," said Perlman, "a PCB is a PCB" (See Jan. 28, Page 2).

TSCA TEST RULES under Section 4 are in draft form for dichloromethane; 1,1,1-trichloroethane, and nitrobenzene.

✓ SECOND PCB INCINERATOR approved by EPA was for Ensco, Eldorado, Ark. (See Jan. 28, Page 2).

CONFIDENTIALITY issue is confounding an EPA investigation of a Texas-to-New York contamination of natural gas lines with low levels of PCBs. The massive pipeline system is being traced, with no consistency in results, and companies are holding confidential under TSCA provisions all levels of PCBs found, except for one station near Chicago, where levels of 232 p.p.m. were found in a condensate separator owned by Peoples' Energy Company.

CIVIL PENALTIES levied under TSCA for violations of PCB regulations were against: St. Regis Paper Co., Bucksport, Me., \$14,000, and New Brunswick, N.J., Public Service Electric & Gas, \$2,000.

CORRECTION: EPA lawyer Andrew Gordon, not Dorothy Patton, during cross-examination in the 2,4,5-T cancellation proceedings, raised questions about the significance of reproductive and cancer effects related to Dow 2,4,5-T study involving humans (See Jan. 21, Page 24).

CONTROL OPTIONS paper on benzidine, two congeners and derivative dyes has been delivered to EPA by a contractor and is being reviewed in EPA.

GOVERNMENT INSTITUTES Inc. courses on RCRA and other environmental laws will be Feb. 12-13 at Stouffer's National Center Hotel, Washington, D.C.; March 19-20 at Sir Francis Drake hotel, San Francisco, and (advanced course) April 13-14 at the Hotel Washington in D.C.

January 28, 1981

PESTICIDE & TOXIC CHEMICAL NEWS

NO EPA ADMINISTRATOR yet, as James Mahoney of Massachusetts withdrew (See Jan. 21, Page 2). A campaign on behalf of former Assistant Administrator for Enforcement Stan Legrow is taking on added importance.

ACTING ADMINISTRATOR of EPA for a second nonce (See Jan. 21, Page 2) is former Deputy Assistant Administrator for Air Quality Planning and Standards Walter Barber, despite a campaign by Assistant Administrator William Drayton to take over the job. Barber replaces Steven Jellinek, who held the job reluctantly for a few days before leaving EPA to start his own consulting business in Washington.

SUPREME COURT denied the Environmental Defense Fund's request for a writ of certiorari in the chlorobenzilate proceedings (See Dec. 31, Page 14).

FIRST COMMERCIAL INCINERATOR approved by EPA for burning of polychlorinated biphenyls is the Rollins Incinerator, Deer Park, Texas.

DOW CHEMICAL - EPA negotiations in the agency suit concerning the company's Dowtherm G products (See Oct. 15, Page 5) have broken down, according to a letter from EPA enforcement attorney Larry Blackwood to Administrative Law Judge Herbert Perlman. Blackwood said Dow had rejected EPA's proposal and that further proceedings and a hearing on the civil penalty amount will be necessary. The agency also is considering a challenge of Dow's confidentiality claims, Blackwood said.

TESTING GUIDELINES for the TSCA Section 5 program were published in the Jan. 27 Federal Register (See Jan. 14, Page 3).

ASBESTOS information proposal under TSCA Section 8(a) was published by the agency Jan. 26 (See Jan. 14, Page 8).

PLANT IDENTITY confidentiality claims in TSCA Section 8(e) substantial risk reports will be routinely challenged, outgoing EPA Assistant Administrator Steven Jellinek told the Administrator's Toxic Substances Advisory Committee in a final report (See story, Page 9). As confidentiality claims are resolved, he said, company names and sites will be published, and future compendiums of 8(e) reports will include these data.

SEVERE EYE IRRITATION reported under TSCA Section 8(e) to EPA for the chemical 1,3,4-thiadiazolidine-2,5-dithione. The "substantial risk" report was from R.T. Vanderbilt Company, Norwalk, Conn., following independent laboratory tests on rabbits.

TSCA SUBSTANTIAL RISK notices will be provided to public requestors only on written request, EPA said in its Jan. issue of TSCA Chemicals In Progress. Write to: EPA, Ms. Jerri Green (A-101), Freedom of Information Office, Washington, D.C. 20460.

DATA EXCHANGE: EPA was working with the Council on Environmental Quality up to inauguration day to develop legislation for exchange of confidential data among government agencies, as recommended by a Carter administration Toxic Substances Strategy Committee (See July 9, Page 13). Nothing emerged, however, and the incoming administration can be expected to take a long, hard look at the issue.

TSCA TEST RULE schedule proposed by EPA in response to the agency's loss in the suit brought by the Natural Resources Defense Council (Oct. 1, Page 3) was adopted and made formal by the U.S. District Court for the Southern District of New York in a ruling Jan. 9.

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY FAIRFIELD, CONNECTICUT 06431

PRODUCT

QUALITY

STAFF

bcc: M.F. Connor
J.R. Donnalley
W.R. Kruesi
B.I. MacDonald
J.F. McAllister
S.P. Read

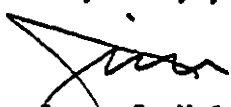
March 20, 1981

Mr. Randal P. Schumacher
Chemical Manufacturers Assoc.
2501 M Street N.W.
Washington, D.C. 20037

Dear Randy,

Enclosed, as a starting point for our discussion on March 26, is a draft of a proposed communication to be sent out from CMA to member companies, intended to promote participation in the "totally enclosed" task.

Very truly yours,


James S. Nelson, Consultant-
Product Environmental Compatibility.

JSN:dem
Enc.

cc: E. R. Baker
J. W. Lewis
M. Nevill
A. R. Pittaway
D. R. Zoll

NEL 000749

782598

(DRAFT)

• INDUSTRY RESPONSE TO COURT DECISION ON PCB RULES

To CMA Executive Contacts:

The decision in Environmental Defense Fund v. Environmental Protection Agency (79-1580) invalidated the basis for discriminating in environmental rules between marginally-detectable traces of polychlorinated biphenyls (PCBs) and potentially harmful amounts; or between open, dispersive uses for the chemicals and those existing products representing enclosed applications that the law apparently sought to allow. The U.S. Court of Appeals for the District of Columbia ruled (October 30, 1980) that there was insufficient basis in the record to support either EPA's cutoff of PCB controls at the level of 50 ppm or its characterization of intact transformers and capacitors as "totally enclosed."

If these control concepts are not rehabilitated or replaced with viable alternatives, the effect will be to extend the Toxic Substances Control Act statutory ban on PCBs to cover any apparatus that may be shown to contain any trace of PCBs, with limits set only by the sensitivity of the monitoring method employed. The continued use of virtually all existing power capacitors and mineral-oil transformers, as well as PCB types, would be of questionable legality, as would many hydraulic and heat-transfer equipments. Any chemical process that was accompanied by the incidental production of any detectable amount of any chlorinated biphenyl would be prohibited (unless it were made the subject of a special exemption).

Revised 11/1/80
11/1/80
11/1/80

NEL 000750

Recognizing the chaos that would ensue, the Court has agreed to delay issuing any mandate that would give effect to its decision and has allowed 18 months for EPA to implement new rulemaking activities. Industry thus has the opportunity and the necessity to help in the provision of a data base and a rationale to support new rules acceptable to the court and the litigants, rules which will protect the environment without exacting an unacceptable price.

To provide its membership an opportunity for meaningful participation in the rulemaking, CMA has formed a Special Program on PCBs. The Special Program, in voluntary cooperation with EPA, will address primarily two issues:

- (1) the incidental generation of chlorinated biphenyls; and
- (2) electrical equipment in the chemical industry, containing PCBs.

Task (1) is described in a separate communication, and is regarded as the principal thrust of CMA's contribution to the record. Task (2) is initiated by means of this letter.

Task (2): Chemical Industry Equipment Containing PCBs

The Edison Electric Institute, along with the National Electrical Manufacturers Association and other industry intervenors in EDF v. EPA, has designed a comprehensive data-gathering and analytical effort aimed at supporting a viable definition of "totally enclosed" electrical equipment. Included will be the number and types of PCB-containing equipment used in electric utilities, the volume and concentration of PCB in the contained fluids, the incidence of leakage, and inspection procedures (among other subjects). This study, termed The EEI/USWAG Study, is described in the Court Order on Inspection and Maintenance, 46 FR 16090, at Appendix A.

It is envisioned that many of the findings of the EEI/USWAG study of the electric utility industry will be broadly applicable to industry generally, including the chemical industry. The CMA Special Project Panel on PCBs has determined that, to the extent that equipment and procedures are common, extrapolation of the EEI study to the chemical industry will be assisted by compiling an inventory of transformers and capacitors in use by member companies. To guard against inappropriate inferences from the EEI study, the Panel will accompany the data submitted with a description of significant differences in operating conditions, frequency of inspection and maintenance, and the severe penalties associated with process shutdown for change-out of equipment. In addition, the CMA study will encompass two classes of equipment not usually found in electric utility plants, namely hydraulic actuators and heat exchangers.

Member Companies should understand that, for the duration of the court-ordered stays, existing EPA rules remain in effect, as supplemented by the interim procedures set forth in the Federal Register article cited above. Accordingly, it is deemed appropriate to collect the data on PCB concentrations (e.g., in transformers) in a manner consistent with current EPA nomenclature: a PCB fluid is one containing 500 parts per million or more of a chlorinated biphenyl; a PCB contaminated fluid or article is one containing 50 to 500 ppm; and the remaining classification of interest is that below 50 ppm.

Forms for reporting the data for CMA Task 2 are attached. We have endeavored to make this as simple as possible, consistent with our objectives. It will be appreciated if you will signify immediately your company's intention to participate, and file your report in advance of the due date, _____.

Very truly yours,

782601

NEEL 000752

AD #1 28

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FAIRFIELD, CONNECTICUT 06431



COPIES:

SUBJECT

- March Activities Report
-J. S. Nelson-

April 2, 1981

Mr. J. F. McAllister
- Office -

REDACTED

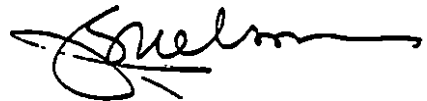
NEEL 000753

782602

REDACTED

5. PCBs

With the concurrence of CEIP, EMG accepts responsibility for GE participation in CMA's Special Program on PCBs, with Mr. Nelson serving on the panel. The panel is charged with developing support for a general exclusion from the regulation of PCBs in any concentration which does not impose unreasonable risk, responding to questions posed by EPA in the ANPR on both the 50 ppm cutoff and the "totally enclosed" issues. The panel met March 26 to plan two surveys of CMA member companies addressed to these issues.



J. S. Nelson

JSN:dem

PRODUCT QUALITY STAFF
GENERAL ELECTRIC
FAIRFIELD, CONNECTICUT 06431



COPIES:

SUBJECT

- CMA Special Project on PCBs,
Third Meeting, March 26, 1981

April 3, 1981

TO: Distribution

Background

These notes describe the third in a series of meetings which have served to establish within the Chemical Manufacturers Association a Special Project on PCBs. CMA Special Projects are formed by member companies with a strong interest in a particular subject, and who are willing to share the expenses (e.g., consultants' fees), above those covered by CMA dues. Representatives of the companies involved form a Program Panel to direct the Project. The Program Panel of the Special Project on PCBs is charged with developing support for a general exclusion from the regulation of PCBs occurring in any concentration that does not impose unreasonable risk, and with responding to questions posed by EPA in the Advance Notice of Proposed Rulemaking on both issues created by the court's decision in the EDF case: the setting aside of the 50 ppm cutoff in the definition of what constitutes a PCB for regulatory purposes, and the setting aside of the determination that intact, non-leaking transformers and capacitors are "totally enclosed" and, as such, not covered by the ban.

Project Documentation

The CMA program is described in depth in a book distributed at this meeting, entitled, "The Origin and Details of CMA's PCB Project." This book was mailed to the Legal Contact in each member company; in GE's case, to E. R. Baker, Group Counsel, Engineered Materials. Additional copies are located at CEIP (R. S. Friedman), in Schenectady (S. P. Read) and in Columbus (T. J. Birch), as well as in this office.

Copies were also sent by CMA to twenty-five other trade associations, soliciting their participation.

"50 ppm" Survey

Draft No. 4 was distributed of the 50 ppm survey, entitled, "Response to the Court of Appeals For the District of Columbia to Provide Data on the Incidental Distribution, and Use of PCBs at Concentrations Below 50 ppm." Discussion indicated that this is about ready to be released.

782604

NEI 000755

LB#29
(file)
M1.2
CMA Special
Project

"Totally Enclosed" Survey

A proposed cover letter soliciting response to the totally enclosed survey was distributed by Mr. Nelson and received favorable comment.

Assignments

Mr. Zoll (CMA's assistant general counsel) distributed an outline of topics to be addressed in CMA's submission to EPA. Among the assignments made by the chairman, Ken Burgess, Dow Chemical, were the following:

Narrative dissertation on PCB chemistry	John Murphy, Stauffer
Economic Significance of PCBs	John Murphy, Stauffer
Mr. Murphy requested the assistance of GE on these topics.	
Government regulation	Zoll, CMA
Analysis of the court decision	Zoll, CMA
Incidental byproducts issue	Burgess, Dow
Toxicity	John Craddock, Monsanto
The totally enclosed issue	Pittaway, RRS and Nelson, GE
Overview & Executive Summary	Zoll, CMA

Agreement with EPA on Industry Meeting

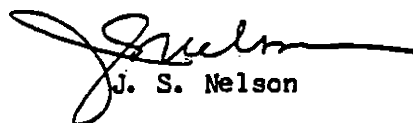
Bill Gunter, who heads up EPA's PCB activities, joined the meeting after lunch and was brought up to date on the status of the CMA survey activity. He stated that he plans to stay abreast of what comes in on the EEI study, so the staff will be in better shape to write the rule.

He was sounded out on the appropriateness of an industry technical meeting, with EPA participation, to exchange information on PCB detection and analysis, particularly in complex streams. Gunter approved the idea, but said it would be better for CMA to issue the invitations, rather than EPA, to avoid a thirty day notice requirement. Two or three weeks after the court acts on the 50 ppm delay was considered to be an appropriate time. Proposed topics to be considered in such a meeting are attached.

When asked if there were ways in which CMA could assist EPA in preparation of the ANPR, Gunter deferred to Ellen Ziegler, EPA attorney, who said "I guess we'll have to punt on that one."

After the meeting, I asked Gunter for his views on the importance of reviewing the toxicity of PCBs. He looked away and said, "Congress settled that when they passed the law."

The next meeting of the Special Project Program Panel will be at the call of the chairman.


J. S. Nelson

JSN:dem
Attach.

DISTRIBUTION

R. Arisman
E. R. Baker
T. J. Birch
J. F. Brown
J. T. Coe
M. F. Connor
J. R. Donnalley
E. W. Feuerstein
R. S. Friedman
A. Glassanos
S. B. Hamilton
W. R. Kruesi
B. I. MacDonald
J. F. McAllister
S. P. Read
E. L. Simons

NEI 000757

Proposed Topics for Industry Meeting

3/26/81

OBJECTIVE 1 - Improve quantity of participation by defining why industry data are needed for good rule making

OBJECTIVE 2 - Improve quality of participation by defining where and how to search for PCB's.

OUTLINE:

Intro and Def. of ANPR and Future Rulemaking Actions

I. Need for Data

- A. Prior Rulemaking - None
- B. Data to Justify Any Cut-off
Unreasonable Risk Criteria
- C. EPA Concerns
- D. EPA Expectations

II. What is Known About ≤ 50 ppm PCB's

- A. Chemistry of Formation
- B. Processes with Potential for Generation
- C. Products Where Concentration May Occur
Undetectable to Detectable

III. How to Search for PCB's

- A. Analytical Methods and Problems
- B. Homologues to be Expected
- C. Who has Analytical Capabilities?

IV. Where to Search for PCB's

- A. What Operations
- B. Process Conditions for Highest Concentration
- C. How to "Estimate"

V. Industry - EPA Problems

Participation: EPA - Technical

EPA - Legal (Rule Making)

RRS

CMA

NEI 000758

LB = 32
(fue...)

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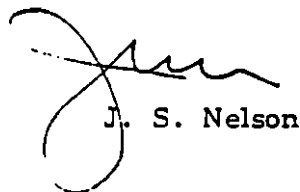
SUBJECT

April 10, 1981

TO: E. R. Baker
T. J. Birch
R. S. Friedman
S. P. Read
E. L. Simons

Attached is an advance draft of the CMA
Special Project Survey of Enclosed Use of
PCB, in the Chemical Industry. Please call
me as soon as possible if you have any
changes to suggest.

Thank you.


J. S. Nelson

JSN:dem
Attach.

NEL 000765

782608

cc: J.F. McAllister
R.S. Friedman
E.L. Simons
E.R. Baker
T.J. Birch
S.P. Read



..... FAIRFIELD, CONNECTICUT 06431

PRODUCT

QUALITY

STAFF

cc: Mr. D. Zoll
Mr. K. L. Burgess

April 14, 1981

Mr. Alan R. Pittaway
Regulatory Research Service
1100 17th Street, N.W.
Washington, D.C. 20036

Dear Alan,

Thank you for "Draft 2, Survey of Enclosed Use of PCB." The definitions show improvement, but we believe further simplification is possible and desirable.

We see no useful purpose in seeking to distinguish between "Informed Opinion" and "Best Theoretical Estimate." We propose, instead, a single category to be called, "Best Estimate." A suitable definition might be:

- Best Estimate: In the absence of definitive analytical work, a value based on knowledge of the processes, exposure to contamination, maintenance practices, known values of analogous devices, or similar information.

We also suggest deleting the second sentence in the definition of "Limiting Case," as use of this method does not provide more certainty with respect to the most probable value, but only with respect to the limit.

With these changes, the data in question 3, pp. 2, 3, and 4 would have one less column and the form would appear simpler to fill out.

You may also wish to consider providing "cells," each to hold one alpha or numeric character, in each location on the form where there is now a blank to fill in. This change should make it easier for key punch operators to process the information.

On page 1, we note that the word "contaminated" is misspelled (second line from bottom). We also suggest that each acronym in the text be spelled out on the first occasion of its use, e.g., "Edison Electric Institute (EEI)" and "Utility Solid Waste Activities Group (USWAG)."

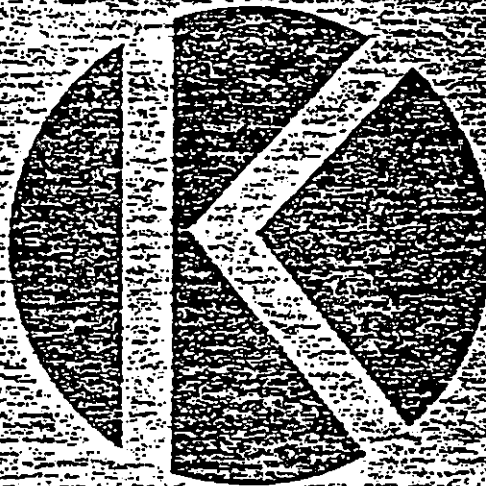
Very truly yours,

J. S. Nelson

JSN:dem

782609

NEL 000766



Draft 2

SURVEY OF ENCLOSED USE OF PCB

NEL 000767

REGULATORY RESEARCH SERVICE

A DIVISION OF THE KIRSCHNER ORGANIZATION

782610

REGULATORY RESEARCH SERVICE

GENERAL INSTRUCTIONS FOR THE
SURVEY OF ENCLOSED USE OF PCB IN
THE CHEMICAL INDUSTRY

NOTE: THIS SURVEY DOES NOT REQUIRE YOU TO PERFORM ANY ANALYTICAL TESTING! RESPONSES CAN BE MADE USING CURRENTLY AVAILABLE INFORMATION.

GENERAL INFORMATION AND ORGANIZATION OF THE SURVEY

The Edison Electric Institute, along with the National Electrical Manufacturers Association and other industry intervenors in Environmental Defense Fund vs. the Environmental Protection Agency, has designed a comprehensive data-gathering and analytical effort aimed at supporting a viable definition of "totally enclosed" electrical equipment. The study is limited to electric utility companies and will include: the number and types of PCB-containing equipment, the volume and concentration of PCB in the contained fluids, the incidence of leakage, and inspection procedures (among other subjects). This study, termed the EEI/USWAG Study, is described in Court Order on Inspection and Maintenance, 46 FR 16090, at Appendix A.

It is envisioned that many of the findings of the EEI/USWAG study of the electric utility industry will be broadly applicable to industry generally, including the chemical industry. The CMA Special Project Panel on PCBs has determined that, to the extent that equipment and procedures are common, extrapolation of the EEI study to the chemical industry will be assisted by compiling an inventory of transformers and capacitors in use by member companies. To guard against inappropriate inferences from the EEI study, the Panel will accompany the data submitted with a description of significant differences in operating conditions, frequency of inspection and maintenance, and the severe penalties associated with process shutdown for change-out of equipment. In addition, the CMA study will encompass two classes of equipment not usually found in electric utility plants, namely, hydraulic actuators and heat exchangers.

Member companies should understand that, for the duration of the court-ordered stays, existing EPA rules remain in effect, as supplemented by the interim procedures set forth in the Federal Register article cited above. Accordingly, it is deemed appropriate to collect the data on PCB concentrations (e.g., in transformers) in a manner consistent with current EPA nomenclature: a PCB fluid is one containing 500 parts per million or more of a chlorinated biphenyl; a PCB contaminated fluid or article is one containing 50 to 500 ppm; and the remaining classification of interest is that below 50 ppm.

NEL 000768

REGULATORY RESEARCH SERVICE

Enclosed is a three-page survey for reporting quantity information on totally enclosed use of PCB fluids, in these three concentration ranges, in equipment in your firm. No questions are asked about any other aspect of use except the quantity of PCB in the equipment. CMA will address other aspects of use with separately prepared discussions using information already available.

REPORTING BY SUBSIDIARY AND PARENT COMPANIES

This survey is being mailed to all organizations who are members of the Chemical Manufacturers Association, and may be mailed to organizations who are members of other associations but not CMA. This approach will mean that two organizations within a parent company may receive questionnaires. Before returning your questionnaire, please be sure that the responses are not duplicated in responses made by another part of the parent firm.

IDENTIFYING INFORMATION AND RETURN OF COMPLETED FORMS

All responses to this totally enclosed survey are confidential and are covered by the Confidentiality Agreement enclosed separately. You may enclose your responses to the enclosed use survey with your responses to the incidental generation survey, or return them separately. In either event, please remove the survey sheets from this package, together with the transmittal cover sheet preceeding them (pages 1 through 5), and return all pages as a set.

We ask that you identify your firm on the transmittal sheet and provide the name and phone number of a person to call, if the RRS has a problem in processing your responses. On receipt of your response, we will review the forms submitted. If there are no problems in processing the forms, or after a follow-up phone call, we will separate this cover sheet from the forms, thus effectively preventing any possibility of future identification of data with source.

SPECIFIC INSTRUCTIONS

The instructions and applicable definitions are on the transmittal sheet and the response sheets. Please feel free to call Alan Pittaway of RRS at (202) 862-9410 for any further guidance or information you may desire.

ALL RESPONSES ARE DUE NOT LATER THAN _____

NEL 000769

TRANSMITTAL SHEET
SURVEY OF ENCLOSED USE OF PCB

FIRM NAME: _____

PERSON TO CALL: _____

TELEPHONE NUMBER: () _____

PLEASE RETURN THIS SURVEY BEFORE _____, to the:

Regulatory Research Service
Suite 800
1100 - 17th Street, N.W.
Washington, D.C. 20036

DEFINITIONS

For this survey, critical terms are defined as follows:

Enclosed Use: Fluid container system which excludes the ambient environment and human contact under normal conditions (e.g. mineral-oil transformers and power capacitors).

Concentration Estimation Methods for Question 1:

- o Analytic Methods: GC/EC: Gas chromatography/electron capture
GC/MS: Gas chromatography/mass spectrometry
- o Informed Opinion: Indicates concentration estimates are known with less certainty, than provided by analytical studies, but are based on some knowledge (e.g. analytic work is limited, method is less precise), or that analysis has not shown concentration at detectable levels but it is reasonable to assume that there may be PCB at some concentration below that limit.
- o Best Theoretical Estimate: Used when a review would indicate that PCB could be present but the estimate of concentration is based on theoretical estimates or "good guesses." Implies no analytical work; estimate is less certain than "informed opinion."
- o Limiting Case: An alternative method of estimating concentration, which is your estimate of the maximum concentration of PCB that would be present. This method provides more certainty than "informed opinion" or "best theoretical estimate."
- o Other: Please show any other method used to estimate concentration, such as an analytic method other than GC/EC or GC/MS, etc.

ENCLOSED USE OF PCB SURVEY

B. EQUIPMENT CONTAINING: 50 TO 500 PPM

For this response sheet, give information only on equipment which contains more than 50 but less than 500 ppm PCB concentration.

1. FOR EQUIPMENT CLASSIFIED AS "50 to 500 ppm," INDICATE NUMBER OF EQUIPMENT ITEMS AND TOTAL QUANTITY OF FLUID IN EACH OF THE FOLLOWING:

Give your answer in pounds. If your data is available only in gallons, indicate either (1) specific gravity or (2) density in pounds per gallon.

	Number of Units	Total Fluid Content of All Units	Fluid Content in lbs. or Gals. (Check One)		If gallons checked, give: (1) Specific Gravity or (2) Density (lbs./gal.)	
			lbs.	gals.		
Transformer(s) (active)	_____	_____	☐	☐	_____	_____
Transformer(s) (inactive)	_____	_____	☐	☐	_____	_____
55 gallon drum(s)	_____	_____	☐	☐	_____	_____
Capacitor(s)	_____	_____	☐	☐	_____	_____
Switch gear(s)	_____	_____	☐	☐	_____	_____
Hydraulic System(s)	_____	_____	☐	☐	_____	_____
Heat Exchanger(s)	_____	_____	☐	☐	_____	_____
Other (specify) _____	_____	_____	☐	☐	_____	_____

2. FOR EQUIPMENT IN THE "50 to 500 ppm" CATEGORY, WHAT IS THE AVERAGE PCB CONCENTRATION FOR EACH OF THE FOLLOWING:

If the average concentration level varies, provide the weighted average concentration in PPM, which can be used with the total quantity of fluid (reported above) to calculate PCB poundage.

	PCB Concentration Level
Transformer(s) (active)	_____ ppm
Transformer(s) (inactive)	_____ ppm
55 gallon drum(s)	_____ ppm
Capacitor(s)	_____ ppm
Switch gear(s)	_____ ppm
Hydraulic System(s)	_____ ppm
Heat Exchanger(s)	_____ ppm
Other (specify) _____	_____ ppm

3. FOR EACH TYPE OF EQUIPMENT IN THE "50 to 500 ppm" CATEGORY, please show the method used to determine the concentration of PCB in the fluid contents. In each appropriate cell of the following table write the percentage of the total fluid content (from question 1) whose PCB concentration was determined by that estimation method. A definition of each concentration estimation method is on page 1.

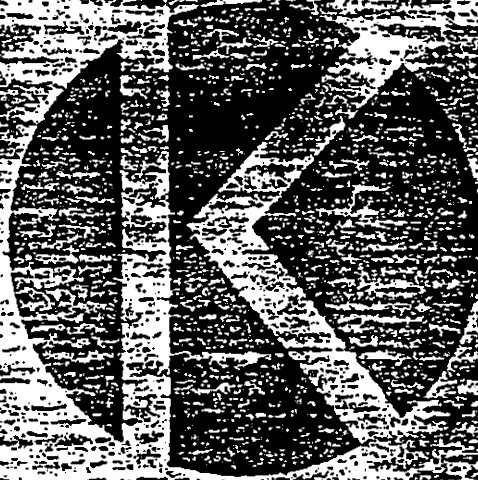
	[1]GC/EC [2]GC/HC [3]Informed [4]Best [5]Limiting [6]Other (Specify)						Total
	100%/EC	200%/HC	Quinon	Est.	Case		
Transformer(s) (active)	_____	_____	_____	_____	_____	_____	100%
Transformer(s) (inactive)	_____	_____	_____	_____	_____	_____	100%
55 gallon drum(s)	_____	_____	_____	_____	_____	_____	100%
Capacitor(s)	_____	_____	_____	_____	_____	_____	100%
Switch gear(s)	_____	_____	_____	_____	_____	_____	100%
Hydraulic System(s)	_____	_____	_____	_____	_____	_____	100%
Heat Exchanger(s)	_____	_____	_____	_____	_____	_____	100%
Other (specify) _____	_____	_____	_____	_____	_____	_____	100%

REGULATORY RESEARCH SERVICE

COMMENT

IF YOU HAVE ANY COMMENT(S) ABOUT THIS SURVEY, OR THE TOPIC UNDER DISCUSSION, PLEASE USE THE SPACE BELOW.

NEL 000772



SURVEY OF ENCLOSED USE OF PCB

Advance draft

REGULATORY RESEARCH SERVICE

A DIVISION OF THE KIRSCHNER ORGANIZATION

NEL 000759

782616

GENERAL INSTRUCTIONS FOR THE
SURVEY OF ENCLOSED USE OF PCB IN
THE CHEMICAL INDUSTRY

NOTE: THIS SURVEY DOES NOT REQUIRE YOU TO PERFORM ANY ANALYTICAL TESTING! RESPONSES CAN BE MADE USING CURRENTLY AVAILABLE INFORMATION.

GENERAL INFORMATION AND ORGANIZATION OF THE SURVEY

The Edison Electric Institute, along with the National Electrical Manufacturers Association and other industry intervenors in Environmental Defense Fund vs. the Environmental Protection Agency, has designed a comprehensive data-gathering and analytical effort aimed at supporting a viable definition of "totally enclosed" electrical equipment. The study is limited to electric utility companies and will include: the number and types of PCB-containing equipment, the volume and concentration of PCB in the contained fluids, the incidence of leakage, and inspection procedures (among other subjects). This study, termed the EEI/USWAG Study, is described in Court Order on Inspection and Maintenance, 46 FR 16090, at Appendix A.

It is envisioned that many of the findings of the EEI/USWAG study of the electric utility industry will be broadly applicable to industry generally, including the chemical industry. The CMA Special Project Panel on PCBs has determined that, to the extent that equipment and procedures are common, extrapolation of the EEI study to the chemical industry will be assisted by compiling an inventory of transformers and capacitors in use by member companies. To guard against inappropriate inferences from the EEI study, the Panel will accompany the data submitted with a description of significant differences in operating conditions, frequency of inspection and maintenance, and the severe penalties associated with process shutdown for change-out of equipment. In addition, the CMA study will encompass two classes of equipment not usually found in electric utility plants, namely, hydraulic actuators and heat exchangers.

Member companies should understand that, for the duration of the court-ordered stays, existing EPA rules remain in effect, as supplemented by the interim procedures set forth in the Federal Register article cited above. Accordingly, it is deemed appropriate to collect the data on PCB concentrations (e.g., in transformers) in a manner consistent with current EPA nomenclature: a PCB fluid is one containing 500 parts per million or more of a chlorinated biphenyl; a PCB contaminated fluid or article is one containing 50 to 500 ppm; and the remaining classification of interest is that below 50 ppm.

NEL 000760

Enclosed is a three-page survey for reporting quantity information on totally enclosed use of PCB fluids, in these three concentration ranges, in equipment in your firm. No questions are asked about any other aspect of use except the quantity of PCB in the equipment. CMA will address other aspects of use with separably prepared descriptions using information already available.

REPORTING BY SUBSIDIARY AND PARENT COMPANIES

This survey is being mailed to all organizations who are members of the Chemical Manufacturers Association, and may be mailed to organizations who are members of other associations but not CMA. This approach will mean that two organizations within a parent company may receive questionnaires. Before returning your questionnaire, please be sure that the responses are not duplicated in responses made by another part of the parent firm.

IDENTIFYING INFORMATION AND RETURN OF COMPLETED FORMS

All responses to this totally enclosed survey are confidential and are covered by the Confidentiality Agreement enclosed separately. You may enclose your responses to the enclosed use survey with your responses to the incidental generation survey, or return them separately. In either event, please remove the survey sheets from this package, together with the transmittal cover sheet preceeding them (pages 1 through 5), and return all pages as a set.

We ask that you identify your firm on the transmittal sheet and provide the name and phone number of a person to call, if the RRS has a problem in processing your responses. On receipt of your response, we will review the forms submitted. If there are no problems in processing the forms, or after a follow-up phone call, we will separate this cover sheet from the forms, thus effectively preventing any possibility of future identification of data with source.

SPECIFIC INSTRUCTIONS

The instructions and applicable definitions are on the transmittal sheet and the response sheets. Please feel free to call Alan Pittaway of RRS at (202) 862-9410 for any further guidance or information you may desire.

ALL RESPONSES ARE DUE NOT LATER THAN _____

NEL 000761

TRANSMITTAL SHEET
SURVEY OF ENCLOSED USE OF PCB

FIRM NAME: _____

PERSON TO CALL: _____

TELEPHONE NUMBER: () _____

PLEASE RETURN THIS SURVEY BEFORE _____

DEFINITIONS

For this survey, critical terms are defined as follows:

<u>Enclosed Use</u>	Fluid container system which excludes the ambient environment and human contact under normal conditions (e.g. mineral-oil transformers and power capacitors).
<u>Analytic Methods</u>	GC/EC: Gas chromatography/electron capture GC/MC: Gas chromatography/mass spectrometry
<u>Informed Opinion</u>	Indicates estimates are known with less certainty, but are based on some knowledge (e.g. analytic work is limited, method is less precise). Analysis has not shown concentration at detectable levels but it is reasonable to assume that there may be PCB at some concentration below that limit.
<u>Best Estimate, Best Theoretical Estimate</u>	Used when a review would indicate that PCB could be present. Estimate of poundage is based on theoretical estimates or "good guesses." Implies no analytical work; estimate is less certain than "informed opinion."
<u>Limiting Case</u>	An alternative method of estimating poundage. Your estimate of the <u>maximum</u> amount of PCB that would be present; the maximum expected quantity. This method provides more certainty than "informed opinion" or "best estimate."

ENCLOSED USE OF PCB SURVEY

B. EQUIPMENT CONTAINING: 50 TO 500 PPM

For this response sheet, give information only on equipment which contains ^{50 to 500} ~~100 to 500~~ ppm PCB concentration.

1. FOR EQUIPMENT CLASSIFIED AS "50 to 500 ppm," INDICATE NUMBER OF EQUIPMENT ITEMS AND TOTAL QUANTITY OF FLUID IN EACH OF THE FOLLOWING:

Give your answer in pounds. If your data is available only in gallons, indicate either (1) specific gravity or (2) density in pounds per gallon.

	Number of Units	Total Fluid Content of All Units	Fluid Content in		If gallons checked, give:	
			Lbs. or Gals. (Check One)		(1) Specific Gravity	or (2) Density (lbs./gal.)
Transformer(s) (active)	_____	_____	☐ Lbs. ☐ Gals.		_____	_____
Transformer(s) (inactive)	_____	_____	☐ Lbs. ☐ Gals.		_____	_____
55 gallon drum(s)	_____	_____	☐ Lbs. ☐ Gals.		_____	_____
Capacitor(s)	_____	_____	☐ Lbs. ☐ Gals.		_____	_____
Switch gear(s)	_____	_____	☐ Lbs. ☐ Gals.		_____	_____
Hydraulic System(s)	_____	_____	☐ Lbs. ☐ Gals.		_____	_____
Heat Exchanger(s)	_____	_____	☐ Lbs. ☐ Gals.		_____	_____
Other (specify) _____	_____	_____	☐ Lbs. ☐ Gals.		_____	_____

2. FOR EQUIPMENT IN THE "50 to 500 ppm" CATEGORY, WHAT IS THE AVERAGE PCB CONCENTRATION FOR EACH OF THE FOLLOWING:

If the average concentration level varies, provide the weighted average concentration in PPM, which can be used with the total quantity of fluid (reported above) to calculate PCB poundage.

PCB Concentration Level

Transformer(s) (active)	_____ ppm
Transformer(s) (inactive)	_____ ppm
55 gallon drum(s)	_____ ppm
Capacitor(s)	_____ ppm
Switch gear(s)	_____ ppm
Hydraulic System(s)	_____ ppm
Heat Exchanger(s)	_____ ppm
Other (specify) _____	_____ ppm

3. FOR EACH TYPE OF EQUIPMENT IN THE "50 to 500 ppm" CATEGORY, please show the method used to determine the concentration of PCB in the fluid contents. In each appropriate cell of the following table write the percentage of the total fluid content (from question 1) whose PCB concentration was determined by that estimation method. A definition of each concentration estimation method is on page 1.

	[3]Informed [4]Test [5]Estimating						(Specify)	Total
	[1]GC/EC	[2]GC/MS	Calcn	Est.	Case	[6]Other		
Transformer(s) (active)	_____	_____	_____	_____	_____	_____	_____	100%
Transformer(s) (inactive)	_____	_____	_____	_____	_____	_____	_____	100%
55 gallon drum(s)	_____	_____	_____	_____	_____	_____	_____	100%
Capacitor(s)	_____	_____	_____	_____	_____	_____	_____	100%
Switch gear(s)	_____	_____	_____	_____	_____	_____	_____	100%
Hydraulic System(s)	_____	_____	_____	_____	_____	_____	_____	100%
Heat Exchanger(s)	_____	_____	_____	_____	_____	_____	_____	100%
Other (specify) _____	_____	_____	_____	_____	_____	_____	_____	100%

COMMENT

IF YOU HAVE ANY COMMENT(S) ABOUT THIS SURVEY, OR THE TOPIC UNDER DISCUSSION, PLEASE USE THE SPACE BELOW.

0892Q
LB # 35-

PRODUCT QUALITY STAFF
GENERAL ELECTRIC
FAIRFIELD, CONNECTICUT 06431



COPIES:

SUBJECT

April Activities Report
- J. S. Nelson -

May 4, 1981

Mr. J. F. McAllister
- Office -

IV. PRODUCT ENVIRONMENTAL COMPATIBILITY (J. S. Nelson)

1. PCBs

On May 1, CMA held an information meeting for member companies to explain CMA's information - gathering activities in connection with the new regulatory program necessitated by the EDF case. Approximately 100 attended and good questions were asked.*

2. Insulating Materials & Dielectric Conference

As requested, Mr. Nelson has supplied a topic-sentence description of a talk on Materials Evaluation as Influenced by Regulation, for a conference slated for May 18 in Schenectady.

REDACTED

A handwritten signature in cursive script, appearing to read "J. S. Nelson". Below the signature, the name "J. S. Nelson" is printed in a small, sans-serif font.

JSN:dem

* GE was represented on the panel by Susan Read, filling in for J. S. Nelson.

NEL 000773

LB 37
(f - 0-60)

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GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



COPIES: J. F. McAllister

SUBJECT

May 5, 1981

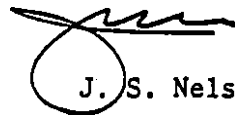
Dr. J. R. Donnalley, Jr.
E 3 A

Dear Jim,

Thank you for sending me a copy of the NEMA statement on products that may contain PCB. Several years ago, in answer to an inquiry from Industrial Sales Division, I prepared a memorandum on the same subject, with respect to GE products. While basically consistent with the NEMA document, it contains enough more detail that it might constitute useful background for some on your staff.

I presume that tap changers and circuit breakers appear on the NEMA list because of possible contamination. My own list concerned only deliberate applications of PCB. I have no personal knowledge of "sealing compounds for electrical apparatus" that contain PCB, but don't question that PCB may have appeared as a plasticizer in various sealants and coatings.

Very truly yours,

A handwritten signature in dark ink, appearing to be 'J. S. Nelson', written over a horizontal line.

J. S. Nelson

JSN:dem
Enc.

NEI 000774

782623

13-40
7-m-1

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



8*229-2287

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SUBJECT

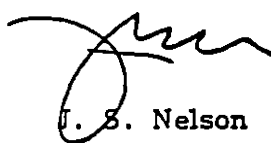
May 26, 1981

R. S. Friedman
CEIP
W2I

Dear Bob:

After your recent visit to the archives of HEW, you spoke of finding our letter suggesting changes to permit the continued use of PCB capacitors and transformers in certain applications in food processing plants and you expressed interest in how decisions for such filings were being made in 1972. While it would be difficult at this date to reconstruct the precise sequence of approvals, the list of "blind copies" on the attached copy of the subject letter should serve to indicate who was presumably a party to the recommendations made.

Very truly yours,



J. S. Nelson

JSN:dem

NEL 000775

782624

03204
41

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GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



COPIES:

SUBJECT

May Activities Report
- J. S. Nelson -

May 29, 1981

Mr. J. F. McAllister
- Office -

REDACTED

NEL 000776

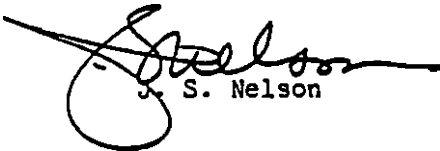
782625

REDACTED

5. PCBs

It was learned at the May 28 meeting of CMA's Panel on PCBs that sixty member firms have already responded to the invitation to participate in surveys designed to provide a data base for EPA's rulemaking necessitated by the EDF case decision. Forty-four have agreed to participate in the "incidental generation" survey and thirty-five in the "totally enclosed" survey. This activity could take on added significance in view of indications that the EEI program it was, in part, intended to supplement, is not off to a good start.

REDACTED


S. Nelson

JSN:dem

NEL 000777

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY FAIRFIELD, CONNECTICUT 06431

PRODUCT

QUALITY

STAFF

bcc: J. F. Brown
J. F. McAllister
S. B. Hamilton

June 8, 1981

Gloria M. Sodaro, Esq.
Chemical Manufacturers Assoc.
2501 M Street N.W.
Washington, D. C. 20037

RE: Round-robin PCB Measurements

Dear Gloria,

In our telephone conversation on June 1, you mentioned that you are exploring the willingness of panelists' companies to participate in a round-robin analysis of the PCB content of still bottoms. It occurs to us that you may encounter some reluctance to play a "no win game"--that is, there could be a tendency to regard diversity of results as a limitation of competence or motivation on the part of participating companies, rather than as an illustration of the scientific uncertainty that would furnish technical justification for a cut-off in rulemaking. Fortunately for our purpose, the records of the New York State Department of Conservation document a series of round-robins on PCB analysis, during 1979 and 1980, using diverse matrices, and with independent participants whose motivation toward good results was unimpeachable. A New York D.E.C. report of the results is enclosed.

The results show a great degree of scatter. PCB is found where there was none, and missed where it was spiked in. There seems to be special difficulty in measuring the lower-chlorinated fractions, which are of interest as inadvertent byproducts in some commercial chemical processes. For example, in 1980 six out of ten participating laboratories missed finding Aroclor 1221 present at a reference level of 0.56 ppm and one laboratory even missed it in hexane (a sample that can be injected directly in the gas chromatograph without prior processing).

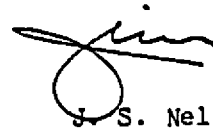
NEL 000778

782627

-2-

Inquiries at our research center have failed to produce strong candidates for the role of consultant to the analytical project. Most frequently mentioned were the authors of the Chemical Rubber Company book, whom I am sure are already under consideration: Hutzinger, Safe, and Zitko. Also, it has been suggested that the editor of Analytical Chemistry, George Morrison (Cornell) could recommend someone.

Very truly yours,



J. S. Nelson

JSN:dem/Enc.

cc: Susan P. Read

Dr. Thomas A. Robinson
Director, Environmental Affairs
Vulcan Materials Company
P. O. Box 12283
Wichita, KS 67277

NEL 000779

782628

(LB# 48)

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GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



8*229-2287

COPIES:

SUBJECT
June Activities Report

July 2, 1981

Mr. J. F. McAllister
-Office-

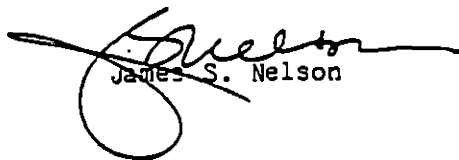
REDACTED

2. PCB

The Chemical Manufacturers Association was furnished a summary report on a New York State Department of Conservation round-robin study of PCB analysis, to illustrate one of the constraints involved in current EPA consideration of lower limits on PCB contamination.

At the July 1 meeting of CMA's Special Program on PCBs, all except GE voted to engage consultants to review and comment upon Monsanto and GE toxicology studies. GE (CEIP) would have preferred a broader charge to the consultants -- to review all the literature and generate an overview paper of their own.

REDACTED


James S. Nelson

JSN:em

782629

NEL 000780

23 = 49
(file m-1)

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GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



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SUBJECT

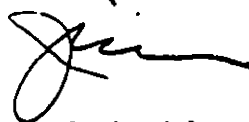
July 6, 1981

R. S. Friedman
CEIP
W2I

Dear Bob:

In answer to your recent request, attached is a summary of the use of PCB in GE products and processes, made from Monsanto's records of shipments to GE locations and GE customers in 1968, before usage patterns had been significantly affected by environmental considerations or regulation. Appended to this study is the raw data statement from Monsanto, showing shipments to or on behalf of GE. Note that most of the Monsanto shipments to locations other than cities where we had transformer or capacitor plants refer to transformer fluid, GE specification A13B3B, approximately 45% Aroclor 1260 and 55% a mixture of trichlorinated benzene and tetrachlorinated benzene. (Three years later, the Aroclor 1260 was abandoned in favor of Aroclor 1254, and capacitor dielectric based on MCS 1016 was substituted for Aroclor 1242.)

Very truly yours,

A handwritten signature in dark ink, appearing to be "J. S. Nelson".

J. S. Nelson

JSN:dem
Attachment

NEL 000781

782630



2353
(file 41.23)

PRODUCT

QUALITY

STAFF

GENERAL ELECTRIC COMPANY FAIRFIELD, CONNECTICUT 06431

July 14, 1981

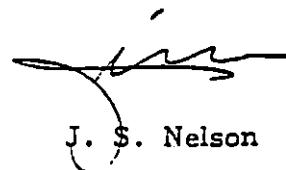
Dr. Thomas A. Robinson
Director, Environmental Affairs
Vulcan Materials Company
P. O. Box 12283
Wichita, KS 67277

RE: NYS PCB Round Robin

Dear Tom,

At the last PCB Panel Meeting, you inquired about the back-up data for the round-robin reports I sent you and Gloria Sodaro with my note of June 8. I am informed that the reports we sent are all that we have received at GE. It is suggested that you request any further information needed from James C. Daly, Environmental Health Center, Division of Laboratories and Research, New York State Department of Health, telephone (518) 474-7999.

Very truly yours,



J. S. Nelson

JSN:dem

cc: Gloria M. Sodaro, Esq., CMA

bcc: J. F. McAllister
S. B. Hamilton
J. F. Brown

NEL 000782

782631

PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



COPIES: J. F. Brown
J. F. McAllister

SUBJECT

HUMAN HEALTH EFFECTS OF ELECTRICAL-GRADE PCB's

July 17, 1981

Mr. J.T. Coe
ELA
Fairfield

Dear Jerry,

I have carefully read the excellent June draft of the subject paper; surely, it must be very close to the final document desired. The message comes through clearly without adversarial tone. Despite the notation that "this paper has been prepared for use within the General Electric Company" I consider that it would be most appropriate for use with the toxicology subcommittee of the CMA PCB Panel, to help mold that group's submission to EPA and the court.

As you complete the final editing, you may wish to consider the following suggestions:

1. Executive Summary. Page 1, § 5, treat "data" as plural and change "indicates" to "indicate." Last paragraph, change "have" to "has." Page 2, change 1000 to 2000 (for the reason stated below in discussing § IV). In the last sentence, delete "their" to indicate that these subjects are of concern also to G.E.
2. Health Effects. § 2: For the non-specialist reader (manager) a little additional explanation of microsomal enzymes and oxidases would be helpful, as given in John Brown's presentation of this subject to Mr. Jones, March 24, 1980. Thus, the second paragraph on page 10 might appear as follows:

When increasing doses of PCB's are administered to animals the first observable effect is the induction of the microsomal enzymes variously known as "drug metabolizing" or "detoxification" enzymes, or as "mixed function" (i.e., chemically non-specific) oxidases. These enzymes catalyze chemical processes by which the animal's body seeks to convert lipid-soluble foreign chemicals into water-soluble substances excretable in the urine. Such effects may be induced by many substances, and are generally regarded as physiological regulatory processes rather than pathological.

At page 12, first paragraph, reference 46 is cited. This reference could be expanded as follows: "...and similar comments addressed to the Interagency Research Liaison Group, Nov. 28, 1979, and to the EPA, February 21, 1980."

782632

NEL 000783

LB # 5-
(file m16)

3. Clinical Studies of Capacitor Workers. On page 14, the range of inhalation exposure is described as "in the 100 to 1000 $\mu\text{g}/\text{m}^3$ range." O. G. White has shown ("In-Plant Residual Levels of Polychlorinated Biphenyls," General Electric Health Conference, Washington, D.C., October 31, 1978) several instances of much higher exposure at Fort Edward, in 1975:

CEB Crimp Station (Right)	1560
CEB (Accumulation)	1590
Carousel #1 (Oper. Pos.)	1920
Carousel #1 (Tilt)	2000

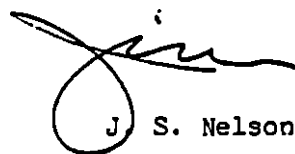
If these data are considered reliable and consistent with your other sources, they furnish justification for speaking of the range as "100 to 2000 $\mu\text{g}/\text{m}^3$."

If you elect to make this change, correction should be made on page 2 and page 19, where the range is also given.

In the same paragraph on page 14, it is suggested that "around 1971" be changed to "in 1971," as the date is recorded in Capacitor Products Department documents as October, 1971.

On page 16, third paragraph, it might be well to record what dividing line is used to separate "lower homologs" from "higher homologs."

Very truly yours,


J. S. Nelson

JSN:dem

NEEL 000784

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY FAIRFIELD, CONNECTICUT 06431

PRODUCT

QUALITY

STAFF

NO # 60
(file m.i.a.)

bcc: J. F. Donnell
S. P. Read
S. B. Hamilton
M. P. Scarber
J. T. Coe
L. J. Utzig
E. R. Baker

R. Aronson
(9-15-)

August 4, 1981

Dr. Kenneth L. Burgess, Director -
Chemical Plant Regulation
The Dow Chemical Company
1803 Building
Midland, MI 48640

RE: Totally Enclosed Uses Issue

Dear Ken,

I am writing to acquaint you with the results of our task group meeting on Totally Enclosed Uses, July 30 at CMA headquarters and to give the others who were present a chance to correct any inaccuracies. I shall be pleased to report on the substance of this memorandum at the meeting of the full PCB Panel on August 13, if you think it appropriate.

Attachment I contains an agenda prepared by CMA staff. Attachment II, distributed by Gunter of EPA when he visited the Panel on March 26, is included as a reminder of what he said EPA wants to learn about the totally-enclosed issue.

The Task Group recommends that its final report include the following elements:

1. Results of Survey of "Totally Enclosed" Apparatus.
Results are expected from Alan Pittaway in early October.
2. Explanation of Special Considerations and Cost Factors pertaining to use of totally enclosed equipment in the chemical industry:

2.1 General In-plant Protection Against Chemical Hazards

Drafting responsibility: PPG (Steinberg) — *asked for cost*

- Familiarity with good practices, codes & regulations
- Availability of trained personnel accustomed to SPCC plans
- Location of PCB-containing equipment within controlled areas
- Provision for damage control, spill containment, & personnel protection

NEI 000785

2.2 Chemical Plant Equipment Specifications

Drafting responsibility: Dow (Nevill) and committee he will form with participation of three chemical manufacturers utilizing personnel with experience in plant electrical equipment; hereinafter designated the "electrical team."

- The role of special corrosion protection finishes and wall thickness requirements (etc.) in preventing PCB leaks

2.3 Chemical Plant Electrical System Considerations

- Reliance upon integrity of circuit elements rather than alternative electrical supplies for staying "on line"
- Effect of the chemical industry practice of maintaining electrical loads at or below equipment ratings upon leak/rupture rates

2.4 Chemical Plant Inspection and Maintenance Practices

Drafting responsibility: Electrical Team

- Non-statutory business incentives for frequent inspection and timely maintenance
- Emphasis on reliability and avoidance of down-time
- Preventive maintenance and frequency of "walk-around" and comprehensive inspections

2.5 Feasibility and Economic Impact of Equipment Phase-out

Drafting responsibility: Electrical Team

- "Natural" phase-out due to cessation of PCB production
- Economic burden of any forced phase-out program: special considerations in the chemical plant
 - delays in receiving equipment built to custom specs
 - equipment access problems
- Costs and hazards of disposal
- Availability of non-PCB apparatus on a timely basis in the quantities required for an industry-wide forced phase-out program
- Economic feasibility of large-scale retrofit or clean-up proposals
 - quantities of contaminated or hazardous waste

-3-

3. Evaluation of the Exposure Potential from Leaks and Ruptures

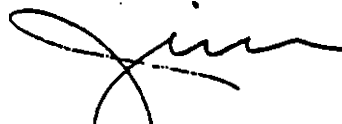
This section is conceived as containing a summary of the leakage experience with PCB transformers and capacitors in the chemical industry, extrapolated from the survey results (§ 1). From these results, an estimate of the exposure of people and the environment to PCBs is to be prepared. Factors such as vapor pressure, concentration of PCB in the leaking fluid, ventilation (indoor or outdoor), prevailing temperatures, route of exposure etc., are to be considered. If practicable, the exposure calculation should be supported with air samples taken in the vicinity of various leaking transformers. The resulting exposure calculation is then to be evaluated in terms of the findings of the Task Group on Toxicity and Epidemiology. If, as we anticipate, this exercise supports the conclusion that there is "no significant risk," it should enable EPA to exit from its former position that any exposure to PCBs is significant, thus paving the way for a viable regulatory interpretation of "totally enclosed" uses.

Drafting responsibility: to be assigned.

The Task Group considered the suggestion that an outside expert be engaged to perform the task described above, and concluded that it may be more feasible to assemble the requisite knowledge from within panel-member companies. This approach is to be further explored.

Mike Nevill has set a goal for the Electrical Team of producing a review draft by the middle of October. Similar timing for task #3 would be appropriate, considering the due date of December 7 for delivery to EPA.

Very truly yours,



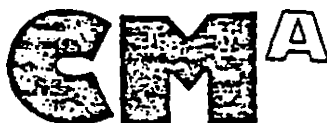
J. S. Nelson

JSN:dem
Attach.

cc: Frederick W. Steinberg
Michael Nevill
Kurt Sanford
David F. Zoll
Robert Fensterheim

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CHEMICAL MANUFACTURERS ASSOCIATION

Notice of Meeting
of the

PCB Totally Enclosed Uses Task Group

Date: July 30, 1981

Time: 10:00 a.m.

Place: Technical Conference Room

Agenda

- 1.0 Identification of issues
(Principal source material July 1 Draft Legal Memorandum)
- 2.0 Determination of which issues to include in
CMA submission
- 3.0 Discuss Who will address these issues; what data
can be provided to EPA

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Hunter

Totally Enclosed Uses

I. What EPA Knows

A. Transformers and Capacitors - a Fresh Look

1. Can anything be totally enclosed?

2. The damn things really do leak.

a. Our previous reliance on legislative history

b. Does GSA represent the universe?
(50 % actually leaking)

c. EEI survey

B. Other Equipment not Previously Addressed
oil circuit breakers?

II. What EPA Wants To Learn

A. Is Electric Utility Experience Universal? (in terms of leak rates)B. 50 ppm Cutoff - encourage comments as to how to deal with it -C. How Soon, Oh Lord? Possibility of accelerated phase out;
approach to disposal question.

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PRODUCT QUALITY STAFF

GENERAL  ELECTRIC

FAIRFIELD, CONNECTICUT 06431



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July Activities Report
-J. S. Nelson-

August 5, 1981

Mr. L. J. Utzig
-Office-

REDACTED

4. PCBs

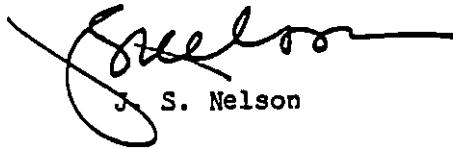
Mr. Nelson chaired a meeting of CMA's Task Group on the Totally Enclosed Issue, at which strategy was set and assignments accepted.

Comments were furnished to Jerry Coe and John Brown on the latest draft of their paper on "Human Health Effects of Electrical-Grade PCBs."

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J. S. Nelson

JSN:dem

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August 26, 1981

Mr. L. J. Utzig
-Office-

IV. PRODUCT ENVIRONMENTAL COMPATIBILITY (J. S. Nelson)1. Breeder Reactor Program

Power Transformer was advised concerning approvals for participation in hazardous business under the soon-to-be revised Policy 1.1.

2. Voluntary Programs for Toxic Chemicals

EPA's draft proposal for voluntary chemical control by industry was discussed with Ted Foley, Corporate Government Relations. Mr. Foley plans to support this initiative.

3. DEHP

Conversation with Dr. Arisman of Capacitor Products disclosed a high probability that EPA will accept the CMA testing program for DEHP (a widely used plasticizer that forms the basis for the capacitor dielectric fluid) and will not issue a formal testing rule under Section 4 of TSCA. This negotiation, if successful, is a good example of the type of cooperation that would be encouraged under item #2, above.

4. PCB

Plans of the task group on the totally enclosed issue were ratified at a meeting of the Special Program Panel on PCBs (CMA).

5. Nexis

Miss Marrone reported on a meeting held by Corporate Planning and Development to explain plans for coupling to the "Nexis" computerized data base -- a system of potential usefulness to Corporate Engineering in retrieving information from the technical and general press and the Federal Register.


J. S. Nelson

J. 76

1981 HIGHLIGHT ACCOMPLISHMENTS
JAMES S. NELSON, CONSULTANT - PRODUCT ENVIRONMENTAL COMPATIBILITY

REDACTED

PCBs

With the concurrence of CEIP and EMG, Mr. Nelson initiated and helped organize Company participation in the Chemical Manufacturers Association special panel on PCBs, with the objective of promoting cost-effective EPA regulations to replace those struck down by the court, and chaired the subpanel on the "totally enclosed" issue.

REDACTED

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REDACTED

October 13, 1981

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GENERAL ELECTRIC

PRODUCT *LB # 62*
file 0-60
QUALITY
STAFF

GENERAL ELECTRIC COMPANY FAIRFIELD, CONNECTICUT 06431

August 5, 1981

Dr. John H. Craddock
Monsanto Company
800 N. Lindbergh Blvd.
St. Louis, MO 63166

Mr. David F. Zoll
Chemical Manufacturers Assoc.
2501 M Street, NW
Washington, DC 20037

Dr. Kenneth L. Burgess
Dow Chemical Company
1803 Building
Midland, MI 48640

Mr. J. T. Coe
Office

Gentlemen:

The enclosed NEMA newsletter announces their agreement with EEI to go ahead with an outside team to overview the toxicology picture on PCBs.

Very truly yours,


J. S. Nelson

JSN:dem
Enc.

P.S. Ken: I would appreciate a copy of your calculation on the transformer in a 300 cubic meter room showing the assumptions made. Thank you.

JSN

NEL 000792

NEMA

NEWSletter

POWER EQUIPMENT DIVISION

July 1981

RECEIVED

AUG 5 1981

J. S. NELSON

W. R. KRUESI

AUG 3 1981

INTER-INDUSTRY COUNCIL ON THE ENVIRONMENT

PRECAUTIONARY LABELING

CLEAN AIR ACT

EXPORT-IMPORT BANK

CALENDAR OF MAJOR ELECTRICAL EVENTS



INTER-INDUSTRY COUNCIL ON THE ENVIRONMENT

The Power Equipment Division Committee on Environmental Affairs has, on the behalf of NEMA, reached agreement with Edison Electric Institute to sponsor a joint literature survey on the human health effects of PCBs. The Washington consulting firm Drill, Friess, Hayes, Loomis & Shaffer has been selected to conduct the study that will assimilate the most significant scientific findings used to promulgate the original ban on PCB's and the more recent studies. There is mounting evidence that the conclusions drawn from the original findings that EPA used to promulgate the rulemaking are invalid. Both EEI and NEMA are confident that the new information will provide EPA with a more balanced picture in which to assess the health effects of human exposure to PCB's.

The study will be made available to EPA and the U.S. Court of Appeals for the District of Columbia by January 4, 1982.

PRECAUTIONARY LABELING

The Power Equipment Division has been involved in an effort to join EEI in a long needed safety labeling program for pad-mounted apparatus.

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GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY FAIRFIELD, CONNECTICUT 06431

PRODUCT

QUALITY

STAFF

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October 19, 1981

Mr. M.E. Nevill
Environmental Quality
Dow Chemical U.S.A.
Bennett Building
2030 Dow Center
Midland, Michigan 48640

Dear Mike:

My written reply has taken longer than anticipated because I decided it might be helpful to attempt a more thoroughgoing redraft. As we discussed on the telephone, the proposed section on comparison with the utility industry is in need of more facts, and clearer presentation, including transition passages. Enclosed is a stab at this, with paragraph headings, and a bit of information from the survey added. I also indicate places where factual exhibits might be helpful, and I hope your committee can supply them.

In other suggested changes, I have removed the names of firms from the discussion of destruction and retrofit schemes and deleted the statement that current EPA regulations require waiting three months between retrofills. (They don't: they require testing after a three-month period of use before reclassification is permitted. See discussion at 44 FR 31532, 1st column).

I have omitted your final paragraph from this version, in the belief that our conclusions and recommendations should be placed at the end of the whole report, incorporating not only your committee's work but that of Steinberg and the section on evaluation of exposure potential.

Please feel free to adopt any of these suggestions that appeal to you, and to call me on any changes whose rationale appears obscure.

Very truly yours,



J.S. Nelson, Consultant-
Product Environmental Compatibility

JSN:cas

Attachments

bc: S.B. Hamilton
S.P. Read
L.J. Utzig

782646

NEL 000797

COMPARISON OF ELECTRICAL EQUIPMENT USAGE BETWEEN THE CHEMICAL INDUSTRY AND PUBLIC UTILITIES

Introduction.....

The Chemical Industry, through the Chemical Manufacturers Association, and the Utility Solid Waste Activities Group (USWAG) of the Edison Electric Institute, are each submitting data on PCB-related electrical equipment to EPA. Data from the two sources may be aggregated legitimately for some purposes, such as, for example, estimating the amounts of PCBs or PCB-contaminated fluids in service. On the other hand, there are differences in equipment specification and major differences in use and maintenance practices that may be significant with respect to some purposes to which the data may be applied, such as prediction of the number of equipment failures or leaks to be expected in service. The differences in equipment application also may lead to different conclusions regarding the economic impact of any program of equipment change-out that might be recommended. These differences are discussed below.

Penalty for Downtime

Utilities are typically able to arrange their distribution transformers in banks or grids such that the failure of a single transformer will result in no service interruption or loss of revenue. The faulted transformer is automatically cut out of the circuit by fuses or circuit-breakers, and the remaining transformers pick up the load until repairs can be effected. Similar system arrangements compensate for the loss of a primary feeder line, or the power transformer associated with it. Such circuit redundancy is seldom practical for a chemical plant installation, forcing chemical plans to place greater reliance on the integrity of individual circuit elements. This circumstance causes operators to exercise great care in maintenance, to load

NEEL 000798

chemical plants is concentrated in relatively compact plant areas and is accessible to frequent inspection. In contrast, utilities have thousands of transformers that may be placed in isolated locations throughout the service area which may extend for hundreds of square miles, a condition not conducive to frequent inspection. Transformers in chemical plants are located close to operations, in areas populated by trained workers. In the more critical operations, transformers are observed on a daily basis. Leaks tend to be discovered quickly and corrective measures taken early.

Maintenance

Plant maintenance cycles are usually accomplished on an annual or biannual basis. The cooling oil in the transformers is tested frequently--as often as every six months for critical equipment--for any indication of dielectric degradation or loss in cooling efficiency. Such parameters as acidity, solids inclusions, etc., form a part of these tests. Any incipient leakage would be discovered and corrected. Exhibit "B," attached, is the electrical maintenance instruction from a representative chemical plant.

Loading Practices

There are many circumstances under which electrical utility transformers may be loaded beyond the manufacturers' name plate ratings: for example, when one element of a network fails and the others must take up the load; or when system load growth exceeds the rate of equipment replacement. This is a normal practice, and is allowed for in the ratings applied to transformers, and its mention here is not intended as a criticism of the practice. However, and this is the point of this discussion, a different situation obtains in chemical plants. Transformers are usually dedicated to functioning with a

NEEL 000800

particular process, whose electrical load can be predicted with ease. There is no incentive to take advantage of the built-in overload capability of the transformer. Each unit is sized to the job it has to do. The result is cooler operation, longer life, and a predictable freedom from leakage.

General In-plant Protection against Chemical Hazards

(Draft of this section to be supplied by PPG, by October 24)

Feasibility and Economic Impact of PCB Phase-out

We have discussed above the features of the chemical industry that minimize the occurrence of transformer leaks and the in-built provision for coping with such incidents as may occur. It remains to discuss special circumstances and conditions of the chemical industry that contribute to the difficulty and expense of complying with any program calling for the accelerated phase-out of PCB and PCB-contaminated transformers and capacitors.

It is important to note that PCB fluid production in the United States, for all purposes, ceased in 1977. Therefore, for the utility industry and chemical industry alike, the process of PCB equipment phase-out is occurring. As fast as PCB and PCB-contaminated units wear out or become obsolete due to systems growth or process obsolescence, they are being replaced with non-PCB equipment. Here, again, there are significant industry differences.

The replacement cost of a typical 500 KVA transformer used in the chemical industry is \$15,000, with a delivery time of 12-15 months. Replacement of a large rectifier transformer as used in some chemical plants will require

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24-30 months lead time and the cost will be in the range of \$300,000. Much of the chemical industry equipment, as noted previously, is built to tailored specifications and is not available off the shelf, increasing both cost and delivery time compared to a standard (e.g., utility) transformer.

Usually, the installation costs are three times the replacement costs. Plant layout is typically such that the replacement unit must go into the space vacated by the unit being taken out, so that the only practical period for such replacement is during a scheduled shutdown for renovation or maintenance of the associated chemical process. Any attempt to accomplish transformer replacement at other times would incur downtime costs that could easily exceed \$10,000 per hour (in addition to the costs noted above).

There were 85 participating companies in the CMA Survey of Enclosed Use of PCB in the Chemical Industry. Twelve thousand transformers were shown to be in use, and of these, 4500 were reported as containing PCB or contaminated by PCB. At an estimated replacement cost of \$15,000 and \$45,000 installation cost, changing out these 4500 transformers would cost \$270 million.

The 85 respondents account for 34% of industry sales. It should be pointed out, however, that the nonreporting companies probably have less than a proportional share of transformer ownership, so the burden on the total industry cannot be estimated by simply trebling the \$270 million.

The costs discussed above pertain to present conditions and "natural" phase-out of PCBs. If there should be a mandated phase-out on an accelerated schedule, to be accomplished by a certain time, these costs would be magnified

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by the resulting competition from all industry for limited resources to replace electrical equipment. This burden would be likely to fall the heaviest on those, like chemical plants, requiring custom-built equipment.

Disposal, Destruction and Retrofit

The chemical industry, the utility industry, and all manufacturing industries are faced with enormous costs for disposing of PCBs, and share a common concern with respect to any proposal that would increase the pace of this process and consequently inflate the costs. Therefore, it seems appropriate to include in this paper a brief review of disposal alternatives.

Retrofilling of transformers is one way that PCB contamination can be reduced. Normally, an askarel transformer requires a minimum of four retrofills with replacement fluid to reduce the PCB concentration below 50 ppm. In some cases it may take as many as seven retrofills to accomplish this. Each retrofill generates another volume of fluid that must be disposed of as a PCB. For example, a 250 gallon (2,000 pounds of fluid) transformer containing 400,000 ppm PCB, while containing only 800 total pounds of PCBs, will generate 8,000 pounds of material to be burned as PCB if there have been four retrofills. A transformer must be shut down for retrofilling thus requiring the shutdown of some operating equipment, so again, the cost of downtime is a major factor. In some cases, it is cheaper to replace an old transformer than to retrofill several times and incur the fluid disposal costs, downtime costs, and other costs associated with maintaining PCB equipment.

There is a variety of PCB destruction methods under development. Only a few are commercialized and have EPA approval.

NEEL 000803

Incineration is the only technique commercially proven to be capable of destroying large quantities of pure askarel as well as slightly contaminated PCB fluids. From this standpoint it is the most versatile technique available. It has been extensively tested and has EPA approval. Following EPA approval in early 1981, the base price for incinerating PCBs has been increased 20% and is presently 60¢/lb. in bulk quantities. In comparison, other chlorinated organic wastes may be incinerated for __¢/lb.

One firm has developed a system which consists of circulating contaminated PCB transformer oil through a cannister filled with neoprene rubber. The PCBs are removed by adsorption onto the neoprene. Experience thus far indicates this technique is extremely slow and suitable for removing low levels of PCB contamination. Its prime advantage is its ability to permit the transformer to stay in service while being treated.

Another firm has developed a method of treating transformer oil contaminated with low levels of PCB using sodium naphthalide as the reagent. Preparation of this reagent is difficult and shelf-life is limited. A large surplus of reagent (approximately 50/l) is required to destroy the PCBs. Experience with similar systems indicates they are very reactive and require special safety precautions when treating large quantities of fluid.

Another offering is a portable system capable of polymerizing PCB impurities in slightly contaminated transformer oil (less than 1000 ppm PCB). The process requires multiple passes to remove the PCB. Its advantage is the ability to remove PCB without contaminating the mineral oil. Pricing ranges from \$3-11.00/gallon depending on the level of PCB contamination. This

NEEL 000804

process generates solid waste during the filtration step. Approximately one drum of filter cake is produced per pass for every hundred gallons of fluid treated. This system has EPA approval.

Other processes under development would destroy PCBs by arcing, oxidizing with ozone, or burning as fuel in diesel engines.

Using the incineration price of 60¢/pound of PCB contaminated oils, the cost of incinerating 10,000 gallons of contaminated oil at a concentration of 300 ppm is \$44,400 (22.2 pounds of PCB). Thus, the cost of incineration is \$2,000 per pound of PCB. When the level of contamination is lower, the cost per pound of PCB increases as shown by the following table:

<u>Level of Contamination</u>	<u>Cost/lb. of PCB Incinerated</u>
300 ppm PCB	\$ 2,000
100 ppm PCB	6,000
50 ppm PCB	12,000
25 ppm PCB	24,000
10 ppm PCB	60,000

These figures are for incineration, only. They do not include freight, handling, replacement oil, lost production, etc.

Capacitors cannot be refilled. Current disposal prices for capacitors are \$1.25 per pound net weight, at the only disposal facility currently authorized.

JSN

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