IN THE DISTRICT COURT OF THE UNITED STATES
MIDDLE DISTRICT OF FLORIDA
JACKSONVILLE DIVISION

INDEPENDENT LIFE & ACCIDENT INSURANCE COMPANY, a Florida Corporation,	)	
Plaintiff,	)	
-vs-	)	Case No. 83-613-CIV-J-12
GENERAL ELECTRIC COMPANY, a foreign corporation,	)	
Defendant.	)	

DEPOSITION OF WILLIAM B. PAPAGEORGE
TAKEN ON BEHALF OF THE PLAINTIFF.

April 7, 8, 9, 1986

Richard E. Schroeder
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621-0107

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-vs-	)	Case No. 83-613-CIV-J-12
GENERAL ELECTRIC COMPANY, a foreign corporation,	)	
Defendant.	)	

DEPOSITION OF WITNESS taken to be used in an action pending in the United States District Court, Middle District of Florida, Jacksonville Division, wherein Independent Life & Accident Insurance Company, a Florida Corporation, is Plaintiff, and General Electric Company, a foreign corporation, is Defendant, pursuant to notice between counsel, under the provisions of Rule 26(a) of the Rules of Civil Procedure, taken on the 7th day of April, A.D., 1986, at the law offices of Peper, Martin, Jensen, Maichel & Hetlage, 720 Olive Street, in the City of St. Louis, State of Missouri, before Richard E. Schroeder, R.P.R. and Notary Public within and for the County of St. Louis, State of Missouri.

A P P E A R A N C E S:

Gallagher, Baumer, Mikals, Bradford,
Cannon & Walters,
by: Thomas M. Baumer, Esq.,
and
Lawrence J. Hamilton, II, Esq., . .For the Plaintiff.

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Thomas M. Burke, Esq., ...For the Defendant.

Thomas M. Bistline, Esq., ... For the Witness.

George Derryberry, Esq., ... For the Witness.

WILLIAM B. PAPAGEORGE,

of lawful age, produced, sworn and examined on behalf of the Plaintiff, deposes and says:

DIRECT EXAMINATION

BY MR. BAUMER:

Q State your name, please, sir?

A William B. Papageorge, spelled P-a-p-a-g-e-o-r-g-e.

Q Mr. Papageorge, where do you currently reside?

A In St. Louis County, Missouri.

Q And what is your address?

A 321 Pebble Valley Drive, Zip Code 63141.

Q And are you employed?

A Yes.

Q By whom are you employed?

A Monsanto Company.

Q And for how long have you been employed by Monsanto Company?

A Thirty-four years.

Q And have you held employment other than with Monsanto?

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A. Yes.

Q. What employment did you have prior to Monsanto?

A. I was associated with the Phillips Petroleum Company in Bartlesville, Oklahoma.

Q. And what years were you with Phillips Petroleum?

A. 1947 to 1951.

Q. When did you join Monsanto?

A. November 1st, 1951.

Q. And have you had thirty-four continuous years thereafter?

A. Yes.

Q. And prior to Phillips Petroleum, what was your employment?

A. I was attending graduate school.

Q. Have you been employed by anyone other than Phillips Petroleum and Monsanto since graduating from college or graduate school?

A. No, unless Military Service fits that description.

Q. Where did Military Service fit in?

A. Between 1943 and 1946.

Q. All right. Would you tell us of your educational background after high school, please?

A. I attended Washington University, located in St. Louis, received a Bachelor of Science Degree in

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Chemical Engineering in 1943. I then attended the same institution in 1946 and I received a Masters Science Degree in Chemical Engineering.

Q Do you have any other post-graduate education?

A Yes, I have taken courses and received credit for these courses at Oklahoma State University, at that time it was called Oklahoma A & M, at Stillwater, Oklahoma.

Q And what courses did you take at Oklahoma State University?

A I don't remember the specific courses, but they were in the field of Chemical Engineering.

Q And when would that have been?

A That was during the period 1947 through 1951.

Q Did you attend class on a regular basis or --

A These were -- some were evening courses, some were weekend courses.

Q Were they regular courses in the curriculum?

A Yes, but they were taught as extension courses.

Q Any other post-graduate educational courses?

A Well, I did attend some courses that were sponsored by Monsanto which were in the Business Management area.

Q What type of courses, please?

A I don't know quite how to describe it. They had to do with accounting and personnel management, setting

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targets and goals in the general area of Business Administration.

Q How many such courses did you take?

A I recall two.

Q What was the length of those courses?

A It covered a several month period, but the attendance was not continuous. Let me be more exact. I attended courses sponsored by the American Management Association in New York, and as I recall, those courses were held for one week intervals which were separated by several months, and I made repeated trips to complete the number of weeks required. I have forgotten just how many those were.

Q These American Management Association courses, are those the same ones as you refer to as the Monsanto courses?

A Yes, Monsanto sponsored those courses for me.

Q And you would take them on the weekends?

A No, this was a week at a time away from the job, attend the courses in New York City, then go back and work and presumably apply what you learn, then go back for another week. And I have forgotten how many weeks. It was spread over eight or nine-month period, maybe a full year.

Q And the nature of these courses were business related?

A Business related, correct. A similar -- In terms

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of subject matter, a series of courses was held or conducted by Washington University in the St. Louis area and these were weekend exposures, Friday afternoon, Saturday, Sunday, either on campus or at a retreat center, and they too were spread out over several weeks.

Q Were those likewise business oriented courses?

A Yes.

Q All right. In the military, what was your job in the military?

A It depends on the point of time.

Q How about starting at the beginning and going to the end?

A At the beginning I entered as a Corporal and attended Officers' Candidate School. I graduated from that course as a Lieutenant in Infantry, and later I was transferred from Infantry into finally Corps of Engineers before I was discharged.

Q Were you able to use the information you learned in college in the Military?

A For a brief period, yes.

Q In what respect?

A As part of the occupational forces in Japan, I was, because of my training in chemical engineering, was asked to conduct a survey of a prefecture in Japan to look for chemical warfare associated with equipment,

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supplies, and to conduct the proper disposal of those supplies and equipment.

Q. Were you called upon to dispose of any supplies or equipment in the chemical warfare area?

A. Yes.

Q. What years was that?

A. 1945, 1946.

Q. And what type of chemical warfare materials were you called upon to dispose of?

A. Oh, I don't remember the specifics, but they were materials containing chlorine, something, some type of chemicals that I was told resembled mustard gas. Keep in mind these were all in Japanese labels and I had to rely on a Japanese interpreter. Then there were decontamination chemicals that were stockpiled, that I had to dispose of. Most of these decontamination chemicals were cleaning agents of varying types.

Q. What were the chlorine materials that you were involved with? Do you recall specifically?

A. Not specifically, no.

Q. Do you recall what the nature was of those materials that caused them to be involved with the chemical warfare disposal?

A. I don't know that I understand the question.

Q. What about -- What were the properties of those

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matters, those chlorine-related matters that made them part of the chemical warfare mechanism?

A. They were materials that vaporized easily, creating fumes and gases that were irritants, which would decapacitate troops so that they couldn't perform their duties properly.

Q. Was the chlorine nature of the material?

A. That was my understanding, yes.

Q. All right. Let's go back now to Monsanto and trace for us, if you would, please, sir, your work experience with Monsanto starting with the first job you held at Monsanto.

A. The initial assignment with Monsanto was as a Design Engineering in the Plant Engineering Department, designing equipment which was used to produce chemicals.

Following that assignment, I was a Supervisor of producing units, units that produced chemicals. Following that I was assigned as a Maintenance Supervisor responsible for the maintenance of a geographic subdivision within the plant. I was then made the Superintendent of that function, with several supervisors reporting to me.

I was then assigned back to the Plant Engineering Group as a Superintendent with engineers working for me. Following that I was then made a General Superintendent of the services functions within the plant. That is -- By services, I refer -- I am referring to operating of the

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Power Plant and the generation of electricity, the shipping and receiving functions, the plant clean-up crew, that type of general plant support.

Q What year would we be in now when you were a General Superintendent?

A That would be about 1962.

Q All right. Let's go back for a moment, before we continue on, and tell me what -- were you in one plant throughout these six job descriptions you have given us?

A Yes.

Q Which plant was that?

A That is the John F. Queeny Plant located in St. Louis.

Q And did the job functions that you had, that you have previously described, involve the area of Chemical Engineering?

A Yes.

Q All of them?

A Yes.

Q What types of equipment were you designing when you initially were employed?

A It was equipment that was needed to take a crude chemical mixture and refine it to extract the desired chemicals. It's a refining type of equipment.

Q All right. And what types of chemicals -- Or

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what chemicals specifically, if you can recall, were refined by the equipment that you were designing?

A. This was a material called phthalic, p-h-t-h-a-l -- i-c, anhydride, a-n-h-y-d-r-i-d-e. Phthalic anhydride.

Q. What was the use of that chemical?

A. It's an intermediate chemical that is subsequently used in the manufacture of paints, varnishes, chemicals that are referred to in the industry as plasticizers. They are materials added to plastics to make them pliable, flexible.

Q. All right, sir. And when you were a general superintendent, you were still in the same plant?

A. Yes.

Q. Correct? And your job was then -- Was it more managerial at that point in time, than as a design engineer, when you first came there?

A. That is true.

Q. And did you spend any time actively engaged in design of equipment or the manufacturing of chemicals as opposed to supervising others who were in that function?

A. When I was general superintendent --

Q. Yes, sir.

A. -- I was supervising the work of others.

Q. How many years did you spend as a Design Engineer?

A. About three years.

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Q All right, sir. Now then after 1962 when you became General Superintendent, how long did you have that job?

A Until early '64.

Q What position did you attain at that point?

A I was then transferred to another Monsanto Plant, still with the title General Superintendent, but it was in manufacturing as distinguished from services to manufacturing.

Q Would it be true that the services to manufacturer were performed for the kind of in-house Monsanto people, and now you were going to deal with people who were going to be buying the products outside of the company? Do you understand the distinction?

A I don't think I do.

Q All right. Who availed themselves of the services that you performed as General Superintendent?

A The managers of the manufacturing units.

Q All right. And who availed themselves of your services when you went into manufacturing in 1964?

A I was responsible for producing given set of products to meeting certain quality and certain costs and put into the proper container, and it would eventually end up in the inventory from which the sales would be made and shipments would be --

Q The products that were produced were sold to

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third parties, is that correct, customers?

A. To customers, yes, or to other Monsanto plants.

Q. For use in producing other products?

A. Other products, yes.

Q. And where was the plant located?

A. In Sauget, Illinois. S-a-u-g-e-t.

Q. And what products did that plant produce?

A. I don't think I can remember all of them.

Q. What were the principal products?

A. Chlorine, phenol, several rubber additives. These are chemicals that are added to rubber products. Polychlorinated biphenyls. Wood treating chemicals. Water treating chemicals. I think that covers the major categories.

Q. Was that your first exposure to PCB's and the manufacturing of that product?

A. I was not responsible for the manufacturing of PCB's at that plant. That belonged to another general superintendent.

Q. Okay. So while that plant may have manufactured PCB's, that was not part of your job?

A. That is correct.

Q. In 1964, were there other Monsanto Plants manufacturing PCB's?

A. Yes.

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Q. Where else were PCB's manufactured?

A. They are also manufactured in Anniston, Alabama.

Q. Were any of the products that you manufactured while you were at the plant in Illinois, did those products involve the use of PCB's?

A. Yes.

Q. What products were you involved with that contained PCB's?

A. None of them contained PCB's but they involved the use of PCB's in their manufacture.

Q. All right. Tell us which products involved the use of PCB's.

A. Well, all of them -- this is difficult to answer in that all of them, as an example, use compressed air that came from compressors that use PCB's in their systems.

Q. All right.

A. All of them used mechanical power which used transformers and capacitors that used PCB's in those systems.

Q. Let's go back for a minute. I am interested in the products that directly use PCB's. For instance if you were involved in the manufacturing of transformers, okay, it would involve PCB's. That's what I'm looking for. Not the fact that you may have used electricity which was generated in a transformer that had PCB's in it.

A. All right. None of the products that I had had

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direct involvement with PCB's.

Q What was the next job you held?

A In 1965 I was transferred to the plant in Anniston, Alabama as the Plant Manager.

Q And that plant, I think you told us, manufactured PCB's?

A Yes.

Q And were you the General Manager of the plant?

A I was the Plant Manager which means I had total responsibility for everything at the plant.

Q Were you the highest ranking Monsanto employee at the plant?

A Yes.

Q And how long were you the plant manager at Anniston?

A Until the end of 1969.

Q And where did you go thereafter?

A I then transferred into St. Louis, Monsanto's General Offices.

Q And what job function?

A It was called Manager Environmental Control, dealing with an evolving PCB issue.

Q Now while you were at Anniston as the manager of the plant there, was there an evolving PCB issue created during the time frame you were there, between '65 and '69?

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A. I first became aware of an evolving PCB issue about mid-1969, the summer of 1969.

Q. Let's stop.

[There was an off the record discussion.]

Q. (by Mr. Baumer) Just before we broke for a moment, Mr. Papageorge, you indicated that you first became involved in a PCB issue in mid-1969; is that correct?

A. That was my first awareness.

Q. First awareness. And what was the nature of your awareness?

A. My immediate supervisor, in one of the frequent visits to the plant, mentioned that there appeared to be some reports relating to the PCB's that were at that point still somewhat confusing, but he felt that ought to be aware that something was happening with PCB's.

Q. All right. Who was your supervisor?

A. Raymond J. Stratmeyer, S-t-r-a-t-m-e-y-e-r.

Q. And is he still with Monsanto?

A. No.

Q. Is he retired?

A. No. He joined another company and I personally don't know where he is today.

Q. Do you know what his job was when he visited you, other than superintendent?

A. Yes, he was Director of Manufacturing for the

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Organic Division of Monsanto Chemical Company.

Q Stationed in St. Louis?

A Stationed in St. Louis. And the Anniston Plant was a plant assigned to him.

Q Now did you have some discussion with him about the nature of the reports that he indicated were coming out?

A Discussion was a brief one. He didn't have too much knowledge of any details, but as I recall, it had to do with reports coming out of analytical laboratories in which the investigators were finding a material that resembled PCB's in environmental samples.

Q Do you recall the name of any of the laboratories?

A Yes, the original laboratory was out of Stockholm, the University of Stockholm, and another laboratory was one located at the University of California, Berkely.

Q Do you know the names of any of the individuals who were involved with these reports?

A Yes, there was -- I forget his first name, a Jensen in Stockholm, and a Dr. Robert Risebrough in California.

Q Did you obtain copies of those reports back in '69?

A No.

Q Have you seen those reports since 1969?

A I have seen reports of that work but I don't

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believe that they were the normal scientific documents that come out of studies of this type.

Q. Do you know, to your knowledge, whether you have seen the reports that Mr. Stratmeyer referred to?

A. Mr. Stratmeyer only had verbal communications. He had no documents that he could share with me.

Q. When is the first occasion in which you remember reading any communication of any nature regarding PCB's and this PCB issue that you mentioned?

A. The closest I could come is early 1970.

Q. And what was the nature of the materials that you read?

A. I saw a draft copy of a translation of the report from Stockholm which was obtained by Monsanto's representatives in Europe and forwarded to St. Louis. And later, I just don't recall the time, I did see an article authored, along with others, by Dr. Risebrough. I don't remember the exact timing of that, but there was an article by Dr. Risebrough referring to PCB's in birds off the coast of California.

Q. Let's go back for a moment, if we could, to this first information you received in 1969. What was the nature of the information you received with respect to a PCB issue?

A. At that point in time, it was -- the message

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I get was that PCB's were being identified in samples in the environment that were not related to the industrial applications of PCB's.

Q Is that what you referred to as the PCB issue?

A Yes.

Q And where did you learn that it was being identified, in what types of bodies?

A At that point in time, I was not given any specifics. I am talking now about mid-1969.

Q Yes, sir.

A It is later when I saw drafts of the report that I was made aware of the PCB's being found in pine needles in the forests of Sweden, in feathers from a preserved Eagle in some museum. PCB's found in cuttings of children's hair. So the impression after reading that article was that it seemed fairly widespread.

Q That is the Stockholm article, right?

A Yes.

Q How about the Risebrough article?

A The Risebrough article, as I remember, in addition to finding DDT in the tissues of birds in that area, they also found what they at that time assumed were PCB's. They weren't quite sure.

Q And that would have been early 1970; is that correct?

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A. That's when I heard about it, but the study that Dr. Risebrough was conducting, I found out later, was started in '67, '68.

Q. All right. Now you say that in 1969 you were made the Manager of Environmental Control to deal with the evolving PCB issue; what were your specific duties to which you were assigned in 1969, in that job?

A. Actually the assignment was given to me on January 1st, 1970.

Q. Okay.

A. And my duties, as I understood them, and as I carried them out, was to be ad knowledgeable as I could be of any developments relating to PCB's, the environment, and any impact that might be on the environment.

Q. And how did you go about carrying out those duties? How did you become knowledgeable to start with?

A. Well, I had available to me the individuals within Monsanto who had specific knowledge about PCB's from research people to the Corporate Medical Director, to his assistants, toxicologists, industrial hygienists. I had analytical chemists who were expert in developing methodologies for detecting chemicals in samples. I had access, with the help of the individuals I just mentioned, to government representatives that were involved with the Food and Drug Administration, Department of Agriculture, several of the

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State agencies that were becoming interested in PCB's, primarily in their equivalent of food and drug and dairy monitoring activities. I read all I could get my hands on, talked to those in academia that were -- like Dr. Risebrough and his supervisor, Dr. Alcott. And we even contacted the European counterparts, academia, industry, government.

Q Let's go back for a moment. Who was the Medical Director at Monsanto at that time?

A Dr. Emmett Kelly. I think his first initial is R. Emmett Kelly.

Q And who else on his staff do you recall that you consulted with initially?

A Elmer Wheeler and Jack Garrett, G-a-r-r-e-t-t. A Dr. William Hunt, who was a toxicologist.

Q What was their about PCB's that created an issue?

A Well, at that time it was just the sheer presence of a manmade chemical in environmental samples.

Q Nothing to do with the properties of PCB's at the time other than the fact they were just there?

A Well, the fact that they were there can be related back to some of their properties, physical and chemical properties. I don't want to mislead.

Q Well, what I'm getting at, Mr. Papageorge,

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is that the mere fact that they found these chemicals, is that what you're telling us was the issue?

A. Yes.

Q. Not the characteristics of those chemicals?

A. Not the effects.

Q. Not the effects. Did the effects become important at a later date?

A. Alleged effects became important.

Q. All right. The alleged effects. Did they become important in 1970?

A. Not in 1970. Well, yes they were. I'm sorry. It was reported that the presence of PCB's in birds had an effect on their ability to reproduce, so it did come up in 1970.

Q. And what report indicated that?

A. It was primarily Dr. Risebrough's report.

Q. Is that the report that was commenced in the late sixties?

A. Yes, I believe his work started in the sixties led to this observation on his part.

Q. In 1970?

A. About 1970 when he published.

Q. What analytical chemists did you have contact with initially?

A. Well, there was the Supervisor of the Analytical

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Group, Dr. Robert Keller, and the individual working for Dr. Keller who was most active was Dr. Scott Tucker.

Q. All right. Are either of those gentlemen still with Monsanto?

A. No.

Q. Do you know where they are located?

A. Not personally. I believe Dr. Keller is still in the St. Louis area. I do not know where Dr. Tucker is.

Q. What periodicals or magazines did you go to when you said you started reading everything that was available to you?

A. I just don't remember too vividly. I believe I had some articles cut out of Nature Magazine.

Q. Were they scientific magazines principally?

A. Yes, these were scientific, and there were a few newspaper clippings. The San Francisco Chronicle article I remember describing Dr. Risebrough's early findings. I had some newspaper clipping later out of an incident that occurred in the North Sea.

Q. Can you identify that in any other way?

A. This was a report that some seals were found beached, I believe it was in Norway, and the carcasses showed that the seals were emaciated and had suffered some malnutrition of some sort, and analysis of tissues from these carcasses showed the presence of PCB's. It was alleged

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or speculated that the PCB's led to the deaths of these seals.

Q. Was that an article in a magazine or was it a scientific paper, and can you better identify it for us, please?

A. As best I remember, it looked to me, my memory fails me a bit, as I remember it was a newspaper clipping, a xerox or reproduction of a newspaper clipping.

Q. Did you maintain a file, Mr. Papageorge, that would contain these various articles?

A. Yes, at that time, yes.

Q. Did you at any time destroy that file?

A. No.

Q. Do you know whether that file is in existence today?

A. No, I don't.

Q. Do you know where it would be if it were?

A. It would be in the files under the custodianship of our Legal Department.

Q. Okay. What else did you read initially?

A. I don't remember specifics. I do remember, because of the repeated analogies being drawn between PCB's and DDT, the collection of material that I was given contained many articles on the presence of DDT in environmental samples. I just don't remember any other

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details.

Q Did you have a personal interview with Dr. Risebrough or Dr. Alcott?

A Yes.

Q When did you first meet Dr. Risebrough?

A Early 1970.

Q Where was that?

A At the University of California, Berkely.

Q Did you go out there on a specific visit to meet with him?

A Yes. Yes.

Q To discuss PCB's?

A Yes.

Q How long were you with him?

A Oh, we spent most of the day with him.

Q Were you alone?

A No.

Q Who else went?

A Elmer Wheeler and Dr. Robert Keller were with me.

Q Dr. Keller, was he a local chemist?

A Yes.

Q And did you talk to Dr. Alcott at the same time?

A Dr. Alcott and Dr. Risebrough were in the room, the conference room with us, yes.

Q Was there anyone else there other than the

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individuals you listed?

A. No.

Q. Did you have other occasions in which to meet with Dr. Risebrough?

A. Yes, I think, as I remember, Dr. Risebrough attended some national conferences on PCB's and I was able to talk with him under those conditions, those situations.

Q. When you say national conferences, tell us what you mean by that?

A. Maybe that's the wrong adjective. But these were conferences dedicated to the subject of PCB's in the environment that were, as best I could determine, sponsored by government, national, federal government agencies.

Q. When was the first such conference that you can recall attending, not necessarily when Dr. Risebrough was there, but the first such national conference?

A. I think the first one was late 1970, near Durham, North Carolina.

Q. And which agency held that conference?

A. I'm going to have to guess a little bit because I don't remember certain. I think it was the National Institute of Environmental Health Sciences, NIEHS. Dr. David Rall, R-a-l-l, who is the head of that institute, had a very active role in this conference.

Q. And where was that institute located at that

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time? Was it in Durham?

A. I believe it's in Research Triangle, North Carolina, nearby.

Q. Do you know whether it is still there?

A. I believe it is still there, yes.

Q. All right, sir. Now is that a federally-funded institute or is it privately funded?

A. To the best of my knowledge, it's federally-funded.

Q. How many people were at this first conference where you attended?

A. I don't know the exact amount. Seventy-five to a hundred.

Q. Were some of the people in attendance representatives of customers of Monsanto for PCB's?

A. I don't remember any customers being there. That doesn't mean that they were or were not there.

Q. All right. What type of -- Strike that. Who was in attendance at that meeting from the standpoint of general categories of participants?

A. The audience was generally technically oriented, from universities and from governmental agencies, and the governmental agencies that I recall being represented there were such agencies as the Food and Drug Administration, Department of Agriculture, the newly formed EPA at that

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time. I believe somebody from the Department of Commerce was there, and the Department of the Interior, the Wildlife people. And I remember also some Japanese representatives were there.

Q Why were you there?

A I represented the principal producer of PCB's in the United States.

Q Were there any of the principal users of PCB's there?

A I don't remember any.

Q How about General Electric, do you know any General Electric people that were present at that meeting?

A I just don't remember any General Electric people being there.

Q Let me ask this: Prior to this meeting in 1970, had you had any communication yourself with anyone who was an employee of General Electric regarding the PCB issue?

A Yes.

Q Who had you had communications with?

A It seems to me there were several people, but the names I recall were names like Ed Raab, and Dr. Pozefsky, P-o-z-e-f-s-k-y, I think is the way he spells it.

Q Do you know his first name?

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A. Al is what I call him. I don't know what it is officially, Alan or some other version.

Q. Okay. You had had communication -- Any others?

A. Seems to me there were others but I don't remember their names.

Q. What was Mr. Raab's position?

A. I don't know his official title, but he was the principal GE contact as far as I was concerned regarding transformers and the use of PCB's in transformers.

Q. All right. And when was this contact you had, first contact you had with him on the PCB issue?

A. It would have to be early 1970.

Q. Now was Mr. Raab at the meeting in Durham?

A. I don't remember. He could have been but I just don't remember.

Q. How about Dr. Pozefsky?

A. Pozefsky, I don't remember him there. Again he could have been there, I don't know. I don't remember.

Q. What was the -- Let's go back for a minute and tell us of other such national conferences that you attended.

MR. BISTLINE: Before we get into that, Mr. Baumer, do you propose to have a lunch break or what?

MR. BAUMER: Sure. Let me finish the national conferences, then we'll stop for lunch.

MR. BISTLINE: All right.

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A. I'll try to remember.

Q. (by Mr. Baumer) How many?

A. I think there were two more national conferences on PCB's, one was called again in the North Carolina area, I believe it was Raleigh, North Carolina. My memory isn't real good. I think it was about 1972.

Q. Who called that conference?

A. I believe it was Dr. Rall again, or at least he was one of the active participants.

Q. Okay. Anyone --

A. And the other one, as I recall, was a conference on PCB's held in Chicago in about November of -- I'm sorry, let me think a bit. November of '75. 1975.

Q. And who called that conference?

A. It was called by the EPA.

Q. And did it have a name, did the conference have an official title?

A. It did have a name, it had the word National PCB Symposium or -- that's not the exact title, but -- it was close to that.

Q. How about the 1972 conference, did it have an identifying name?

A. I'm sure it did, but I don't remember it.

Q. Do you remember whether Mr. Raab was present at that conference?

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A. No, I don't.

Q. Do you remember whether there were anyone that you identified with General Electric at that conference?

A. No, I don't remember.

MR. BISTLINE: This is the 1972 conference?

MR. BAUMER: Yes.

Q. (by Mr. Baumer) How about at the '75 conference, do you remember seeing Mr. Raab there?

A. No,Mr. Raab wasn't there, but I believe a Dr. Ed Simons was there.

Q. From GE?

A. From GE. There were others with him but I remember Dr. Simons.

MR. BAUMER: Why don't we stop for lunch now?

[There was a luncheon recess.]

Q. (by Mr. Baumer) Mr. Papageorge, when we recessed for lunch we were discussing conferences which had been entitled national conferences relating to the PCB's in the environment, and I would like for you to tell us whether there were other conferences that you attended in 1970 and shortly thereafter which may not have been styled national conferences, but related to the same issue?

A. I remember a session held in Duluth, Minnesota at the laboratory, the Federal Laboratory located there. And the subject was PCB's, presence in the environment,

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and analytical methodologies that were being developed. This was in March of 1970.

Q And were there representatives of companies other than Monsanto in attendance at this conference?

A I don't remember any other industry representatives.

Q And why is it that Monsanto was there?

A I believe it's because we were the manufacturers of this material and we also had analytical methods that we had been working on and developing and we had some results we could share with the group, and we could also describe for the group what PCB's were and what physical and chemical properties they had, and where they were used industrially.

Q Who comprised this group that you referred to?

A Most of the individuals there were government representatives, some were administrators of various offices, and some were laboratory analytical technical people.

Q What government agencies do you recall were present?

A Certainly the Federal Water Pollution Control Administration people were represented. That is the group that was in place as EPA was being formed in 1970. I believe there were individuals there from the various States surrounding the Great Lakes, from the state offices that were concerned with water quality in those States.

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Q. All right, sir. Any other conferences?

A. I recall a conference in Chicago, I don't recall who organized it, but it consisted primarily -- the audience represented primarily the Wildlife and Nature Groups, garden clubs, the Isaac Walton League, that type of representative was present.

Q. You were present?

A. I was invited, yes.

Q. What year was this?

A. 1970.

Q. Any other industry people there?

A. I don't recall any.

Q. Why were you invited, if you know?

A. I was asked to describe PCB's to this audience and whatever I knew at that point in time about PCB's.

Q. Were you the only Monsanto representative?

A. I believe I was.

Q. How about the one prior one you told us in March, were you the only Monsanto representative there?

A. No, Dr. Robert Keller and Mr. Jack Garrett accompanied me. There was also a meeting on the subject organized by the -- And I'm not certain of the official title of the group, it's the Great Lakes Governor's Council on the Great -- Great Lakes Governor's Council, or some such title. This was a group that was related to the Great Lakes

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and the quality of the water in the Great Lakes, and the fish and wildlife in the lake system.

Q. Who comprised the people at that meeting?

A. Representatives of the States in the Great Lakes area, as well as the Canadian provinces on the -- north of the Lakes.

Q. Were you the only person representing industry there?

A. As best I recall, yes.

Q. Were you the only Monsanto representative?

A. I believe I was.

Q. That meeting was when?

A. I'm not certain of the date, it's '70 or '71.

Q. All right. Did you attend any other conferences with respect to PCB's?

A. I have attended industrial gatherings where PCB's were discussed as part of their total agenda.

Q. What do you mean by industrial gatherings?

A. Oh, I remember an electrical group, I think it was called the EEI, Edison Electrical Institute. They would hold their normal meetings, I have to call them normal, I'm not too familiar with their total organization, but on occasion I would be invited to appear on their agenda to provide a status report on PCB's.

Q. When was the first one you attended?

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A. I believe it was about the later part of 1970.

Q. And were there other industry people at that meeting?

A. These were all industry people.

Q. Were there representatives of General Electric, to your knowledge, at that meeting?

A. I don't remember specific individuals.

Q. Well, do you remember whether there were in fact individuals who represented GE at that meeting?

A. I'm fairly certain, yes.

Q. Was Mr. Raab at that meeting?

A. I don't recall vividly that he was present.

Q. All right, sir. What other -- were there more than one Edison Electric Institute meeting?

A. Yes.

Q. Were there others in 1971?

A. I don't recall the exact dates, but I do remember more than one session.

Q. Do you remember seeing Mr. Raab at any session?

A. Well, I saw Mr. Raab at many sessions, but I don't know that they were EEI sessions or other group meetings.

Q. All right. Well, let's talk about that for a minute. What other type of group meetings did you attend in 1970, 1971, relating to PCB's?

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A. Well, there was a group formed under the National Electric Manufacturers Association late 1970, early '71.

Q. Was Mr. Raab present at those meetings?

A. Yes.

Q. And what was the subject of those meetings as it relates to PCB's?

A. The intent was to get a consensus of those who were able to contribute any knowledge about PCB's as to the proper handling, disposal, transportation and use of PCB's, as it related to the use in electrical equipment.

Q. What was the concern over the disposal of PCB's?

A. Well, it stems back to its presence in environmental samples, fairly far removed from industrial sites. The intent of this group was to prevent it getting into natural systems where some bird or other creature is eventually exposed to it and it shows up in its tissues.

Q. And why did this group wish to prevent PCB's from getting into natural systems?

A. Well, it was considered that PCB's were the best fluids available to give the electrical equipment with the least fire hazards, and in order to preserve the use of PCB's in those systems, the group thought that they had to make certain that the industry could demonstrate that PCB's could be kept in use and still controlled to

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prevent loss into the environment.

Q. All right. But I don't think that answer was responsive to my question. My question is: Why do they want to prevent PCB's from getting into the environment?

A. I thought I answered that. All right. If PCB's got into the environment and the presence in birds and the allegations of harm and presence in seals and presence in other creatures continue, it was believed that eventually the use of PCB's would be severely curtailed and the industry would no longer have the material available to them, and this was considered to be something undesirable.

Q. What were the characteristics of PCB's that were being prevented from getting into the environment?

A. I don't think I understand the question.

Q. I'll rephrase the question. What is it about PCB's that made it of concern that they were in the environment?

A. PCB's, depending on the amount of chlorine that is present in them, are very resistant to breakdown and disappearance.

Q. They are not biodegradable; is that right?

A. That is one -- creatures and plants out in nature do not degrade the material. It stays identifiable. Does that answer it?

Q. Well, what is it about having PCB's in fish

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that make it unacceptable?

MR. BURKE: Excuse me. Let me object to the form of the question. The word unacceptable has not been used by the witness. But go ahead, sir.

Q (by Mr. Baumer) Well, to make it -- Let me rephrase the question for you, since Mr. Burke didn't like that one. You said it was to be prevented from getting into the environment; what is it about the PCB's that require that they be prevented from getting into the environment?

A It's a manmade chemical and in Monsanto's opinion, and I believe many of our customers accepted this concept, that a manmade material should not be found in nature, the way PCB's were being found especially at that time, when we didn't know the net effect of that presence.

Q Mr. Papageorge, are PCB's toxic?

A Under what context?

Q As they are found in the environment?

MR. BURKE: Let me object to the form of the question. It's not quantified. Go ahead, sir.

A I have trouble with the definition of toxic.

Q (by Mr. Baumer) Well, what do you -- what does toxic mean to you, as a chemical engineer?

A Oh, it means many, many things.

Q Have you ever heard it used in relation to PCB's?

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A. Oh, yes.

Q. In what respect have you heard it used in relation to PCB's?

A. There are some investigators and lay people who describe PCB's as being highly toxic, without being necessarily specific of what they mean by the word.

Q. Well, what do you take that to mean? What does that mean to you?

MR. DERRYBERRY: Just a moment. Were you finished with your answer, Mr. Papageorge?

A. I could pick it up again.

Q. (by Mr. Baumer) If you're not finished --

A. I can pick it up.

Q. Go ahead.

MR. BAUMER: For the record though, counsel, I'm not sure you can object to the questions in this proceeding. I understand you're here -- unless you're here as Mr. Papageorge's lawyer, and are going to instruct him not to answer, but I don't know that you can object to questions in this proceeding. Mr. Burke can, of course.

MR. DERRYBERRY: Just proceed. I am not bound by what you think about what I can do.

MR. BAUMER: Well, you are bound by what this deposition record is that we are trying to produce here.

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Q (by Mr. Baumer) All right. Is there an answer you want to complete, Mr. Papageorge?

A I have forgotten the question.

Q Okay. I'll ask it again. Okay. You say that there were investigators who have used the word toxic in relation to PCB's?

A Yes.

Q All right. And when you have seen that used, in what context has it been used?

A It ranges from effect on skin all the way through symptoms that are described as nausea and headaches and loss of appetite to reproduction disabilities in animals and birds, to one report claiming that the investigator found evidence of cancer in a test animal. So it's the full spectrum of effects that have been noted.

Q All right. And was it those effects then that this group was attempting to prevent when they wanted to prevent the dissemination of PCB's in the environment?

A At that point in time the primary driving force behind entering the environment was presence. Because you must remember at that time the only evidence of harm was the report out of California by Dr. Risebrough and his findings that the birds could not reproduce off the Coast of Southern California.

Q All right. So is what you're saying that based

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upon that finding, that you say the only finding, was Dr. Risebrough's finding, was it based upon that finding that this group decided to prevent the introduction of PCB's in the environment and find some way to control the disposal of PCB's?

A. I don't think that that was the controlling finding, no. That was one of many piece of information.

Q. All right. Well, what other pieces of information did you know of at the time, in 1970 when this group was meeting, the NEMA group was meeting, to determine the best ways and the proper ways of handling disposal of PCB's? What other information did you have about PCB's other than Dr. Risebrough's findings?

A. The only other information I recall was the reports from laboratories stating that PCB's were being found in waterways and some animal tissues. I mentioned earlier the North Sea incident.

Q. Yes, sir.

A. I recall some finding of PCB's in Arkansas, in one of the lake areas, far removed from industrial sites. Of course the Swedish work.

Q. Yes, sir. Was that the information -- excuse me, are you --

A. I just cannot recall in detail all the reports, but there were many reports relating to presence that had

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a considerable impact on those involved with PCB's as to what should be done.

Q. Other than the fact that the PCB's were not normally found in the particular environments in which they were being -- it was being reported?

A. Uhuh.

Q. Is there any other thing about the PCB's at that time that led to the conference to determine the best ways for disposal of PCB's?

A. There was an incident in Japan, and the reason I am hesitating, I don't recall when that incident was known in the United States. That incident in Japan involved a contamination of a cooking oil with PCB's that were used to transfer heat, so the oil could be refined.

Q. Was that the Yusho incident?

A. Yes, that is the Yusho incident. That occurred in 1968.

Q. So was that information available to you at the time you went to the meeting that you have just described in 1970 or '71, of the NEMA?

A. I don't remember exactly. I was certainly aware of it when the group met in North Carolina, in the latter part of 1970, when the Japanese spokesman attended the session.

Q. Yes, sir.

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A I don't recall how many months or weeks before that I was personally aware.

Q Okay. That was --

A It was sometime in 1970.

Q That was at the meeting in Durham; is that right?

A Durham, yes, the so-called Quail Roost Conference. That's the terminology that was used.

Q Now what other conferences did you attend, or sessions did you attend that you can recall where Mr. Raab was present?

A Of course he came to St. Louis.

Q He came to visit you?

A Yes. Not me specifically, but Monsanto people, and I was one of several.

Q How many times in 1970 would you imagine Mr. Raab came to St. Louis to talk to you?

A I don't really remember.

Q More than ten?

A Oh no, no, no, one or two.

Q One or two?

A Yes.

Q How about in 1971?

A I honestly don't remember.

Q One or two?

A Because I would meet Mr. Raab at other meetings

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meetings also, primarily with that NEMA group I mentioned earlier. And I also visited Mr. Raab in Pittsfield, Massachusetts, in his own office.

Q. This was in 1970, '71?

A. I don't recall. Sometime in that period of time, yes.

Q. How many times did you go to Pittsfield in '70, '71?

A. Once.

Q. Once. Did you go to any other GE offices?

A. Yes, I have been to the General Electric site in -- it's one of either Glens Falls or Hudson Falls.

Q. When was that?

A. 1970 or '71, somewhere in there.

Q. And were you there to discuss PCB's?

A. Yes.

Q. And their effect on the environment?

A. Yes.

Q. Who did you meet with at Glens Falls or Hudson Falls?

A. Dr. Pozefsky was our host, and we met with several other General Electric people but I don't remember who they were.

Q. Was Mr. Raab at that meeting?

A. I don't think so, no.

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Q All right, sir. Let's go back, in 1970 and '71, how often would you visit with Mr. Raab, wherever you would meet him, on the -- and visit on the issues of PCB's?

A I kept no score sheet.

Q Would it be fair to say you met him on a regular basis during 1970 and '71?

MR. BURKE: I object to the form of the question as being vague.

A I don't know what you mean by regular. Let me --

Q (by Mr. Baumer) Well, would you see him often?

MR. BURKE: Same objection.

Q (by Mr. Baumer) Do you understand what that means?

A It depends --

Q Then we'll go back. I was trying to help you.

A I know. I would see -- Mr. Raab and I were in communications frequently, either face-to-face or in groups or over the telephone to the point where any new development that he heard of or that I heard of were quickly communicated. I don't know. I didn't keep score in terms of telephone calls, personal eye-to-eye contact or meetings.

Q All right. And this is over the PCB issue, correct?

A Correct. That is the only reason Mr. Raab

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and I ever communicated.

Q. Okay. Did you ever have occasion to be at governmental rule making sessions or public hearings on rule making sessions by governmental agencies in the period '70, '71, '72?

A. Yes.

Q. What sessions did you attend in that time frame?

A. As I remember, a session of the advisory group concerning water quality, I remember the chairman was a Dr. Martha Sager, and she invited Monsanto to appear before a couple of her committee's hearings to tutor the group, primarily tutor the group on what PCB's were, what their chemistry, what are their uses, and what Monsanto knew about that persistence, their degradation ability, toxicity studies, whatever else we could share with that group. It's my understanding that group was advising EPA regarding any potential standard setting for water quality control.

Q. Did you ever see Mr. Raab or other GE officials, representatives at that meeting or meetings?

A. I don't remember that at all.

Q. Would you convey to Mr. Raab the information that you gathered at those meeting?

A. Yes.

Q. In these conversations?

A. Yes.

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Q. And did you discuss with Mr. Raab the toxicity studies that were being conducted?

A. Oh, yes.

Q. What do you mean by toxicity study?

A. Monsanto, starting in 1968, began studying PCB's with test animals and chickens to see what effects they would have on the health of the test animals. And periodically, roughly every six months or so, the laboratory would prepare a summary of the status of the studies and we would take that summary and put it on a Monsanto letter-head and distribute it to government agencies, both State and Federal, and anyone that asked for it, as well as customers.

Q. How about General Electric?

A. General Electric got copies, Mr. Raab and Mr. Pozefsky and their successors.

Q. Did you deal with individuals representing companies other than GE in the same manner, in the same frequency as you dealt with Mr. Raab?

A. Some of them.

Q. Was GE the largest customer for PCB's of Monsanto in this time frame?

MR. BURKE: Object to the form of the question.

A. I don't know.

Q. (by Mr. Baumer) Now any other rule-making

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other than the ones Dr. Sager was chairing in 1970, '71, '72?

A. Since I'm not certain of the rule-making meetings, I do know we had conversations with representatives of the Food and Drug Administration who were contemplating setting some standards.

Q. Did you advise Mr. Raab of those meetings?

A. Yes.

Q. And those potential standards?

A. Yes.

Q. And what were the potential standards that the FDA was considering adopting?

A. I don't recall all of them, but there were standard set for presence in milk, fish, baby food, poultry. There is a list about a dozen food items with an amount of PCB's that would be tolerated.

Q. They were continuing setting standards in that respect; is that correct?

A. What was the word? They were continuing? They were considering.

Q. Considering?

A. Yes, they were.

Q. Were there already standards for the amount of PCB or the PCB level that could be in various foods?

A. Not before the first set of standards were

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issued in about 1972 or '73.

Q And who issued those standards, the FDA?

A The FDA did, yes.

Q All right. Any other rule-making sessions in that time frame?

A I don't recall any.

Q Okay. How about after 1982 -- '72, excuse me, did you attend any rule-making sessions?

A I recall a meeting held with EPA; I don't recall what year that was.

Q What was the subject matter?

A PCB's.

Q In relation to what?

A Environmental presence. But I don't recall if that had to do with the subsequent ruling or whether it had to do with activities that ended up with the passage of the Toxic Substances Control Act.

Q When was that passed?

A 1976.

Q When were the first discussions commenced on the passage of the Toxic Substance Control Act?

A Oh, sometime during 1975. Culminated by the national conference in Chicago in late '75.

Q All right. Can you think of any other post-1972 rule-making sessions you may have attended?

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A. I can't think of any at the moment.

Q. Did you review all proposed rule making -- proposed rules that government agencies were considering promulgating with respect to PCB's during 1970 through '72?

A. Did I review them for my own use?

Q. Yes.

A. Yes.

Q. And would you discuss those with Mr. Raab during these conversations you had with him?

MR. BURKE: Let me object to the form of the question. There has only been one set of rules that this witness has testified to and we now have rules, plural. I object to the form.

Q. (by Mr. Baumer) You can answer the question. I'm sure rules -- let me ask it -- rules evolved in drafts, do they not?

A. Yes, normally.

Q. So there would be several drafts before you would reach the final rules, right?

A. Uhuh, right.

Q. All right. Now did you discuss, in these discussions you had with Mr. Raab during this period '70 through '72, the various rules as they were being drafted?

MR. BURKE: I object to the form of the question. It assumes that more than one agency is proposing rules.

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That is not his testimony. Go ahead, sir.

Q (by Mr. Baumer) Answer the question, please.

A Any information I had relating to potential rules and promulgation of rules I would share with Mr. Raab and others as soon as I had the information.

Q Did you ever withhold any information from Mr. Raab or General Electric with respect to any information you had on PCB's?

A No, sir.

Q Did you on the -- to the contrary, disseminate to Mr. Raab or to GE all information that you had with respect to PCB's?

A All I had.

Q Let's go back for a minute, please, and tell us if your job description changed after you were designated in 19 -- January 1970 as the Manager of Environmental Control?

A Well, there certainly was a title change from Manager Environmental Control to Manager, Environmental Protection.

Q Did the duties change?

A But the duties did not change. I was still involved only with PCB's.

Q When was that change in name?

A I don't recall when that happened.

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Q What is your current title?

A Manager, Occupational Health.

Q When did you receive that title?

A January 1, 1986.

Q And until January 1, 1986, what was your title?

A Director, Environmental Operations.

Q Did that involve more than PCB's?

A Yes.

Q All right. When did your job change to something more than PCB's?

A I don't recall the exact date, but the time period was about 1973. '72 or '73.

Q And what was your job at that time?

A I retained my responsibilities for PCB's and I was given additional products manufactured and sold by Monsanto to make sure that they were manufactured properly, labeled properly, shipped properly, that the right information was conveyed to the customer.

The title then became Manager, Product Acceptability.

Q All right. And did that job change, or did your job change thereafter until 1986?

A I was Manager of Product Acceptability from 1973 or thereabouts to 1977. But the products that I was assigned changed through that period of time. Some I

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would pass on to others and some I would pick up from others.

Q Did you still have PCB's in 1977?

A No.

Q Why not?

A I was transferred from the PCB responsibility in February 1976.

Q Was there any reason for that?

A The only reason I am aware of is a realignment of duties that involved product assignments to several of us that had that same title.

Q Did anyone assume your obligations with respect to PCB's in February 1976?

A Yes.

Q Who?

A J.C. Weber.

Q Does he still have that responsibility today?

A No.

Q Who has it today?

A Dr. John Craddock.

Q When did he assume those responsibilities?

A About 1980.

Q Was there anyone in between Dr. Craddock and Mr. Weber?

A I believe a Mr. David -- His last name escapes

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me at the moment. I'll have to think of his name. It escapes me. David Wood. David Wood.

Q And he had --

A Followed PCB's closely.

Q After Mr. Weber?

A After Mr. Weber, yes.

Q When did Monsanto cease manufacturing PCB's?

A July '77.

Q Did Monsanto cease selling PCB's in July 1977 also?

A Since I wasn't directly involved, I can pass only my understanding. They stopped selling in about September, October of '77.

Q When you assumed the position with respect to PCB's, you said you went about educating yourself by contacting the European people; who did you contact with respect to Europe?

A There was Professor Widmark at the University of Stockholm. There were some scientists at the University of Utrecht in the Netherlands. As I remember, there was a Dr. Voss, V-o-s-s. I don't recall their names, but we met some scientists of the United Kingdom. There was a laboratory or an agency or a minstry that was interested in wild birds, I forget the official title, and we met with the top analytical chemists in the UK, referred to as the

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London chemists, or some such title.

Q Did you pass on the information you learned from the European people to Mr. Raab?

A Yes.

Q Contemporaneously with receiving it?

A When I returned from that trip, yes, we communicated all of this.

Q Did you talk to Mr. Raab personally?

A Yes.

Q About this information?

A (Witness nods head)

Q Yes?

A Over the -- yes.

Q On the telephone?

A Telephone. And that was followed up later with a meeting of the group, the NEMA Group. They got a status report.

Q Was Mr. Raab present at the NEMA meeting?

A Yes.

Q Anyone else from GE?

A Mr. Pozefsky or Dr. Pozefsky.

Q In 1969 and 1970, did Monsanto undertake to determine the manner or method by which PCB's found their way into the environment?

A There were studies made to determine how PCB's

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degrade. Does that answer your question?

Q. Well --

A. I can interpret your question as meaning did we go out and try to trace a given quantity of PCB's as it left a plant down the sewer into a river. We didn't do that type of study.

Q. What did Monsanto do, if anything, to determine the method by which PCB's find their way into the environment?

A. Nothing was done by anybody to determine that.

Q. Did Monsanto investigate any reports of PCB contamination in the environment?

A. Certainly.

Q. What reported incidents did Monsanto investigate?

A. Well, we heard about the presence of PCB's in the Coho salmon in the Great Lakes, and we went to the laboratory that analyzed some of these samples and discussed their findings, the methodology used, the amounts found. I assume that's what you mean by investigating the findings?

Q. Yes, sir.

A. Yes. This was with the Warf Laboratories in Madison, Wisconsin.

Q. Any others?

A. We, of course, kept in touch with the federal laboratories, specifically the one up in Duluth, Minnesota. There is another one in Athens, Georgia, and the laboratory

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at Gulf Breeze, Florida, where they conducted some studies with the juvenile shrimp and reported the shrimp were sensitive, very sensitive to PCB's.

Q Was that information communicated to Mr. Raab?

A Yes.

Q By you?

A Yes.

Q Did Monsanto investigate any alleged spills of PCB's?

A There was a Monsanto Plant spill in the Pensacola, Florida area that we, of course, investigated because it was in our own plant site.

Q How about spills by customers of Monsanto?

A I recall a spill out of a transformer in transit in the State of Tennessee.

Q When was that?

A 1973, '74.

Q And what --

A Somewhere in there.

Q And what did you learn, if anything, with respect to that spill?

A Well, we learned the transformer fluid was released by a driver transporting the unit onto the shoulder of a highway and the material found its way into some farmland, and allegations were made that farmland was

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contaminated, that individuals were harmed by the presence of the PCB's.

Q. Who owned the transformer from which the PCB's were spilled?

A. I don't know whose property it was. It was manufactured in Rome, Georgia.

Q. By General Electric?

A. By General Electric. It was on its way to the customer and I don't know who the customer was.

Q. Was this a transformer that was manufactured after 1971 or '72?

A. Yes, to the best of my recollection.

Q. And for some reason unknown to you, I take it, from what you testified, that PCB's were spilled out of the transformer?

MR. BURKE: I object to the form of the question. He said it was released by the driver. But go ahead.

Q. (by Mr. Baumer) Do you know how the PCB's got out?

A. Only in what I was told.

Q. What were you told?

A. I was told that while in transit, some of the fluid leaked out of the unit. The driver was, as best I recall, told by a State Trooper to pull off the highway. He contacted his dispatcher who gave him instructions to

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drain the unit and he removed the plug or whatever was on the unit and allowed the fluid to drain. That's my understanding of what happened.

Q Do you know of any other incidents such as the last one in Tennessee where PCB's were spilled or leaked out of transformers in transit?

A Well, leaking transformers are not uncommon. I have difficulty recalling exactly which units owned by who at what site leaked.

Q Were there a number of such instances reported to you in 1970 through '72?

A Not too many, no.

Q Were there more than five?

A I don't believe so.

Q Well, when you say it wasn't uncommon that transformers would leak, and I'm trying to find out what leaking incidents may have been reported to you during that time frame.

A All right. It's my understanding that in a normal transformer installation at that point in time, in most units, one could observe an oily spot underneath the unit. It is not uncommon. It was so common, it was considered the normal situation. It was common enough that it wasn't perceived to be the kind of thing that must be reported anywhere to anybody. This is why my office

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didn't get reports of this nature.

Q And this substance that is leaking is the PCB's, correct?

A Some of it is PCB's.

Q Some of it is PCB's. Well, the transformers are filled with what fluids, to your knowledge?

A It can be, depending on the manufacturer, it can be --

Q Let's talk about GE.

A GE? The fluids used by GE as supplied by Monsanto included PCB's blended with trichloro and tetrachlorobenzene.

Q And did it have a trade name?

A Yes. We -- they -- General Electrical trade name Pyranol was used to describe these mixtures.

Q And it was this Pyranol that was used in the transformers; is that correct?

A That's my understanding, yes.

Q Now at some point in time, did Monsanto commence to attach any type of warning labels or warning information concerning PCB's to the containers in which it shipped?

A Yes.

Q PCB's?

A Yes.

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Q When did that practice commence?

A As best as I can determine, there was always some warning on Monsanto's PCB labels starting back in the 1930's.

Q What would that warning back in the 1930's indicate?

A That warning tried to reflect Monsanto's experience with the skin problems relating to overexposure to PCB's as well as respiratory problems from breathing the hot fumes evolving off of PCB's.

Q And would that warning label have been on the containers that were shipped to General Electric?

A Yes.

Q Starting in the thirties?

A As best I could determine, yes.

Q And when you say the vapors coming off of the heating, could we call that vaporization of PCB's?

A Yes, and any other material that might be in that liquid.

Q Right. But for the purpose of this discussion today in this deposition, we are dealing with vaporization of PCB's and not other chemicals in the liquid. Is that one way that PCB's get into the environment, through vaporization?

A Yes.

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Q. And that occurs when PCB's are heated; is that correct?

A. Yes.

Q. And what is the perceived problem with breathing the vapors created through the vaporization of PCB's as you know it, back in this time frame we are talking about?

A. It creates an irritation of the nostrils, the throat, and down deep into the bronchial tubes, and the symptoms are very much like having a severe cold.

Q. Do you know what dioxins and furans are?

A. I believe I do, yes.

Q. Are dioxins and furans created through the vaporization of PCB's?

A. Well, other conditions must be present, not just vaporization.

Q. What other conditions are necessary?

A. Well, you must have a source of oxygen and you must exceed a critical temperature, which I personally don't recall at the moment, but it's much higher than it takes to vaporize PCB's.

Q. To create dioxins and furans?

A. Yes, because to create dioxins and furans involves a chemical reaction rather than just a change in physical condition, physical state.

Q. Did Monsanto ever run any tests in the 1960's,

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in the first couple of years of the 1970's with respect to creation of furans or dioxins from PCB's?

A. We conducted some analytical tests to determine the presence or absence of these two materials in our products in the '70, '71, '72 period.

Q. And did Monsanto find that dioxins and furans were the by-product of vaporization of PCB's?

A. We did not look for the by-product of vaporization.

Q. Well, did you look --

A. We looked for presence in the product as it left the plant.

Q. Did you find it in the product as it left the plant?

A. No.

Q. Did you run any tests to determine if dioxins or furans were produced should oxygen and sufficient amount of heat be applied to PCB's, as you mentioned earlier?

A. No, we didn't. We relied a lot on the University of Utrecht's studies that Dr. Voss was conducting.

Q. And what did those studies reveal?

A. It revealed that the PCB's manufactured by Monsanto had no detectible furans and dioxins, whereas materials produced by other manufacturers of PCB's had those materials in them.

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Q Has Monsanto, to this date, run any tests to determine whether or not PCB's have dioxins and furans in them, to this date, to your knowledge?

A We did run them in early'70, '71.

Q Other than those that you told me?

A Other than those, I can only speak up to the 1975 period. I don't know what has taken place from'75 to the present.

Q Speak up to that time?

A Yes.

Q They have?

A Up to '75?

Q Yes.

A Yes, we did not find any.

Q Could not find any. Who performed those tests?

A The tests were performed in Dr. Robert Keller's group, I do not know the individual, the specific individual who did it.

Q And these tests were to determine whether there were dioxins and furans in the PCB's at the time they left Monsanto's Plant?

A Correct.

Q How about tests to determine whether or not dioxins and furans would be created from PCB's under other circumstances other than in their natural state when they

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left the plant?

A. When I was involved with PCB's, we conducted no such studies.

Q. Was there ever a group formed at Monsanto to create a business plan with respect to the future manufacturing or selling of PCB's in 1969?

A. Yes.

Q. What was the name of that committee?

A. I don't know that it ever had a name; it was a group formed of representative -- of people, of Monsanto employees who had the specific expertise that would be useful in a discussion of this type.

Q. What was the purpose of forming that group?

A. The purpose really was to understand PCB's impact on the environment and whether or not Monsanto should continue manufacturing them. If so, what types of PCB's, and for what uses. I think the broad charter might well be, answer the question, should Monsanto stay in the PCB business.

Q. And why was Monsanto making that determination at that time?

A. As I indicated earlier, this was a manmade material. Monsanto was the big producer in the United States. Monsanto did not want to be associated with a chemical or a product that is perceived to be a problem.

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The product was of interest to Monsanto economically and yet it was not something that could not be terminated. It wasn't that important. The question then really became one of is there a need out there that cannot be satisfied with other materials, and would Monsanto's withdrawal in the end really be irresponsible. They were trying to walk the fine line between discontinuing a product that could be a problem and continuing a product that offered some benefits.

Q. Was this committee formed about the same time as you received the job of Manager of Environmental Control to deal exclusively with PCB's?

A. The group was meeting before I was given the appointment and it was functioning when I arrived. And all I did was assume the chairmanship.

Q. All right. Was there a manager of environmental control to deal exclusively with PCB's before you assumed that position in January 1970?

A. No.

Q. Was there anyone at Monsanto who was appointed prior to your receiving the job to deal exclusively with the environmental problems with PCB's?

A. No.

Q. Was there anyone who exclusively dealt with that problem?

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A. No.

Q. Prior to your assuming that responsibility?

A. No.

Q. And was it not -- was not the committee that you just told us about, was that not created because of the concern over the environmental problems, potential environmental problems with PCB's?

A. Yes.

Q. Let me show you, Mr. Papageorge, document which is part of a composite exhibit, Exhibit No. 329 to the deposition of Mr. Bistline, and which we'll be using throughout these depositions this week, and this has been marked as Plaintiff's Exhibit 329. It is a composite exhibit, as I said, and the first, one of the items here, the first item is called CMC Minutes 11-17-69 Meeting. Do you see that?

A. Yes.

Q. Would you take a look at that document which consists of three pages and tell us if you recall having seen that before.

A. I have seen this document before, yes.

Q. Was that document prepared prior to the time you assumed the functions of environmental -- involving environmental matters and PCB's?

A. Yes.

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Q. Were you present at the meeting that is depicted-- that is represented by these minutes?

A. No.

Q. Who was your immediate superior in the chain of command at Monsanto when you assumed the job in 1970 with respect to environmental matters and PCB's?

A. Mr. Howard Bergen.

Q. And did you report to anyone else other than Mr. Bergen subsequent to that, until such time as you assumed additional responsibilities that you have outlined previously?

A. I believe as long as I was with -- involved with PCB's, Mr. Bergen was my -- I don't recall. I had several supervisors. I don't recall just who they were at the moment. Mr. Bergen was the first one and later I reported to -- I think about 1973 I reported to Mr. Corey, C-o-r-e-y.

Q. Had Mr. Bergen -- Strike that. Was he still with Monsanto at the time?

A. I believe he was.

Q. What was the reason for your changing individuals to whom you reported?

A. In 1973 Monsanto Company reorganized into different functional groups, and as a result of that reorganization, those of us who were given the title

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Managers of Product Acceptibility were reporting, as I remember, to Mr. Corey.

Q. Do you know to whom Mr. Corey reported?

A. He reported to the Vice President of the Unit. I believe that was Mr. Cunningham at the time.

Q. Had Mr. Bergen been given other responsibilities so that you moved away from reporting to him?

A. Yes, he was given other responsibilities.

Q. All right. Take a look at the document that I have shown you, if you would, please. Would you look on the second -- excuse me, the third page, where it says conclusions.

A. Yes.

Q. Do you see that down underneath --

A. Uhuh.

Q. The twelve listed items?

A. Uhuh.

Q. Is that an accurate statement of the way you understood the conclusion reached by this committee when you came to supervise -- or to take control of the committee?

A. Yes, uhuh.

Q. And did, in fact, Monsanto discontinue the manufacture of Aroclor 1254 and 1260?

A. We discontinued the manufacture of 1260 eventually; we tried to discontinue Aroclor 1254 but found

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that our customers did not have an adequate substitute to use in transformers and we had to delay termination of that manufacture of that particular PCB.

Q Aroclor 1254, is that found in Pyranol?

A That is an ingredient in Pyranol, yes.

Q And Aroclor 1254 contains PCB's, correct?

A That is a commercial PCB mixture.

Q Is Aroclor the trade name?

A That is Monsanto's trade name.

Q Monsanto's?

A Yes.

Q The information that is there in the conclusion section, did you communicate that information to Mr. Raab?

A Since I wasn't assigned this position at that time, I don't know who communicated this particular paragraph to Mr. Raab. Eventually we talked about these thoughts with Mr. Raab.

Q You did personally?

A Yes, but not with reference to this specific document.

Q In fact were you the one that explained to Mr. Raab why Monsanto was discontinuing 1260, Aroclor 1260?

A I was one of many.

Q And what did you tell him?

A The exact words, of course, escape me, but in

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essence it was a case of all the reports we were receiving from analytical laboratories that were capable kept telling us that a PCB that looks like Aroclor 1254 and/lr 1260 was being found. If that is true, and if we can find an alternate, let's stop using Aroclor 1260.

Q Well, did you talk to him about the fact that there was developing evidence of a possible threat to certain species of birds and aqua life?

A Uhuh.

Q Aquatic life. Excuse me.

A Yes.

Q Did you tell that to other than Mr. Raab at General Electric?

A Yes.

Q To whom else did you discuss it with personally?

A It was common knowledge. Dr. Simons for sure and various other General Electric people. There were many involved.

Q Pozefsky, did you talk to him about it?

A What is the name? Pozefsky?

Q Pozefsky.

A Pozefsky, yes, Dr. Pozefsky, and there were others whose names escape me at the moment.

Q Look at the next sentence where it says "The status of Aroclor 1242 should be continued to be tested

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to determine whether it contributes to this problem". What problem are we referring to there, if you know?

A. It's the detection of the presence of PCB's that resemble 1254 and 1260 in the environment.

Q. The same thing that is in the conclusion above; is that right?

A. The previous paragraph, yes.

Q. And was 1242 discontinued at some point?

A. 1242, as it existed at the time this document --

Q. 1969, right.

A. '69, was modified to remove PCB's that were in that mixture that resembled the 1254, the 1260.

Q. Was Aroclor 1242 ever discontinued in the form in which it was -- it existed in November 1969?

A. No. 1242 continued up until the last day of sale.

Q. And that was --

A. But there was --

Q. And that was 1977?

A. Yes, but there was another mixture designed to replace 1242 for many of the 1242 applications.

Q. Were 1242 -- Aroclor 1242, was that product used in transformers?

A. Not by General Electric.

Q. General Electric used only 1254 and 1260 in transformers?

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A. I think they also used 1248 for a while.

Q. Did 1248 have the same characteristics as 1254 and 1260 as it relates to the matters contained in the conclusions on that document?

A. 1248 had some of the characteristics of 1254 and 1260 and some of the 1242 characteristics. It was between the two.

Q. Did it have such characteristics so that it was a possible threat to certain species of birds and aquatic life?

A. Parts of that mixture did have those characteristics, yes.

Q. And was 1242 discontinued at any point in time?

A. It was, but I don't remember when.

Q. When was 1254 discontinued?

A. In 1977.

Q. How about 1260?

A. That was discontinued in 1970.

Q. 1970. And I think you have told us that you advised Mr. Raab and others of the reasons why 1260 was being discontinued?

A. Yes, sir.

Q. And those are the reasons some of which are stated in the conclusion section of this document?

A. Correct.

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Q Now would you look at the second page of that document which was, for the record, marked as Exhibit 4 to Mr. Bergen's deposition, but it says "Plan of Action", do you see that, on Page 2, the second page?

A The collection I have it's the third page. Oh, there is --

Q Here we go.

A Oh, down here. Thank you.

Q Second page now?

A Yes, I have it.

Q And that says "Plan of Action", right?

A Yes.

Q When you assumed Chairmanship of this committee in 1970, in January, did you undertake the plan of action that is described in this memo?

A Yes.

Q Item 2 on the plan of attack -- plan of action, "Notify all Aroclor customers of PCB problem". Did you undertake to do that?

A I participated in that activity.

Q You had others assisting you?

A Yes.

Q Who were your primary assistants in that respect?

A The directors of marketing for the particular product line.

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Q. All right. Who was the Director for Marketing for transformers?

A. Donald Olson.

Q. And how did you go about communicating with the customers with respect to the PCB problem as noted on that exhibit?

A. It happened in several ways really. The big effort was, in order to cover everybody, was to inform them by letter that was sent to the appropriate mailing address and the appropriate individual. And it was then followed up with, in as many cases as we could, with our field salesmen paying a call to the customer's site, and further, for the larger customers, some of us within Monsanto would make visits to their plants to hold these discussions.

Q. Did you ever visit any General Electric plants to hold those discussions?

A. Yes.

Q. What plants did you visit?

A. The plant in -- that I mentioned earlier, Glens Falls or Hudson Falls, Pittsfield, Massachusetts, and Rome, Georgia.

Q. You personally went to Rome?

A. Yes.

Q. And who did you meet with at Rome, Georgia?

A. Jim Kinney, I believe is his name, or something

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close to that.

Q. And what did you -- And who was Mr. Kinney?

A. I don't recall his official title, but he was the individual that we were told we should see and talked about PCB's and how they should be handled and disposed of.

Q. And did you discuss with Mr. Kinney the "PCB problem"?

A. Yes. Yes.

Q. That is there?

A. Yes.

Q. And when was that meeting with Mr. Kinney?

A. '70, '71.

Q. All right. Did you -- What do you recall telling Mr. Kinney with respect to the PCB problem?

A. I cannot recall specifically what I told Mr. Kinney. I can only recall that I had the same message for all the customers that we visited in that time period, and the message consisted of the fact that PCB's were being found in the environment, there were investigators both in governmental agencies and in academia that were convinced that they were right in what they were finding. There were some reports of possible harm to wildlife. Since this is a manmade chemical, Monsanto didn't feel right about it being out there and if we wanted to save the product for what we felt was a beneficial use, we better handle it properly.

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That's the message we tried to convey. Those are not the exact words that I used.

Q. Did you meet with Mr. Kinney on any -- on more than one occasion?

A. Yes.

Q. To convey this same message?

A. No, once I had conveyed it, it was no need to re-do it. Mr. Kinney understood it quite well.

Q. Whom else did you meet with, if anyone, at Rome, Georgia, other than Mr. Kinney?

A. I don't remember their names.

Q. Mr. Nelson, do you remember a Nelson?

A. Tom -- not Tom.

Q. Do you remember a Nelson?

A. Jim --

Q. I don't know his first name.

A. There is a Nelson, yes, now that you mention it.

Q. Was he in Rome?

A. I don't associate him with Rome.

Q. How about Mr. Framm?

A. I don't remember that name.

MR. BAUMER: Let's take about five minutes.

[There was a recess.]

Q. (by Mr. Baumer) Mr. Papageorge, I think you indicated a moment ago that to implement item No. 2 on the

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exhibit you have there in front of you, which was marked as a part of composite Exhibit 329, that you sent out correspondence to various customers; is that correct?

A. That is correct.

Q. Or all customers?

A. All customers on record, yes.

Q. All customers on record. Would you please take a look at Exhibit 120 and tell me if that is a letter representing the implementation, or part of the implementation of Item 2 on the previous exhibit?

A. Well, this particular letter represents an example of the kind of letter that was sent to our PCB customers, specifically this one is addressed to customers who purchased hydraulic fluids which contained PCB's.

Q. Was General Electric one of such customers?

A. Yes.

Q. And this is a letter that is authored by Mr. Olson, he was the gentleman who you said assisted you in implementing Item 2, correct?

A. Yes, this is one of several letters that Mr. Olson signed.

Q. Do you recall this letter?

A. Yes.

Q. Did you yourself discuss the content of this letter with General Electric personnel?

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A. I believe I did, yes.

Q. Contemporaneously with the date on which it was written?

A. Very close, yes.

Q. And do you recall who at GE you did speak with?

A. It would have to be -- Well, Mr. Raab and Mr. Pozefsky and others whose names I don't recall at the moment.

Q. Were there more than just the two gentlemen?

A. Yes, there were other GE people.

Q. All right, sir. Would you -- Let me ask you to look at another exhibit. Would you look at Exhibit 136. Take that exhibit, please. Would you look at the last two pages of that exhibit? Is that another example of fulfilling the notification action plan?

A. This is an example of a continuing attempt to communicate to customers the changes that were taking place regarding PCB's and their uses in handling.

Q. Does that include General Electric?

A. Yes. This particular letter was sent to customers who used PCB's in plastics applications, and GE is listed as a customer.

Q. Who authored this letter?

A. Walter Schalk.

Q. And Mr. Schalk, was he one of those who assisted you with the dissemination of information required

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by Item 2?

A. Yes.

Q. In the exhibit we were talking about?

A. Yes.

Q. Did you discuss the information that is contained in this letter with people at General Electric?

A. No, this is not one that I would have discussed with General Electric people.

Q. How about the information such as "The Food and Drug administration are apparently establishing guidelines setting forth suggested maximum levels of PCB's allowable in certain foods". Was that information discussed by you with General Electric people?

A. Yes.

Q. So when you say this letter wasn't, you mean the letter per se, but information that is contained in the letter may have been?

A. Parts of it.

Q. Parts of it?

A. Because a good bit of this letter has to do with a brochure that is suggesting alternatives to PCB's.

Q. Was that discussed with you with General Electric people?

A. The alternatives for plasticizers?

Q. Yes.

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A. No.

Q. How about the other information on the first page?

A. The first page, the reference to FDA and milk and fish, yes.

Q. With Mr. Raab?

A. And others.

Q. And others?

A. Yes.

Q. Who else?

A. Well, Dr. Pozefsky for sure, and Mr. Raab, and as I said earlier, others that I can't recall.

Q. Is it true, Mr. Papageorge, that Dr. Pozefsky and Mr. Raab were the principal contacts with you at General Electric concerning PCB's?

A. At that point in time.

Q. At that point in time?

A. Yes.

Q. '69, '70, '71?

A. The early years, yes, sir.

Q. Look at the letter that is attached to Exhibit 136 that's dated March 15, 1972. Do you have that letter there?

A. I have a letter with that date, signed by Mr. Bergen.

Q. Do you recall that letter?

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A. Yes.

Q. And what was the circulation of this letter?

A. This was sent to all customers on record who purchased hydraulic fluids manufactured by Monsanto.

Q. Did that include General Electric?

A. Yes.

Q. Look at the letter dated April 1972, do you recall that letter?

A. Yes.

Q. And I believe you authored that letter?

A. Yes, sir.

Q. Was this letter generally circulated to customers of Monsanto?

A. Yes.

Q. And specifically did it -- was it sent to General Electric?

A. Yes.

Q. Was the content of this letter discussed by you with representatives of General Electric?

A. Oh, yes.

Q. Earlier -- as early as 1970?

MR. BURKE: I object to the form of the question. It's a 1972 letter, and it's vague.

MR. BAUMER: If you look at the letter, you will see that it says "Since early 1970 we have --". That's

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the basis for the question.

Q (by Mr. Baumer) Since early 1970, did you discuss the content -- or the information that is contained in this letter with General Electric people?

A No, this letter contained new information and it starts off by "Since 1970 we would advise you of significant developments". This was the latest of the significant developments.

Q All right.

A It's a continuing dialogue or communications that took place.

Q So since 19 -- early 1970, you were advising General Electric of any significant developments in polychlorinated biphenyls?

A Yes.

Q As they relate to the environment?

A Yes.

Q Look at the first paragaph on the second page of the letter. Were you personally involved in passing on any comments that Monsanto may have had to the FDA concerning the proposed rule making that is indicated there?

A Yes.

Q Do you know whether General Electric likewise commented to the FDA about the proposed rule making as reflected in that paragraph?

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A. I am not aware of what GE did regarding this particular rule making.

Q. Did you, in fact, discuss that particular rule making with Mr. Raab?

A. Yes.

Q. With others at GE?

A. Yes.

Q. Contemporaneously with the rule making?

A. Yes.

Q. Prior to March 1972?

A. Yes.

Q. Correct?

A. As it was evolving, yes.

Q. And it evolved over what time frame?

A. I'm trying to recall. There were some incidences of milk contamination reported in 1970, so from that point on, FDA got very interested and was working toward this rule making.

Q. That is your signature that appears on that letter, is it not?

A. Yes.

Q. Do you remember specifically authoring this letter?

A. Yes, sir.

Q. Look at the letter dated May 25, 1972.

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A. Yes.

Q. Was that authored by Mr. Paton?

A. Yes.

Q. Who was Mr. Paton in May 1972?

A. He was the Product Manager for fluids manufactured by Monsanto for heat transfer dielectrics or processing.

Q. Do you recall this letter?

A. Yes, sir.

Q. Was it -- What circulation did this letter get?

A. It was sent again to customers on record that had this Therminol FR that is referred in the document, which is a heat transfer fluid.

Q. Did that include General Electric?

A. Yes, sir.

Q. Did you have discussions with anyone at General Electric yourself regarding the information contained in this letter?

A. Yes, sir.

Q. With whom did you have those discussions?

A. The same individuals that we talked earlier.

Q. All right, sir. When you would have your discussions with these gentlemen, would they acknowledge that they had received these communications?

A. Sometimes. Sometimes I would never ask the

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question. We would just say hey, here's what happening. You can return your fluid for three cents or five cents a pound. We've got labels for you. Here's a telephone number. Or keep it out of the sewer. It was that kind of discussion.

Q But --

A Backed up by these letters.

Q Backed up by the letters?

A Yes.

Q But on occasion there were discussions about the specific letters?

A Yes. We would say next month we are going to send out such a letter.

Q Uhuh.

A Or we sent one out two weeks ago, depending on the circumstances.

Q When you would say you sent one out two weeks ago, would they say they received it?

A Sometimes.

Q Would they ever tell you they hadn't received it?

A I don't remember any such answer.

Q Okay. Thank you. Would you look at Exhibit 135, please, sir, and please look at the last page. Do you recall that letter?

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A. Yes, sir.

Q. Do you recall its circulation?

A. You mean specifically the addressees?

Q. No, sir. Who would that have been sent to?

A. This would have been sent to those individuals, those customers who had placed orders with Monsanto for material containing PCB's, and this was intended to be a reminder to the recipient of that material.

Q. Thank you. Look at Exhibit 140A. Do you recognize the first letter in that exhibit?

A. I do.

Q. Did you author that letter?

A. Yes, sir.

Q. What was Mr. McCann's job at General Electric Company in Rome, Georgia?

A. Well, I don't claim to know exactly what it was.

Q. To the best of your knowledge.

A. To the best of my knowledge he had something to do with planning related to the production line, and what units would be manufactured, and when they'll be shipped out of the plant and so on.

Q. Who is Randy Graham?

A. Randy Graham was Monsanto's Field Representative who marketed dielectric fluids.

Q. Did he visit and market them at Rome, Georgia?

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A. Yes.

Q. Do you recall writing this letter?

A. Yes.

Q. And did you -- Would you look at the first -- The second page of this exhibit. It's a letter dated February 18, 1970?

A. Uhuh.

Q. Do you recall that letter being sent out by Monsanto?

A. Yes.

Q. And was that letter -- to whom was that letter directed?

A. This letter is directed to customers of dielectric fluids, and it's signed by Donald Olson.

Q. And Mr. Olson was -- What was his job at that time?

A. He was Director of Sales of Functional Fluids Group.

Q. Now you enclosed, in this letter to Mr. McCann, not only Mr. Olson's letter and the attachments to that letter, but you also enclosed some press releases; is that correct?

A. Yes, that is correct.

Q. And the first press release has a date of April 10 on it, correct?

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A. Yes.

Q. Now it doesn't have a year, but I would ask you to look back at your cover letter and see whether or not, looking at that, you can help us determine the year in which that press release was issued?

A. 1970.

Q. All right. And it has a second press release dated 1970 also, July 16; is that correct?

A. Yes.

Q. Did you have anything to do with the preparation of either of these press releases?

A. I was asked by Mr. Jahn to review several drafts that he was preparing before he arrived at the final version.

Q. You assisted then in the preparation of the release?

A. That is correct.

Q. And did you review the final release before it was issued by Mr. Jahn?

A. Yes.

Q. That is true for both releases?

A. Yes.

Q. All right. Would you look at the next to last page of this exhibit?

A. All right.

Q. Did you author that letter?

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A. Yes.

Q. And that letter is addressed to Mr. Edward L. Raab?

A. Yes.

Q. December 17, 1970?

A. Correct.

Q. Had you, prior to this letter, had a telephone conversation with Mr. Raab?

A. Yes.

Q. Had you communicated to him the information contained in this letter?

A. Right.

Q. Was this one of those conversations and telephone calls, discussions that you had with Mr. Raab that you told us about earlier today?

A. Very typical, yes.

Q. Who is Mr. Benignus?

A. Mr. Benignus was an individual located in St. Louis who was responsible for the marketing of dielectric fluids.

Q. In the chain of command, did you report in any manner to Mr. Benignus?

A. No, Mr. Benignus reported to Mr. Olson.

Q. And Mr. Olson reported to whom?

A. To Mr. Bergen. And I reported to Mr. Bergen.

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Q All right. Please look at the last page of this Exhibit 140-A.

A All right.

Q Is that another letter that you authored?

A Yes.

Q Do you recall that letter?

A Yes.

Q All right. It's dated March 30, 1970 -- '71?

A '71, yes.

Q Do you know Mr. Johnson, to whom the letter was addressed, or did you know him at the time?

A I don't recall him today but -- I don't think I knew the man very well because I would not have called him Mr. Johnson, I would have used his first name. That's my way of doing --

Q Yes. Sanovac, did that contain PCB's, to your knowledge?

A Yes.

Q You indicate in the third paragraph that Mr. Ed Raab and Mr. Jim Thayer are involved in Askarel disposal; in what manner do you know, or did you know at that point in time that they were involved in Askarel disposal?

A In my opinion, they were very familiar with the proper procedures for disposing of Askarels, and I believe that since they were part of the same company,

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they could be most helpful to Mr. Johnson here.

Q We discussed Mr. Raab before but we haven't discussed Mr. Jim Thayer; what was his job, to your knowledge?

A I recognize the name now that I see it. He was one of the other GE individuals that I couldn't recall earlier.

Q That you communicated with routinely?

A Communicated on a fairly regular basis, yes.

Q Concerning PCB's in the environment?

A Correct.

Q Please look at Exhibit 128, bears the date of March 3, 1969, Mr. Elmer Wheeler; who was Mr. Wheeler?

A Mr. Wheeler was Monsanto's individual who concerned himself with toxicology testing and the knowledge of chemicals and their toxicities.

Q Do you recall seeing this letter back in 1969?

A Yes.

Q Do you recall having discussions with Mr. Raab about the content of this letter?

A Yes.

Q Look at the first page of the exhibit, if you would. It has Mr. Raab's name there. Do you know who Mr. James Kinney might be?

A Yes, Mr. Kinney is the gentleman I referred to earlier in the Rome, Georgia plant site.

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Q Mr. M.E. Scoville, do you remember who he is?

A I think I remember Mr. Scoville who worked with Mr. Pozefsky up in New York.

Q Hudson Falls?

A Hudson Falls.

Q Do you know where Mr. Wheeler could be located today?

A Not specifically. The last I heard he lived in North Carolina.

Q You don't know where?

A No.

Q Would you now look at Exhibit 139. Do you recall that letter?

A Yes.

Q And who is the author?

A Mr. Waychoff was the Product Manager for plasticizers. These are chemicals that are added to plastics to give them flexibility.

Q And to whom was that letter directed?

A This was directed to all customers on record who at one time had purchased plasticizers that contained PCB's, and were now being informed that we had some replacement material now that PCB types were no longer available to them. Would not be available to them.

Q Did that include General Electric?

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A. Yes.

Q. This letter indicates that Monsanto had withdrawn--Monsanto had withdrawn Aroclors from the market; had that occurred in September 1970?

A. Monsanto withdrew the plasticizer applications as of August 30, 1970. This is a follow-up letter indicating to the ex-customers we had replacement materials.

Q. And that withdrawal, was that as a result of the recommendations of the committee that was formed that is indicated on Exhibit 329?

A. It was a subsequent meeting of that committee.

Q. That resulted in the withdrawal of those Aroclors?

A. Yes, but not the '69 meeting.

Q. Not the November of '69?

A. That is correct.

Q. Were you at that subsequent meeting, in attendance?

A. I was -- there were two meetings; I was present at the first of two meetings, and the committee met again within a week or two weeks for a final decision. I was not present at the second meeting.

Q. And the final decision resulted in the withdrawal of the Aroclors as indicated in Exhibit 139?

A. Correct.

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Q. Now would you please look at Exhibit 129. Do you recall that letter?

A. Yes.

Q. What is the purpose of that letter, to your knowledge?

A. This letter was mailed to customers on record who at one time or another had purchased PCB fluids for use in electrical equipment.

Q. And were continuing to use them?

A. Either were continuing or had planned to come again and order material.

Q. Were you involved in any discussions which led to the preparation of that letter?

A. Yes, sir.

Q. And what was -- was it the same committee that discussed?

A. This was a smaller group.

Q. All right. Who was in the group that discussed this preparation of this letter which is part of Exhibit 129?

A. As best I remember, it was attorneys and Mr. Bergen and Mr. Olson.

Q. Yourself?

A. And I was present, yes.

Q. Anyone else?

A. That's all I can remember.

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Q. Do you know who drafted this letter?

A. One of the attornies; I don't know just which one.

Q. Okay. Do you recognize Mr. Bergen's signature on the letter?

A. Yes.

Q. And how about the special undertaking as is described?

A. That was prepared by an attorney.

Q. Did you review that?

A. Yes, sir.

Q. Before it was mailed out?

A. Right.

Q. How many customers signed such undertaking?

A. I don't know.

Q. Do you know whether General Electric signed an undertaking?

A. Yes.

Q. Did they?

A. Yes.

Q. Did General Electric?

A. Yes.

Q. Look at the first page, Mr. Estes.

A. Yes.

Q. Have you ever met Mr. Estes?

A. I don't recall meeting the man; I have heard of him.

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Q. All right. Now if you will return back with me to the first document in composite Exhibit 329, the minutes of the meeting, can you help us out and tell us what information has been deleted or the type of information that has been deleted here in the middle?

A. It's been a while since I have seen the original drafts. I can only speculate that this missing material was legally driven or --

Q. Okay. The names of the committee members present at this meeting, does that contain all of the committee members as you know the committee to have been constituted?

A. These are not members of the committee. These are people invited to attend the committee meeting who represented the business groups that sold these PCB products.

Q. Who was on the committee then?

A. I don't see the list here. They are the top executives.

Q. How about Mr. Wheeler?

A. No, Mr. Wheeler is in the Medical Department.

Q. Mr. Miller?

A. Mr. Miller is a lawyer.

Q. How about Mr. Bergen?

A. Mr. Bergen was the Business Director of the fluids business. Mr. Springate of the plasticizers business.

Q. They were not on the committee?

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A. No, they were presentors of a program to the committee.

Q. Can you give me the names of anyone on the committee other than yourself?

A. At that point in time it would have to include the president of the company, who was, I believe, Mr. Bok, B-o-k, and Mr. John Giles, G-i-l-e-s, Mr. Monte Throdahl, M-o-n-t-e, Throdahl, T-h-r-o-d-a-h-l. I believe Mr. Putzell, General Counsel, was part of that committee. P-u-t-z-e-l-l.

Q. What was Mr. Throdahl's title?

A. He was Vice President, Technology, as best I can remember.

Q. And you mentioned someone just before him.

A. Mr. John Giles.

Q. Giles?

A. Was Vice President, Marketing. These may not be the exact titles, but that's the function.

Q. The President of the company then was whom?

A. Edward Bok, B-o-k.

Q. Anyone else on the committee?

A. I just can't remember. It seems to me there were at least a couple more, but I can't remember who they were.

Q. All right, sir. How about taking a look next at the second item in this exhibit, which was Exhibit 5 from

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Mr. Bergen's deposition?

A. Uhuh.

Q. Do you recognize that memorandum?

A. I do.

Q. Did you author it?

A. Yes.

Q. Look at the circulation up here.

A. Yes.

Q. Any of those people on committee or were they just presentors to the committee?

A. These are presentors, or potential presentors.

Q. Did you draft the management plan as is attached?

A. Yes.

Q. Look at the work plan and on the second page -- excuse me, the management plan. On the second page of the management plan.

A. Management plan, second page.

Q. It indicates that a decision was made to plan to discontinue the manufacture of Aroclors 1254 and 1260, do you see that?

A. Yes, sir.

Q. And then it goes on down to say "Recent date, although still very preliminary, indicates that not enough information is available to justify this action"?

A. Yes.

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Q "It appears that in those uses where control of spillage and disposal can be rigidly exercised and Aroclors are in sealed containers, e.g. transformers", now did Monsanton consider that the transformers were manufactured to such a degree that there couldn't be any spillage or leakage? Is that what sealed means?

A Yes. It means that it's an application where it's possible to design and control in such a way that leakage of PCB's is minimized, to the point --

Q What does sealed mean?

A Sealed means that it's not open.

Q Not open. Okay.

A Yes.

Q And is it a fact that PCB's were continued to be sold at some point in time after 1970 for use exclusively in sealed -- for sealed uses?

A Yes.

Q And was that the result of people who would sign the undertaking that is referred to in Exhibit 129?

A That came about in 1972.

Q 1972.

A Right.

Q All right. Now was the management plan finalized so that we could find if it is still available something other than the draft?

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A. Yes, it was.

Q. Was it finalized in substantially the same manner as it appears here in draft form?

A. In essence it was substantially the same. I believe you'll find the final version as accelerated dates for completion of some of the items.

Q. But the subjective findings and matters of this nature are the same?

A. Pretty much the same, yes, sir.

Q. Did Monsanto undertake to determine in 1970 the effect of PCB's on humans?

MR. BURKE: I object to the form of the question. It assumes they weren't known. But go ahead, sir.

A. Would you read back the question?

[Said question read back by the Reporter, i.e., "Q. Did Monsanto undertake to determine in 1970 the effect of PCB's on humans?"]

A. There was no study of PCB's as it directly related to humans.

Q. (by Mr. Baumer) Was the management plan --

MR. DERRYBERRY: Did you finish?

THE WITNESS: Yes.

Q. (by Mr. Baumer) Was the management plan as outlined in Exhibit 329 circulated outside of the company, Monsanto?

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A. 329?

Q. Yes. This is all Exhibit 329.

A. I see. All right.

Q. The one you have here, which is called management plan. All right. Was that document circulated outside of Monsanto?

A. No.

Q. Look at the -- Strike that. Did you ever have any discussions with Mr. Raab or anyone else at General Electric as to the possible effect of PCB's on humans in the years 1969, '70 and '71?

A. Yes. Yes.

Q. And what were the nature of those discussions?

A. It was a review of what our Medical Director had gathered and his assessment of the effect on Monsanto employees and others, reports coming into his office.

Q. What reports did you note have -- or had you received in '69, '70 and '71?

A. Are you --

Q. On the effect of PCB's on humans.

A. The reports had to do with the symptoms I described earlier, the effect on skin, the effect on the respiratory system, the possibility for the development of chloracne, which is the skin effect due to overexposures.

Q. And you had communicated those to General Electric

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employees?

A. Yes.

Q. Had you provided them with copies of the reports from the Medical Department?

A. I personally did not provide them; I was led to believe that in the past General Electric had received copies from Monsanto's Medical Department.

Q. In the past, meaning in the --

A. Before 1969.

Q. All right, sir. Please look at the next document which was No. 6 in Mr. Bergen's deposition, and is part of composite Exhibit 329, which is a memorandum that you authored, dated April 7, 1970.

A. Yes.

Q. Do you recall that memorandum?

A. Yes, sir.

Q. Does that contain a copy attached to it of the final management plan?

A. This is a copy of a management plan that existed at that point in time which resulted from a review of the previous plan that we just talked about.

Q. The draft plan that was attached to --

A. The draft plan.

Q. That was attached to your memorandum of March 30, 1970, right?

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A. That is correct.

Q. And this is just seven days later, correct?

A. Correct.

Q. And did you prepare and draft this management plan as attached to your memo of April 7th?

A. That is my work product, yes.

Q. Did you receive comments from those people to whom you circulated it?

MR. DERRYBERRY: That is not capitalized.

A. Did I receive comments?

Q. (by Mr. Baumer) Did you receive comments from those people to whom you circulated the draft in order to prepare what appears to be the final work plan?

A. I did.

Q. And are those comments incorporated into the final work product?

A. Yes.

Q. I note that there is a blank under action plan; what was the -- what would be contained or type of information would be contained in there under action plan?

A. What appears to be missing on Page 3 under action plan is, number one item, because it continues on the next page, Items 2, 3, and 4, which are part of that plan. I don't know at the moment why Item 1 is missing.

Q. Did Monsanto undertake to follow the management

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plan as outlined in this document?

A. The essential items were eventually undertaken.

Q. Well, did they -- Excuse me.

A. What I recall as being different is the dates were accelerated. This document was presented to the CMC as indicated on the cover page.

Q. Yes, sir.

A. And the CMC asked us to go back and come up with earlier dates for accomplishment, and that was done.

Q. CMC stands for what?

A. Corporate Management Committee. This is the committee where I tried to identify the members earlier.

Q. I see. Did Monsanto inform its customers of the PCB problem and the importance of preventing environmental pollution both at their plants and by their products?

A. Yes, we had already done that.

Q. All right, sir. Let me ask you to take a look at the next document, which is dated February 19, 1971. Are you familiar at all with that document?

A. Yes.

Q. What is that document?

A. This is a document inviting individuals to attend the session at which the proper methods of disposal and reclamation of PCB's or PCB contaminated materials could be discussed.

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Q And are all of the people who are listed as receiving copies, are they employees of Monsanto, or were they employees of Monsanto?

A At that time, yes.

Q Did you attend that meeting?

A Yes.

Q Did you share the benefits of that meeting with anyone at General Electric?

A Yes.

Q Yes?

A Yes.

Q Mr. Raab?

A Mr. Raab for one.

Q Any others?

A And the capacitor people through Dr. Pozefsky.

Q Look at the next document, if you would, which is a letter from Mr. McFarland at General Electric Company to Mr. Bergen. Do you recall that letter?

A Yes.

Q Did you ever have a meeting with Mr. McFarland?

A I don't remember such a meeting, no.

Q All right, sir. Take a look at the next document. Again a document on General Electric Company letterhead dated April 12, 1972. Do you recall this document?

A Yes, sir.

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Q. Did you receive a copy on or about the time it was written?

A. Yes, sir.

Q. Who wrote this document? Let me help you out. Look at the bottom.

A. Oh, Dr. Pozefsky.

Q. And was this document written to particular members of a particular committee?

A. This document is written to the members of the capacitors subcommittee of a committee initiated by NEMA and eventually under the auspices of ANSI, the American National Standards Institute.

Q. And this relates to the disposal of Askarel or Pyranol?

A. Parts of it address disposal, yes.

Q. Now how long had this committee -- Can we give this committee a name? Is it called the capacitor group?

A. Yes, this is a capacitor group. That is listed here.

Q. All right. Is this the committee that is known as C-107?

A. ANSI C-107 is the full committee. This group is a subcommittee along with me as the chairman of the full group, and Mr. Salazar as secretary of the full group.

Q. All right. And who was chairman of the committee

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C-107?

A. I was.

Q. And who was chairman of this subcommittee?

A. Dr. Pozefsky.

Q. Now I note Mr. -- Strike that. Excuse me.

A. I'm trying to think, Pozefsky started as Chairman. I'm not sure if he was replaced or not.

Q. The individuals whose names appear as receiving copies of this document, were they all on the subcommittee?

A. Except for me and Mr. Salazar.

Q. All right. And Salazar was with NEMA, right?

A. He is the NEMA executive who was the secretary of the ANSI C-107 committee.

Q. And you received a copy because you were chairman; is that correct?

A. Correct.

Q. Of the overall committee?

A. Correct.

Q. I note Mr. Raab's name appears on this document; was he on the subcommittee?

A. Mr. Raab was the Chairman of the Transformer Committee and he received -- he is another individual who is not part of that sub-group, the capacitor group.

Q. He was chairman of another subcommittee of C-107?

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A. Correct, of the transformer group.

Q. Was the work on disposal of PCB's different in the capacitor group and the transformer group?

A. In some respects, yes.

Q. In what respects?

A. Well, generally with transformers, the disposal problem addresses the disposal of liquid drained from large units. In capacitors the disposal problem is usually one of disposing of the capacitor with its PCB contents intact. It's more of a solid disposal problem as distinguished from a liquid disposal problem.

Q. Well, was there not a problem with disposal of the transformers themselves after they had been drained of their PCB fluid?

A. Generally you would not dispose of the transformer itself. It would be rinsed and flushed and refilled with another fluid and they tried to place it back in service.

Q. Do you know whether that was ever accomplished?

A. Yes.

Q. By Monsanto?

A. Many companies, Monsanto included, yes.

Q. They were able to drain the PCB fluid, in this case say in General Electric, would be Pyranol, they were able to drain the Pyranol?

A. Yes.

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Q. And then fill the transformer with some fluid that did not contain polychlorinated biphenyls?

A. Correct.

Q. And it would then be classified as a non-PCB transformer?

A. Only if the amount of PCB that was retained in the unit was below a certain level.

Q. Fifty parts per million?

A. Yes.

Q. Are you aware that that was ever accomplished by anyone?

A. I am led to believe it was, yes.

Q. Who told you that, or led you to believe that?

A. These are informal conversations with Dr. John Craddock, who I mentioned earlier as being involved today with the PCB issue.

Q. For Monsanto?

A. For Monsanto.

Q. Are you familiar with the term retrofill?

A. Yes, sir.

Q. Is that what we have just been talking about?

A. Yes.

Q. Do you know whether GE recommended retrofill in order to accomplish fifty parts per million or less PCB content?

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A. That I don't know.

Q. Would the concerns with respect to PCB's be any different between the capacitor and the transformer committees, or were they?

A. Not for the PCB's, no.

Q. Both committees had the same concerns and that is the disposal of PCB's, they just had to dispose of different -- of the product in different forms; is that correct?

A. That is one of the differences.

Q. Were there other differences?

A. Yes, in the handling in the workplace it's different.

Q. Okay. In what manner?

A. From my personal observation, the impregnation or the filling of capacitors results in a situation where the units are dripping, if you will, with the oil or the liquid.

Q. PCB liquid?

A. PCB liquid. In fact on the top of each capacitor, there is a collection of liquid through which the employee has to insert the soldering gun to seal the opening, and this presents a different workplace control problem in terms of how do you catch this free fluid dripping, et cetera, and manage it in such a way that it doesn't get out of

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control. Now in a larger transformer, the impregnation is done via it's called a pipeline connections into large units, and the liquid is introduced into a steel container, so to speak, directly after it's been evacuated. So the potential for leakage and drippage into the workplace are considerably reduced in transformer manufacture.

Q How about disposal though, that is what we were talking about, these two subcommittees dealt with disposal, did they not?

A True. The disposal comes about in terms of how much material gets away from your control system and ends up in -- on the floor or in collection points throughout the plant. It must then be collected properly and disposed of properly.

Q Where did General -- excuse me. Where did Monsanto, in 1971 and '72, recommend that PCB's be disposed, what locations or types of locations?

A Oh, I'm trying to remember. Monsanto had an incinerator which was capable of handling liquid wastes. We were also able to recommend, as reflected in the ANSI standards that were finally published by these groups we talked about --

Q Uhuh.

A -- we were able to refer to two or three commerical disposal services.

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Q Was that landfills?

A No, these were incinerator services as I remember. And then as I recall, the suggestion was that approved landfillls be used for solid materials such as rags, work clothes, spent capacitors or capacitors that didn't pass the tests and so on.

Q Were these toxic waste landfills?

A I don't know that I have ever heard the word toxic waste. It was approved landfills as distinguished from -- approved chemical landfills as distinguished from sanitary landfills.

Q You have never heard the term toxic waste landfills?

A I never per se heard that word, no.

Q When the clothing and work gloves and things of that were disposed of, in what fashion were they disposed of? In containers, just in boxes?

A Oh, I can't speak for the whole industry, it was suggested they be put in containers and then buried.

Q Now look at the attachment on Dr. Pozefsky's memorandum of April 12, 1972. Do you recognize plant housekeeping and employment safety -- employee's safety?

A Yes.

Q Did you participate in the preparation of this document?

A My participation was limited to the meetings that

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were held by the ANSI committee. When both groups met generally. That was the extent of my participation, where each of the -- each of the chairman of the sub-groups would report on progress to the full group, and then they would separate and go to separate rooms and deliberate and work on their specific assignments. That was the extent of my participation.

Q Do you recall though, these are the guidelines that were promulgated by the subcommittee on capacitors?

A Well, each of what I see here eventually was included in the final ANSI document. I don't know if word for word everything is identical.

Q All right. Mr. Papageorge, would you now look, please, sir, at the next document in composite Exhibit 329, which -- and this document, for reference, was document 19 in Mr. Bergen's deposition in this action. Are you familiar with that document?

A I recall the document, yes.

Q Do you know Mr. McBournie?

A No, I don't.

Q It was authored by Mr. Wheeler. Do you know Mr. Wheeler?

A Yes, sir.

Q Do you know him to have been the manager of environmental health in October 1969?

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A. Yes.

Q. Do you know Mr. John Perry?

A. No.

Q. How about Mr. John Gannon?

A. I know Mr. Gannon.

Q. Do you know that he was -- or what his job was in October 1969?

A. He was a product representative working for Monsanto that sold chemicals that we called plasticizers.

Q. Did you ever discuss the information that is contained in this letter with employees of General Electric?

A. No, I haven't.

Q. Not the letter itself, but the information that is contained in it that might be otherwise in other forms?

A. No, I haven't.

Q. Look at the next letter, please, dated January 7, 1970, again from Mr. Wheeler to Mr. Pozefsky. Do you recall this letter?

A. I have seen it, yes.

Q. You have seen a document called "The Toxicity of Vapors of Aroclor 1242 and 1254" published in 1956?

A. Yes.

Q. Was that published by Monsanto?

A. No, it was not a Monsanto publication.

Q. What was the toxicity of vapors of Aroclor 1242

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and 1254, to your knowledge?

A. Oh, I don't remember. Let me think. There were some animal tests conducted from which a group of industrial hygienists came up with suggested exposure levels for the workplace, and this document, as I remember, was -- it's a single page, both sided, and the document which summarizes study and how they arrived at these exposure levels.

Q. Would you now look at the next document, please, which is a letter on General Electric letterhead dated January 8, 1970 from Mr. Raab to Mr. Benignus. Do you recall that letter?

A. Yes, I do.

Q. Look at the second page, do you see Item 6?

A. Yes.

Q. Did you have discussions with Mr. Raab concerning impending restrictive legislation on the use of PCB's?

A. I was present at this meeting.

Q. You were present at the meeting?

A. Uhuh.

Q. And that item was discussed then, I take it?

A. Yes.

Q. Who else was present at the meeting other than you, Mr. -- Was Mr. Benignus there to start with?

A. Mr. Benignus was there, Mr. Wheeler, Dr. Richard, Mr. Bergen.

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Q. Who else --

A. Dr. Keller.

Q. Who else from General Electric?

A. General Electric, I remember personally Dr. Gerard, but -- and Mr. Raab. I don't recall the other individuals shown on this document.

Q. Dr. Murphy or Dr. Osthoff?

A. I just don't remember the gentlemen, but there were more than just two people there.

Q. And at the meeting, was there a discussion of potential restrictive legislation?

A. It was more a philosophical and speculative kind of discussion that took place as to where could PCB's end up regulatory-wise, and many analogies were drawn with DDT, as I remember the discussion.

Q. Was there rule-making discussions back in January 1970?

A. No.

Q. Had you had any discussions yourself with any governmental agency concerning the regulation of PCB's in January 1970?

A. No.

Q. How soon after January 1970 did you have such discussions?

A. I think we started in March of 1970 and resumed

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in April and May visiting with representatives of the Food and Drug Administration and the Department of Agriculture and the Council of Environmental Quality, and the office of Technology in the Executive Office of the President.

Q Were those discussions and the substance of those discussions communicated to Mr. Raab and others at GE?

A Yes, eventually.

Q By you?

A Yes.

Q On or about the time at which they took place?

A Yes, within a couple months at the latest. But at that time I think it ought to be clear that the government, in most cases, was not aware of PCB's, had no thoughts regarding PCB's, and they were very interested in what we had to say.

Q All right. Look at the next document. This one, a letter dated October 5, 1971 to Mr. Worthington.

A Uhuh.

Q From Mr. Hatton?

A Uhuh.

Q Which was Exhibit 29 to Mr. Bergen's deposition. Do you recall this letter?

A Yes, sir.

Q Do you know Mr. Worthington?

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A. No.

Q. Have you ever met him?

A. No.

Q. Would you look at the second paragraph?

A. Uhuh.

Q. Does that paragraph represent the information which -- some of the information which you had relative to PCB's in 1971?

A. Yes.

Q. Is it information you had in 1970?

A. Yes.

Q. Was it information that you communicated to Mr. Raab and others in GE?

A. Yes.

Q. Look at this letter, please, sir, October 8, 1971. Have you seen that letter before?

A. I don't remember this one, but --

Q. Are you familiar with the information that is contained in that letter?

A. I don't recall -- there is a reference in this letter to a toxicity statement for Therminol FR heat transfer fluid. At the moment I don't remember such a toxicity statement.

Q. How about information on the physiological effects of FR vapor?

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A. I don't know how to respond.

Q. Was there written information on that?

A. I don't know of any written information, but it's the kind of information that you would expect the corporate medical director to be most knowledgeable about.

Q. Yes. I see. Please now take a look at the next document, which is dated December 9, 1971.

A. Uhuh.

Q. GE letterhead, to a number of people, from Mr. Raab, I believe.

A. Yes.

Q. Is that true?

A. Yes.

Q. In his capacity as chairman, transformer working group, is that --

A. That is what it says.

Q. Of the NEMA committee?

A. Yes.

Q. Part of C-107?

A. Correct.

Q. Do you recall this letter?

A. Yes, sir.

Q. Did yousee it on or about the time it was written?

A. Yes.

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Q. All right, sir. Let me ask you to look at the next item, which is dated September 20, 1972, and it was Exhibit 38 to Mr. Bergen's deposition. Do you recall this form as a Monsanto form?

A. The form, yes.

Q. All right. Do you -- Let me direct your attention to the item down at the bottom which is stamped "Important".

A. Uhuh.

Q. Do you recall when that first appeared in sales invoices for orders such as this document?

A. I don't recall the exact dates.

Q. Is it --

A. It would have to be '71, '72.

Q. All right, sir. Is this information similar to that you said was on your product back in the thirties?

A. No, no, no, this kind of information began to appear on the labels, on the literature of the product starting in 1970.

Q. Started to appear in 1970?

A. 1970, the environmental statement.

Q. That is what you consider important -- this information under the word important? Is an environmental statement?

A. The first paragraph, and then the final two sentences were added later as we became aware of -- I'm

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sorry, the final sentence was added when we became aware of it showing up in food and animal feed.

Q. All right. So this particular information did not originate at one time?

A. Correct.

Q. All right. The first --

A. The first --

Q. -- seven, six lines?

A. Uhuh.

Q. Was that separate from the last lines or were those six lines promulgated at the same time the next two lines were promulgated?

A. No, there was a period of time between the two.

Q. And then there was another period of time between that above and the last line?

A. That is right. And the thought expressed here is similar to the thought expressed on the label. The words may not be exactly the same.

Q. All right, sir. Look at the next exhibit, which was numbered 39 to Mr. Bergen's deposition, and is still a part of composite Exhibit 329. Let's go to another one. Look at the next document which I want you to look at which is numbered 63 to Mr. Bergen's deposition and is memorandum dated May 20, 1968. Have you ever seen that document?

A. Yes.

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Q. Did you see it in your capacity as manager of Environmental Relations?

A. Right.

Q. What is the purpose of this memorandum?

A. I can only pass on to you my understanding.

Q. To your knowledge. Do you know what its circulation was?

A. Just what is shown here. The individual shown in Monsanto.

Q. All right, sir. Look at the next document, which was No. 50 to Mr. Bergen's deposition, dated August 21, 1975. Are you familiar with this document?

A. I remember this document, yes.

Q. Did you receive it?

A. Yes.

Q. Would you look at the last sentence?

A. Uhuh.

Q. Do you know about what that refers?

A. Previously we talked about the special undertaking document.

Q. Yes, sir.

A. Mr. Dobbin in this instance is referring, to my understanding, to that document.

Q. That document or document that General Electric is making customers sign, the sentence says "The most

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important control as far as careful handling is concerned stems from the indemnity agreement that we require that purchaser to sign before he is sold any Pyranol". Did you ever see a document that General Electric required a customer to sign before that customer received any Pyranol?

A. I don't remember any.

Q. Did you have any discussions with Dobbin about that?

A. I heard there were discussions, that General Electric was considering such a document; I never did see, that I recall, such a document.

Q. All right, sir. Thank you. All right. Please look at the next item which is marked 69. Do you recall that document?

A. I recall seeing it, yes.

Q. In your capacity as Manager of Environmental Relations?

A. I think it was sometime after that. I don't recall seeing it close to the date of publication.

Q. Do you know either the gentleman who wrote it or the recipient of the letter?

A. I know the author of the letter and I know the people that got copies of it; I do not know the recipient.

Q. Argensinger, you don't know him?

A. I don't know the man.

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Q Let me now show you a few more documents, Mr. Papageorge, and ask you if you have ever seen Exhibit 317.

MR. DERRYBERRY: Is that the number that was imposed this morning?

MR. BAUMER: Yes.

A I have seen this document but only recently.

Q (by Mr. Baumer) Under what circumstances did you see this document?

A I was shown documents that were submitted in this case to date and this was one of them.

Q You did not see this document in the course of your job in the seventies?

A Not this one, no.

Q Are you aware of any of the information or were you aware of the information contained in this document in the seventies?

A I was aware of the existence of the 1939 data but I was also told that it was outdated.

Q All right. Do you know any of the people who received a copy of this letter? Do you know Dr. Jenkins at Monsanto, in Anniston?

A I heard of the man; I don't know him.

Q How about those that received copies up here on the upper right-hand corner?

A I recognize Mr. Howerton and Mr. Hosmer.

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Q What was Mr. Howerton's job?

A I don't know what it was in 1941.

Q How about Mr. Hosmer?

A Same, I don't know.

Q Were they Monsanto employees, to your knowledge?

A Yes.

Q You don't know the other gentlemen?

A No.

Q Do you know Mr. F.M. Clark, the author of this letter?

A No.

Q Let me show you Exhibit No. 237, which is dated December 21st, 1970. Have you ever seen document 237?

A Yes, I have.

Q When do you recall you first saw that document?

A I am the author of this document.

Q All right. I don't have my copy. I'm sorry. Are you the author of that document?

A Yes.

Q Who is the recipient of that document?

A Mr. Jim Thayer of General Electric, Pittsfield.

Q All right. Look at -- You sent a copy of this letter to Mr. Raab?

A Yes.

Q Why? Why was that?

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A. Well, Mr. Raab was perceived by me to be my principal contact at the Pittsfield, Massachusetts site, and I chose to have him share what I am telling Mr. Thayer.

Q. Are you -- you sent a blind copy to Mr. Graham?

A. Yes.

Q. Who is Mr. Graham?

A. He was our field representative, marketing, dielectric fluids for Monsanto.

Q. Look at the next to last paragraph on the first page.

A. "Housatonic --"

Q. "River looms as the PCB source". What was the nature of that comment or the reason for that comment?

A. It was an attempt to speculate as to the source of PCB's that can account for the cows being contaminated.

Q. Do you know how the PCB's might have gotten into the river?

A. No.

Q. Was there ever any investigation to determine that, to your knowledge?

A. No.

Q. Look at Exhibit No. 283 which is dated December 29, 1970. Who is the recipient of that letter?

A. Mr. Larry Crowe with General Electric Company in Rome, Georgia.

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Q. Do you know Mr. Crowe?

A. No, I don't remember him.

Q. Look at the second page, at that paragraph here that starts "Copy". Do you recall doing that?

A. Let me see. No, I don't recall. Didn't we just look at that collection? I think we did, yes. It was those two press releases and the -- Mr. Olson's letter.

[There was an off the record discussion.]

Q. (by Mr. Baumer) Mr. Papageorge, look at what has been marked as Exhibit 140-A, and is this the letter that is referred to in Exhibit 283?

A. It is.

Q. Did you have a meeting with Mr. Graham prior to this letter?

A. Not a meeting, telephone conversation.

Q. All right. Look at the first paragraph. Would that paragraph indicate to you that there was a meeting -- you may not have been there, but you can tell me if you weren't, but it indicates there had been a meeting with the pollution -- what the author describes as the pollution group.

A. Correct.

Q. Do you recall such a meeting?

A. I don't recall being present at Rome, Georgia in December -- at the date of the memo here, or shortly

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before that. What this tells me is that Mr. Graham met with Mr. Crowe and others at that plant.

Q Does it say the meeting took place at Rome?

A That's what I infer. There is no reason it would have to take place elsewhere.

Q It could have taken place though in St. Louis?

A It could have, but very unlikely.

Q Would the pollution group have travelled to Rome?

A I am assuming this is General Electric's pollution group, not Monsanto's. We don't have such a group.

Q Okay. So you think Mr. Graham was in Rome?

A Yes, that's what I would say, yes. That is more likely to have happened.

Q Is Mr. Graham still with Monsanto?

A No, sir.

Q Do you know where he is?

A No, I don't. I have lost touch.

Q Did he retire?

A No, he left Monsanto and joined another company in New Jersey, is the best I can recall. That's all I know.

Q Look now, if you will, with me at Exhibit 263, which is dated March 30, 1971. Are you the author of that letter?

A Yes, I am.

Q Look at one of the attachments to that exhibit

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which appears to be a letter to Mr. Johnson from Mr. Hatton dated October 11, 1971. Do you see that?

A. Johnson to Hatton?

MR. DERRYBERRY: You've got Hatton to Johnson.

Q. (by Mr. Baumer) Hatton to Johnson, October 11, 1971.

A. There you go.

Q. Are you familiar with that letter?

A. It looks familiar. Didn't we have one just like this previously, a couple of exhibits back?

Q. Similar, I think. Is the information that is contained on the first page similar to information which you discussed with other General Electric employees?

A. Yes.

Q. On or about the time of this letter?

A. Yes.

Q. Look at the next -- the next attachment, which is a letter dated September 16, 1971 from Mr. Johnson to Mr. Hatton, or Dr. Hatton, do you see that?

A. Yes.

Q. What was Dr. Hatton's position at Monsanto?

A. Well,he had the title of Technical Manager, Hydraulics and Lubricants. He was the scientist that -- the technical person who would respond to customer's inquiries of a technical nature regarding these industrial

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fluids.

Q. All right, sir. Let me ask you to look at Exhibit 281 which bears a date of April 27th, 1971. Do you recall receiving a copy of that document?

A. Yes, sir.

Q. Did you receive a copy on or about the date which appears on the document?

A. Yes.

Q. What was the purpose, to your knowledge, of the research indicated in the attachment?

A. This was part of our program for finding ways of keeping PCB's from getting into the environment.

Q. From what source?

A. This particular study had to do with PCB's and water that might enter into a riverstream out of a sewer or treatment plant.

Q. That had been contaminated by PCB's?

A. Correct, and the intent was to study to see if there are ways to remove the PCB's from the water and in this particular study, using carbon beds.

Q. Was that accomplished?

A. To a limited degree. It was, as I remember, not as successful as we hoped for.

Q. Let me now ask you to look at Exhibit 238, which is dated November 4, 1971. Are you the author of that

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letter?

A. Yes, I am.

Q. Is this letter indicative of the various types of communications that passed between you and Mr. Raab?

A. It is.

Q. Who -- or what was Mr. Paton's position at --

A. In 1971, Dr. Paton was the individual that represented the business group which had sold PCB's for plasticizer use.

Q. How about Mr. Gossage?

A. Mr. Gossage replaced Mr. Olson as the Marketing Director for the PCB's in industrial fluids.

Q. All right, sir. Let me ask you to look at Exhibit 286 which is dated November 4, 1971, and appears to be a copy of Exhibit 238 for the first two pages, but it has attached to it, in the form produced by Monsanto, several other items, and I ask you to look at the letter from you to Dr. Pozefsky and to Mr. Raab dated February 2, 1972. Do you recall writing that letter?

A. Yes, I do.

Q. Who prepared the attachment to that letter, the questions and answers for ANSI, PCB?

A. I am confused by the reference to ANSI, PCB. Oh, I understand.

Q. See the top of that page?

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A. I understand.

Q. You're not confused now, right?

A. That is --

Q. So the record is clear?

A. That is correct. I understand now.

Q. All right. Who prepared --

A. This is -- I want to call it a joint effort, as I remember, I initiated a very rough draft in which I posed questions, and then I involved the appropriate within Monsanto such as the analytical chemists and the medical department to get my answers drafted. I put the two together and then circulated to individuals within Monsanto who could help make it better if appropriate, and this represents the final version.

Q. All right, sir. Look at the Page 2 of the questions and answers.

A. Uhuh.

Q. The answer to the question "Is PCB toxic?" Is that the position of Monsanto as it existed at the time these questions and answers were drafted?

A. That is correct.

Q. And these were done on or about February '72, is that -- Would that be correct?

A. That is correct.

Q. All right, sir. Let me show you Exhibit 327

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dated December 3, 1971. Did you receive a copy of that communication?

A. I did.

Q. This was to the ANSI capacitor group, correct?

A. Correct.

Q. Would you look at the second document which is part of Exhibit 327. What is that document?

A. This is a proposed agenda prepared or mailed by Mr. Raab to the transformer working group of ANSI C-107.

Q. Did you attend the November 11th meeting?

A. Yes, sir.

Q. Did Mr. Raab chair that meeting?

A. Of the sub-group, yes.

Q. All right, sir. Let me ask you to look at Exhibit 266, and it is dated April 11, 1972. Do you know the circulation of that letter or that memo?

A. I know some of the names that appear on this copy.

Q. All right. Mr. Paton, we have identified earlier, right?

A. Yes.

Q. Witcombe, who is Mr. Witcombe?

A. I don't know the man. He is in Australia, or he was in Australia.

Q. Do you know anyone else on the list?

A. I know the handwritten names on the copy I am

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looking at, Mr. Corey, Mr. Bargen, Gossage, me and Mr. Hatton. I can't make that out.

Q. Do you know Mr. Green?

A. I have heard of the man; I have never met him.

Q. Do you know Mr. Garnsworthy who authored the memo?

A. I have heard of the man; I have never met him.

Q. Is he a Monsanto employee?

A. Yes.

Q. And attached to that is a letter similar to that which was sent out by Monsanto U.S. to its customers with respect to obtaining the indemnity or undertaking, the undertaking letter that we looked at earlier, is it not?

A. Yes, this was intended for the Australian market.

MR. DERRYBERRY: Well, it's five o'clock, counselor. What is your pleasure?

MR. BAUMER: We can stop if the witness is tired and wants to stop.

MR. DERRYBERRY: I don't how he feels about it.

[The deposition of William Papageorge was continued to a date and time to be determined.]

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[Whereupon, on the 8th day of April 1986 at 1 o'clock P.M., the deposition of William Papageorge was resumed.]

A P P E A R A N C E S:

Gallagher, Baumer, Mikals, Bradford, Cannon & Walters,
by: Thomas M. Baumer, Esq.,
and
Lawrence J. Hamilton, II, Esq., . For the Plaintiff.

Thomas M. Burke, Esq., ...For the Defendant.

George Derryberry, Esq., ... For the Witness.

WILLIAM B. PAPAGEORGE,

having been previously sworn, testified as follows:

CONTINUED DIRECT EXAMINATION

BY MR. BAUMER:

Q. Good afternoon, Mr. Papageorge. I appreciate your coming back today. When we adjourned yesterday, we were examining some documents and I would like to hand you now what has been marked as Exhibit 299, which is a letter dated May 27, 1972. Can you help us out by identifying the author of the letter?

A. The author if the letter is James G. Bryant.

Q. Was he a Monsanto employee?

A. At the time -- the date of the letter?

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Q. Yes.

A. Yes.

Q. What was his job at that time, if you know?

A. I don't know the formal title but he was the dielectric specialist supplying technical service to our customers with PCB dielectric fluids.

Q. All right. Have you seen this letter on any other occasion?

A. I saw it here recently; I don't recall it from the past.

Q. All right. Were you familiar in 1972 with the proposed legislative bill that is referred to in the subject of the letter?

A. Yes.

Q. And what was the nature of that proposed bill?

A. The intent of the bill was to make it unlawful to discharge any polychlorinated biphenyls into the environment anywhere.

Q. In where, Massachusetts?

A. Yes, this was in the State of Massachusetts.

Q. Was Monsanto following this particular bill in Massachusetts?

A. Yes.

Q. When did the bill first come to your knowledge?

A. As best I recall, early 1972.

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Q. And do you know the recipient of this letter?

A. No, I don't.

Q. Argensinger, is that -- my copy is not a very good copy, is yours any better?

A. I believe it's A-r-g-e-n-s-i-n-g-e-r, Argensinger.

Q. Frank E. Argensinger at General Electric. You don't know him?

A. I don't remember the man.

Q. Did you yourself have any discussions with General Electric people concerning that particular bill?

A. Yes, with Mr. Raab.

Q. Mr. Raab. Before May 1972?

A. Yes.

Q. And what were the reasons for your discussing that particular bill with Mr. Raab?

A. Mr. Raab was one of many people in the State of Massachusetts following this bill very, very closely and I relied on him and others to keep me informed.

Q. Was Mr. Raab supplying information to you that you hadn't received from others?

A. At times I would hear from him first, at other times he would confirm what I had heard from others.

Q. With respect to this bill?

A. Yes.

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Q All right, sir. Let me now ask you to look at document that has been marked 240. It's a letter that you authored, I believe, dated February 21, 1973.

A That is correct.

Q Mr. Quinby, or Dr. Quinby, did you know him personally?

A Yes, I did.

Q Was he an employee of General Electric, to your knowledge?

A No.

Q What was his employment?

A At that time, he was a consultant working for himself, self-employed.

Q Why were you corresponding with Dr. Quinby?

A He had expressed an interest in PCB's and was attempting to become knowledgeable with PCB's and would off and on contact me to either relay bits and pieces of information to me or ask me questions.

Q I notice when you -- that you sent a copy of this letter to Dr. Pozefsky at General Electric.

A Yes.

Q Why was that?

A This is because the reference was to General Electric article, and to capacitors, and my contact at General Electric regarding capacitors was Dr. Pozefsky.

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Q. Is that capacitors because they had PCB's in them or capacitors in general?

A. Capacitors that had PCB's in them.

Q. Now I also note in the letter, in the first paragraph, that it says "This General Electric article was the source of our statements which we made before the Inter-Departmental Task Force on PCB's in Washington on May 15, 1972". What article are you referring to?

A. I don't remember the specific article.

Q. It was an article that was authored by General Electric though?

A. Yes.

Q. Or someone on behalf of General Electric?

A. Correct.

Q. And had you made a statement before the Inter-Departmental Task Force in May of 1972?

A. I personally did not make that statement.

Q. Who did?

A. It would either be Dr. Ralph Muensch or Dr. Cumming Paton who accompanied me and helped with the presentation.

Q. Were you at the meeting?

A. Yes, I introduced the speakers.

Q. Why were you there to introduce the speakers?

A. Well, I was the Monsanto individual that had been

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familiar with this Inter-Departmental Task Force and I thought was appropriate that if I would bring Monsanto individuals to make presentations, that it would be helpful if I could at least present them and introduce them to the audience before they made their presentation.

Q. Who served on the Inter-Departmental Task Force in May of 1972?

A. I don't recall all the individuals by name, but they represented departments of the government, Federal Government, Food and Drug Administration, Environmental Protection Agency, Department of Commerce, Council of Environmental Quality, I believe the Department of Transportation was present.

Q. What was the purpose of the meeting in May of 1972?

A. I can only speak for Monsanto's role in that meeting.

Q. All right.

A. We were on the agenda of a meeting called by the Task Force and Monsanto presented some information on results of biodegradation studies and an assessment of why Aroclor 1254 seemed to be the predominant PCB found in the environment, and some remarks regarding Monsanto's program for terminating uses that led to easy disposal into the environment.

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Q. Why did Monsanto conclude the 1254 was the most prevalent?

A. Why did it conclude that it was the most prevalent?

Q. Yes.

A. That's the information that we kept hearing about and seeing in print from the various analytical studies that were made.

Q. Was it the result of analytical studies performed by or on behalf of Monsanto?

A. Some of them.

Q. And those studies that were performed by or on behalf of Monsanto, was the information revealed by those studies shared with General Electric?

A. To the best of my knowledge, yes.

Q. Did you do that in some cases yourself personally?

A. Not normally. I would have the analytical chemist share that data. I would be present.

Q. When it was done?

A. When it was discussed.

Q. All right. And you were then present at meetings when the analytical chemists shared with General Electric people the results of the studies performed by or on behalf of Monsanto?

A. I was present if it was an oral discussion.

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Q. Yes, sir.

A. I would receive copies of written reports covering the same subject.

Q. Would that include the biodegradation studies that were performed for and on behalf of Monsanto?

A. Yes.

Q. And would it also include the environmental studies done by and on behalf of Monsanto?

A. I need a clarification of the definition of environmental testing.

Q. Okay. The tests that were conducted to determine the presence of PCB in the environment, were those studies, the results of those studies shared by Monsanto with General Electric?

A. Yes.

Q. And were the results of those environmental studies and the biodegradation studies, were those -- the results of those studies shared with the members of both the committee and the subcommittees of Committee 107 that we discussed yesterday?

A. Yes.

Q. And were those results shared about the time they became available to Monsanto?

A. Yes.

Q. Do you recall what research or studies were being

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performed by General Electric or on its behalf with respect to biodegradation and PCB's in the environment in the early 1970's?

A. No, I do not.

Q. Do you know whether they were performing any studies of that nature?

A. I don't recall any studies being sponsored or done for General Electric.

Q. Was it Monsanto's position in 1972 that Aroclor 1254 was biodegradable?

A. Not totally, no.

Q. And what do you mean by not totally? Do you mean that there was some that would always remain?

A. Yes. Let me try to explain. The PCB's we have been talking about are not pure chemicals, they are mixtures of a family of chemicals. Some members of this mixture do degrade and we demonstrated that. Others do not degrade. So that we could not say that Aroclor 1254, as a total, would degrade, but parts of it were expected to be found in the environment for many, many years after introduced into the environment.

Q. All right. And is that also true of 1260?

A. Yes.

Q. How about 1242?

A. Yes.

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Q. All right, sir. Let me show you what has been marked as Exhibit 239. Do you recall writing that letter?

MR. BURKE: Could I have the exhibit number again, please?

MR. BAUMER: 239.

A. Yes, I recall this.

Q. (by Mr. Baumer) And what was your purpose in writing this letter?

A. As Chairman of the ANSI Committee 107, I wrote to the two chairmen of the sub-groups, Transformer and Capacitor Sub-Groups, to make certain that they were aware of this situation, in hopes that they would take it to their sub-groups, address the issue, and perhaps come up with some recommendations which would become a part of the standard that we were all working on.

Q. All right. Is this the Tennessee incident that we discussed yesterday that is reflected in this letter?

A. Yes, sir.

Q. And to your knowledge, was that a General Electric transformer that was involved in the Tennessee incident?

A. Yes, sir.

Q. And the people who received this letter that you were putting on notice of this incident were General Electric people; is that correct?

A. That is correct.

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Q I note that Mr. Benignus received a copy; was he a steering committee chairman at this time?

A Yes.

Q What committee was he chairman of?

A It was a subcommittee of ANSI C-107.

Q And what was the job of that subcommittee?

A Well, there was initially set up to help organize our groups and give us some direction, and it stayed in existence throughout the life of the committee.

Q All right, sir. Were either Mr. Raab or Dr. Pozefsky on Mr. Benignus's subcommittee?

A As best I remember, Mr. Raab was; I don't believe Mr. Pozefsky was.

Q All right, sir. Let me show you Exhibit 307. Do you recall that document?

A Yes, I do recall it.

Q Did you know Mr. Nelson before you received a copy of this letter?

A Yes, I did.

Q What did you know Mr. Nelson's job to be at General Electric?

A I associated him with environmental matters that General Electric might be facing.

Q Is he one of those that you would have had discussions with prior to 1972 regarding PCB's in the

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environment?

A. I don't recall just when I met Mr. Nelson, whether it was prior to'72 or not.

Q. All right. The subject matter of the letter appears to be "Toxic Pollutant Effluent Standards". Is that correct?

A. That's correct.

MR. BURKE: Could we have the date, please?

MR. BAUMER: November 12, 1973.

Q. (by Mr. Baumer) And the first attachment to the letter is another letter from Mr. Nelson to Dr. Sager; is that correct?

A. That is correct.

Q. Dated November 21, 1973?

A. Right.

Q. Correct?

A. That is correct.

Q. Now the Toxic Pollutant Effluent Standards that were being studied by Dr. Sager's committee of the Environmental Protection Agency, had those studies commenced well before November 1973?

A. Yes.

Q. When, to the best of your recollection, did those studies commence?

A. The best I can place it is about 1971.

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Q. And was GE participating with Monsanto in making comments on Toxic Pollutant Effluent Standards that were being studied by Dr. Sager's committee?

A. They were participating; I don't know that I would say with Monsanto, but --

Q. In addition?

A. Concurrently.

Q. In addition to Monsanto?

A. That is correct.

Q. And did GE's participation commence back at the time that you have indicated in 1971?

MR. BURKE: I object to the form of the question. It assumes such hearings were being conducted in '71. Answer if you can, sir.

A. As best as I recall, yes.

Q. (by Mr. Baumer) Did you, on behalf of Monsanto, have discussions with representatives of GE in 1971 concerning effluent limitations?

A. Yes.

Q. And the possible effect of those limitations on PCB sales?

A. Yes.

Q. And the effect of those limitations on the use of PCB's?

A. Yes.

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Q. The next document that is attached as a part of Exhibit 307 is "The Impact of a Ban On the Use of PCB in Capacitor". Do you see that?

A. Yes.

Q. Had you -- Did you see that document in any draft form before what appears to be the final form that is attached to this exhibit?

A. I don't recall seeing it in draft form, no.

Q. Do you recall having discussions during 1971 and '72 with General Electric people concerning the impact of the ban on the use of PCB's in capacitors?

A. Yes, sir.

Q. Please look at the next letter that is attached as part of Exhibit 307, and let me ask you, have you seen that letter before today?

A. Yes, I have.

Q. All right. It bears the date of November 21, 1973 to Dr. Hugh Thompson, and it's signed by Dr. E.L. Simon, Manager, Environmental Protection Operations. Do you know, or did you know in 1973 Dr. Thompson?

A. Yes.

Q. What did you know his job to be?

A. He was the leading EPA individual assigned the task of developing rules, regulations for the discharge of toxic materials into waterways.

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Q And did that include polychlorinated biphenyls?

A Yes.

Q And when did Dr. Thompson first start his work in that area?

A I don't recall the exact date, but I would -- it would be about 1972.

Q All right, sir. And did Monsanto comment to Dr. Thompson in the Environmental Protection Agency on proposed regulations?

A Yes.

Q As you have indicated?

A Yes.

Q And did you do that in 1972?

A Yes.

Q Did General Electric participate in conjunction with, or along with, or in addition to Monsanto in commenting on those regulations?

A Yes.

Q All right, sir. Let me show you another exhibit. Let me show you Exhibit 242, it's a letter that you authored, dated November 16, 1973.

MR. BAUMER: Let's go off the record for a minute.

[There was an off the record discussion.]

Q (by Mr. Baumer) Mr. Papageorge, you are now looking, I think, at Exhibit 242, which is a letter dated

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November 16, 1973. Are you the author of this letter?

A. Yes.

Q. And there is some handwriting on the bottom portion of the letter; is that your handwriting?

A. No.

Q. Do you recognize it?

A. That's -- Yes, I do.

Q. Whose is it?

A. It's my secretary's.

Q. Is that the way your secretary would note what would have been enclosed in a letter?

A. Not normally, no.

Q. Does that handwriting refresh your recollection as to what might have been enclosed in this particular letter?

A. Yes.

Q. And is that an accurate representation of what was enclosed in your letter to Dr. Pozefsky of November 1973?

A. As best as I recall, yes.

Q. Were you sending him reports from your analytical chemist?

A. No, these were reports from the Anniston, Alabama Technical Department.

Q. They were Aroclor pollution studies?

A. Well, I would call them studies on how to treat effluents for removal of PCB's.

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Q What does the second handwritten line say?

A "Aroclor Pollution Study".

Q Then can we agree that somebody wrote that on there at the time this letter was sent out to Dr. Pozefsky?

A I don't know when the note was made; it could well have been made later when files were compiled and resorted or rehandled.

Q Were there Aroclor pollution studies performed in Anniston in January, April, and August 1971?

A There were studies performed at Anniston prior to those dates. The dates you mentioned are the dates that the reports were issued.

Q So would it be fair to assume that the report dated 1-15-71, the study would have been performed in the preceding year?

A Yes.

Q You indicate -- Let me show you another exhibit. Look at Exhibit 241. It's a letter you authored, I believe; is that correct?

A That's correct.

Q And the letter was sent to whom?

A It was sent to Mr. James Nelson, Dr. Al Pozefsky and Dr. Ed Simons, all with General Electric.

MR. BURKE: Could we have the date, please?

THE WITNESS: December 6, 1973.

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MR. BURKE: Thank you.

Q (by Mr. Baumer) This letter indicates that you were perhaps at a meeting with Dr. Al Jennings of the EPA at sometime prior to the date on the letter, is that accurate?

A I think it's more accurate to say that we made a presentation to this advisory committee headed by Dr. Martha Sager, and in the room were EPA representatives, one of whom was Dr. Al Jennings.

Q Okay. So when the letter says meeting, it really wasn't a meeting? I was just reading off of the letter, Mr. Papageorge. It says -- do you see where it says "As you know, at the meeting --"?

A I see that.

Q All right. So it was not at a particular meeting, it was -- with Dr. Jennings, it was at a -- I guess a larger--

A It's a meeting of Dr. Sager's committee at which Monsanto made its presentation.

Q And what did you find significant about what Dr. Jennings said?

A It was significant to me that a proposal, as mentioned, a .06 pounds per day permissible from a plant, was not firmly established, and they would consider other disposal rates.

Q Thank you. Would you look at Exhibit 249? Did

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you author that letter?

A. Yes, I did.

MR. BURKE: May we have the date, please?

MR. BAUMER: Well, the letter speaks for itself, Mr. Burke, and you can look at all of them.

MR. BURKE: I think it's appropriate if the witness is discussing a document, that he also discuss the date.

MR. BAUMER: Only if I ask him. You may ask him what the date is on the document. The document is in evidence.

MR. BURKE: The document is not in evidence, Mr. Baumer, and you don't have to raise your voice. Mr. Papageorge, would you please tell me the date on the letter, please, on the exhibit?

THE WITNESS: January 18, 1974.

MR. BURKE: Thank you.

Q. (by Mr. Baumer) The comments that are referred to in the letter, were you the author of those comments?

A. I just don't recall. I don't recall this particular set of comments. I could well have been the author but it could have been the work of others within Monsanto.

Q. Were the comments made to the EPA in accordance with a notice in the Federal Register?

A. Yes.

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Q Is that a public notice?

A Yes.

Q To your knowledge,did General Electric also comment on the same standards that are reflected on this letter?

A I don't remember.

Q Do you recall discussing proposed toxic pollution effluent standards with General Electric?

A Yes.

Q And did you have that discussion before the date of this letter?

A Yes.

Q And did you have that discussion before the comments of Monsanto were fully developed?

A Yes.

Q Did the comment of Monsanto include any information that had been received from General Electric?

A I don't remember the specifics of the comments.

Q All right, sir. Let me ask you to look at Exhibit 248.

MR. BURKE: May I have the date, please, Mr. Papageorge?

THE WITNESS: January 18, 1974.

Q (by Mr. Baumer) Let's skip that one. It's the same as the preceding one I believe. Please look at Exhibit

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247.

MR. BURKE: Could I have the date, please, sir?

THE WITNESS: January 21, 1974.

Q (by Mr. Baumer) Are you the author of this letter?

A Yes.

Q What recently proposed PCB effluent standard do you refer to?

A That was the proposal published in the Federal Register which -- to which Monsanto commented in our previous discussion.

Q In the document that we just looked at earlier?

A Yes.

Q 249?

A Yes.

Q And the Salmon egg mortality data that was forwarded, used by the EPA, had that information been gathered by EPA?

A At the moment I don't recall who conducted that study. I just don't remember.

Q Do you remember the results of that study?

A Only that the eggs were sensitive to the presence of PCB's.

Q And had you previously, that is prior to the date on this letter, had discussions with Mr. Nelson

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concerning the Salmon egg mortality data?

A. Yes.

Q. And how long before the date of this letter do you recall you had discussions with Mr. Nelson?

A. It was a matter of several weeks, which we were both aware of such a report, and were attempting to get copies, and eventually I was the first to get a copy so I shared it with Mr. Nelson.

Q. You had both talked about obtaining a copy?

A. Yes.

Q. Had you discussed that mortality data with anyone else at General Electric?

A. Yes, Dr. Simon.

Q. And would that -- in what time frame did you discuss that with Dr. Simon?

A. Concurrently with the discussions with Mr. Nelson.

Q. All right, sir. Would you now please look at Exhibit 245. Are you the author of that communication?

A. I am.

MR. BURKE: May we have the date, please.

THE WITNESS: February 25th, 1974.

Q. (by Mr. Baumer) Was there a meeting held in St. Louis as indicated in this letter?

A. Yes.

Q. Were General Electric people present?

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A. Yes.

Q. Was Dr. Simons present?

A. Yes.

Q. Was Dr. Pozefsky present?

A. No, not in 1974.

Q. Was Mr. Raab present?

A. I believe he was, yes.

Q. Who else from General Electric that you can remember was present?

A. I don't recall any others.

Q. Had there been prior meetings of a similar nature to the one that was reflected in this exhibit?

A. We had meetings with industry representatives, our customers, they were not regularly scheduled, they were sporadic. And when you say similar to this meeting, was to address a specific subject.

Q. First of all, let me ask you if they were meetings to discuss the subject that is reflected in this letter?

A. Oh, this was the only meeting I recall addressing this subject.

Q. Over what time frame had the EPA been developing a proposed polychlorinated biphenyl effluent standards?

A. I can't of course speak for the internal workings of the EPA.

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Q. Or to your knowledge.

A. Interest in PCB's started in EPA, I would -- as best I recall, the middle of 1970.

Q. And from that point forward, were you active in communicating with the EPA with respect to PCB's?

A. Yes.

Q. Was General Electric active in communicating and participating with the EPA with respect to PCB's?

A. Yes.

Q. And were you and General Electric exchanging information from that point forward?

A. Yes.

Q. Did you exchange the information with other customers than just General Electric?

A. Yes.

Q. With how many of your customers, if not all?

A. Oh, I didn't keep any score sheet. A hundred or so.

Q. Why did you share that information with your customers?

MR. BURKE: I object to the form. It's vague.

Q. (by Mr. Baumer) If you don't understand the question, tell me, and I'll rephrase it.

A. We shared the customer because we felt that was appropriate.

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Q Why was --

A It was our product and we had information about our product and it's our policy to share what we know about any of our products, not just PCB's. And secondly, in a secondary kind of way, we would share it because they called and asked, and we would respond.

Q Did GE call and ask?

A Sometimes.

Q Let me show you Exhibit 272. Have you ever seen that document before?

A Yes, I remember.

MR. BURKE: The date, please.

THE WITNESS: 15 March 1974.

Q (by Mr. Baumer) Did you participate in any discussions prior to this letter being sent?

A Are you referring to discussions addressed --

Q About the subject matter of the letter.

A Yes.

Q And with whom did you have those discussions?

A With Monsanto attorneys.

Q Did you participate in the decision to send this letter?

A No.

Q Who made that decision, to your knowledge?

A Mr. Putzell.

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Q. Did you have any discussions, or have you had any discussions at any time with General Electric people concerning information contained in this letter?

A. I don't recall any discussions relating to the information in this letter other than it refers to the two actions.

Q. Did you talk to General Electric about the two actions?

A. Eventually, yes. I don't know the sequence of the discussions.

Q. With whom did you have discussions?

A. There was Mr. James Kinney from Rome, Georgia that I recall. And later of course I was involved with the attorney assigned these actions these cases.

Q. Did you testify in these cases?

A. Yes.

Q. By deposition?

A. Both, deposition and in courtroom.

Q. Had you, prior to March 1974, had any discussions with General Electric people about the special undertaking by purchasers of polychlorinated biphenyls as referred to in the first paragraph on the second page of the letter?

A. Discussions were limited to my awareness of such an undertaking being signed by both parties.

Q. With whom did you have those discussions at GE,

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if you can recall?

A. I would say that all of the GE representatives still involved with the PCB situation at that time.

Q. All right, sir. Let me show you Exhibit 244.

MR. BURKE: Give us the date, please.

THE WITNESS: April 30, 1974.

Q. (by Mr. Baumer) What was the purpose of this memorandum?

A. This was to convey to Mr. Park of Monsanto that I had received copies of reports from a representative of the Michigan Department of Natural Resources.

Q. Did you send copies of this memorandum and the report referred to to anyone at General Electric?

A. Yes.

Q. Who?

A. Mr. Stewart Richel.

Q. And what did you know his job was at the time?

A. He was an attorney.

Q. How about Mr. Roger Wells of Westinghouse, what was his job?

A. Attorney.

Q. Look at Exhibit 265, please.

MR. BURKE: Do you have the date, please, sir?

THE WITNESS: October 10, 1974.

Q. (by Mr. Baumer) Are you familiar with that

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document?

A. I recall some of the contents of the document; I don't recall the document itself.

Q. Okay. Would you look at the last two pages of the document. Do you know Mr. Don McBournie of General Electric Company?

A. I don't remember him.

Q. Do you know Mr. Wheeler, who authored the letter?

A. Yes.

Q. Do you know Mr. John Perry who received a copy?

A. No, I don't.

Q. And Mr. John H. Gannon?

A. I have heard of Mr. Gannon.

Q. And in what capacity have you heard of Mr. Gannon?

A. He was a Monsanto employee. I believe he was a marketing representative. He was involved with customers in some capacity.

Q. Have you seen this letter before today?

A. Yes, we had it here yesterday.

Q. Before yesterday had you seen it?

A. Yes.

Q. When had you seen it before yesterday?

A. Oh, I don't recall the first time I saw it, but --

Q. Was it contemporaneously with it being written?

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A. No.

Q. Was it in 1970?

A. Very likely, yes.

Q. All right, sir. Would you now look at Exhibit 264.

MR. BURKE: Do you have the date, please?

THE WITNESS: November 6, 1974. The dates I have been giving you are the date on the top piece of paper. There are other dates throughout.

MR. BURKE: Yes, I understand. Thank you.

Q. (by Mr. Baumer) All right. Would you look at the inside of the letter, document, and there is a letter dated November 15, 1971?

A. I have found it.

Q. Have you seen that document before?

A. I don't remember it.

Q. Do you know the author?

A. Yes, I do.

Q. What was his function with respect to PCB's at Monsanto?

A. Mr. Rausch was the Technical Specialist who worked with customers of the heat transfer fluids that contained PCB's.

Q. All right. Look at the third paragraph, the first sentence, "We would like to remind you that extreme

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care must be taken by all users of PCB-containing products to prevent any entry into the environment through spills, leakage, use, disposal, vaporization or otherwise". Is that the type of information and reminder that was given to all customers of General Electric commencing at least in November 1971? Excuse me. Of Monsanto.

A. Customers of Monsanto?

Q. Customers of Monsanto.

A. Yes.

Q. Did Monsanto ever suggest to its customers that it pass on the same type of information or reminder to their customers?

A. Yes.

Q. And when did Monsanto make that suggestion to its customers?

A. Starting in 1970, and repeated on a sporadic basis in following years.

Q. Would that include GE?

A. Yes.

Q. And did Monsanto also suggest to its customers that it advise their customers that certain PCB's had been found to be a persistent environmental contaminant and possibly injurious to certain forms of birds, aquatic and animal life?

A. That is correct.

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Q And did that practice start in 1970 or '71?

A Yes.

Q And would that include GE as a customer of Monsanto?

A Yes.

Q Look at the last page of Exhibit 264, a letter dated June 11, 1970. Do you recognize the author of that letter?

A I do.

Q What was Mr. Tucker's position with respect to PCB's at Monsanto?

A He was the principal analytical chemist involved with PCB analysis.

Q Do you know the recipient of the letter?

A I do not.

Q You received a copy of the letter about the time it was written?

A Yes.

Q Had there been a request from General Electric for delivery of the items referred to in the letter?

A Yes.

Q Was that made to you or to someone else?

A I don't recall this specific request. There were many requests made from many of us in Monsanto. I don't recall the specifics for this -- relating to this

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particular letter.

Q. How about the second paragraph of the letter, do you have any information relative to that, what is contained in that paragraph?

A. All I recall is that there was at one time some thought that using ultraviolet light as a method for analyzing PCB's was being discussed but other methods were found to be better, and that approach was not pursued.

Q. Did Monsanto, as early as June 1970, and perhaps before, analyze samples for General Electric?

A. I don't remember.

Q. Do you know whether General Electric was running any analysis of samples of products that contained PCB's in 1970?

A. I can't speak for what General Electric did analyzing its products.

Q. How about analyzing animal life or aquatic life, do you know whether General Electric was running such tests in 1970 with respect to PCB's?

A. I was not -- I am not aware, was not aware, as of the date of this memo, that General Electric was running that type of analytical program.

Q. When you received a copy of this letter, what did you believe the third paragraph to mean?

A. The third paragraph?

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Q Yes, sir.

A This was Dr. Tucker's offer to analyze a few -- Note the word limited number, he couldn't do too many, so that he, Dr. Tucker, could compare his answers, results, with General Electric results, to see if they were comparable, and to help General Electric embark on their program.

Q What program was General Electric embarking on, do you have reference to?

A Analyzing their water effluents from their plants primarily.

Q Biological materials?

A Well, we gave them the methodology for biological materials but I'm not aware that they had any need for that particular method.

Q All right, sir. Thank you. Let me show you Exhibit 251.

MR. BURKE: Could we have the date, please?

THE WITNESS: January 21, 1975.

Q (by Mr. Baumer) Tell us what that exhibit indicates.

A This is a letter transmitting to Dr. Simon at General Electric in Schenectady, New York, a copy of "Advanced Notice of Proposed Rule Making for Toxic Pollutant Effluent Standards" dated December 13.

Q Are these the same standards that we discussed

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a minute ago, that were commenced on -- as early as 1971?

A. Yes, sir.

Q. Sir, let me show you Exhibit 250. Do you recall that letter?

A. Yes, I do.

MR. BURKE: What is the date, please? Excuse me.

THE WITNESS: January 28, 1975.

Q. (by Mr. Baumer) How long had the EPA steering committee been wrestling with the proposed draft as referred to in the first sentence of paragraph -- the second paragraph?

A. I can't recall the exact time period, but it was over a year.

Q. All right. And in Exhibit 251, does that refer to the same information as contained on Exhibit 250?

A. Yes.

Q. Who is Mr. Tom Kopp?

A. Mr. Kopp was an employee of the EPA involved with water effluent matters, and he was assigned by his supervisor to address PCB's.

Q. And how long had you been dealing with Mr. Kopp prior to January 1975?

A. Over a year.

Q. Had you had meetings with Mr. Kopp at which Mr. Simon -- Dr. Simon was present?

A. I don't remember if Dr. Simon was present at any

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meetings with Mr. Kopp. I just don't remember.

Q. Do you recall Mr. Kopp asking you to relay a series of questions to Dr. Simons?

A. Yes.

Q. And did you recall what those questions related to?

A. No, I don't.

Q. Would they have related to PCB's?

A. Yes, definitely.

Q. Would you please take a look at Exhibit 261. Are you familiar with that document?

A. I recall the document, yes.

MR. BURKE: Could we have the date, please?

THE WITNESS: June 6th, 1975.

Q. (by Mr. Baumer) Do you recall the meeting on May 23rd?

A. I attended several meetings of this particular committee; I don't recall the specific one of May 23.

Q. Which committee was this?

A. This is a committee under the auspices of the Edison Electric, EIA -- I'm sorry, the Electronic Industry Association.

Q. Was GE, to your knowledge, a member of the Electronic Industry Association?

A. Yes, they were.

Q. So there won't be any misunderstanding, Mr.

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Papageorge, this says EIA.

A. Yes, EIA, Electronic Industries Association.

Q. Industries. Excuse me. I thought you said --

A. I was confused with the EEI, Edison Electric Institute.

Q. Would you look at the second page of the letter, or first of all, let me ask you, what was Aerovox Industries-- relationship to the PCB Committee that is -- to whom this letter is addressed?

A. The chairman of this PCB committee of EIA was Mr. Clifford Tuttle, who was an official with the Aerovox Company.

Q. And would you look at those who received a copy of this memo? Are there any General Electric employees in that group that you can identify for us?

A. Well, I see a Mr. Richel listed.

Q. Anyone else?

A. I don't see any other names here that I associate with General Electric.

Q. All right. The other -- The attachment to the letter is -- First of all, it looks like a letter to Mr. Trane. Are you familiar with that document?

A. Yes, sir.

Q. Who is the author of that document?

A. This was put together by a Mr. Tuttle, reflecting

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his committee and its delib -- I'm sorry. It was put together by Mr. Tuttle and reflecting his committee's discussions and deliberations, but it was being prepared for the President of EIA.

Q. And who is that?

A. That's Mr. Adduci.

Q. Adduci?

A. Uhuh.

Q. Now had the PCB committee of the EIA been working for some substantial period of time prior to June 1975 to put together the document that you recently identified that Mr. Adduci signed?

A. Yes.

Q. How long had that committee been working on that document?

A. A year or more. At least a year.

Q. Now the last two pages of that exhibit, which is No. 261, is a letter from you to Mr. Tuttle; is that correct?

A. That is correct.

Q. What was the purpose of this letter?

A. This letter was addressed to Mr. Tuttle as Chairman of that EIA PCB committee, and that committee had met in St. Louis and requested of Monsanto an action plan regarding PCB's and their continued use. And this

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letter attempted to describe where Monsanto PCB's were headed.

Q. Okay. Thank you. Would you look at Exhibit 324. Have you ever seen that document?

A. I saw it recently.

MR. BURKE: Give us the date, please.

THE WITNESS: The date --

MR. BAUMER: June 20, '75.

THE WITNESS: Yes, June 20, 1975.

Q. (by Mr. Baumer) When did you first see this document?

A. Last week or so.

Q. Who showed it to you?

A. Attorneys, Monsanto attorney.

Q. Thank you. Please look at Exhibit -- What number is that?

A. 260.

MR. BURKE: The date of that one, sir?

A. August 1, 1975.

Q. (by Mr. Baumer) Had you been involved in commenting to the Wisconsin Department of Natural Resources?

A. Yes.

Q. On proposed regulations?

A. Yes.

Q. And how long had you been involved in that process

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prior to August 1975?

A. About six to eight months. A little less than a year.

Q. Had you communicated your involvement with the Wisconsin Department of Natural Resources to Dr. Simons?

A. Yes.

Q. From the inception of your involvement?

A. Yes, sir.

Q. Had you sent him other correspondence other than this letter regarding that?

A. I don't remember.

Q. Had you spoken with him on the telephone?

A. Yes.

Q. How about Mr. Raab, had you communicated with him on the same subject?

A. I believe Mr. Raab had retired by this date, this period.

Q. Had Mr. Simons replaced Mr. Raab as the -- with respect to being a contact person for you?

A. I don't know that the word replaced is accurate. As far as I was concerned, Dr. Simon became my principal contact with General Electric regarding PCB's.

Q. When Mr. Raab retired?

A. Yes.

Q. Please look at Exhibit 253. Did you author that

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document?

A. Yes.

MR. BURKE: The date, please?

THE WITNESS: August 7, 1975.

Q. (by Mr. Baumer) And what is the subject matter of this memorandum?

A. It is of course PCB's and it is an attempt to communicate information I received from Mr. Thomas Kopp, Office of Toxic Substances in EPA.

Q. Is this meeting that was to be held in furtherance of the regulations of PCB's?

A. Yes.

Q. And is it that same process that we have been talking about that commenced in 1970 or '71?

A. Yes.

Q. Did you attend a meeting on August 8th?

A. No, that was a meeting only of governmental representatives, not the general public or industry.

Q. Did you attend a meeting on August 12th of the Federal Inter-Departmental Task Force?

A. I don't believe I did, no.

Q. What was the circulation of this memorandum? Let me back up. First, which ad hoc PCB committee does this memorandum refer to?

A. I don't know. I'm puzzled. The Monsanto letter-

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head is missing and I don't know who the actual addressee is.

Q. We first saw Mr. Kopp's name with respect to the PCB committee of the EIA?

A. Yes.

Q. Could it be that committee?

A. It's very likely that committee, but Mr. Kopp -- Mentioning his name in the memo, and the EIA committee was coincidental with Mr. Kopp's assignment with EPA.

Q. All right. Look at the -- You sent a copy of the letter to Dr. Simons, did you not?

A. Yes.

Q. Look at Exhibit 252. What is Exhibit 252?

A. It's a copy of a letter prepared by me and addressed to Dr. Simon, General Electric Company, dated September 12, 1975.

Q. And what were you sending to Dr. Simon?

A. I enclosed with this letter copies of reports.

Q. What type of report?

A. They were toxicity studies of PCB's.

Q. Was it your practice to send copies of reports such as indicated in Exhibit 252 to Dr. Simons or to other General Electric people on a periodic basis?

A. On the request basis.

Q. Were these reports requested by Dr. Simons?

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A. Very likely.

Q. When were these reports -- or when were these studies conducted that led to the report that are specified here, can you help us out?

A. Must have been the period '72, 1972, 1973.

Q. And had the results of those tests prior to delivering copies of the reports been communicated to General Electric?

A. Yes.

Q. Back at the time when the studies were performed?

A. As they were being performed, and when they were completed, yes.

Q. And that was done by you or people under your supervision?

A. By me or people in the Medical Department of Monsanto.

Q. Please look at Exhibit 275. Do you recall receiving that memo?

A. I recall the subject matter; I don't recall the memo specifically, but my name is included as a recipient.

MR. BURKE: Give us the date, please.

THE WITNESS: October 3, 1975.

Q. (by Mr. Baumer) Look at Exhibit 320, please. Do you recall this letter?

A. I only saw it recently.

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Q. When did you see it?

A. Last week or so.

MR. BURKE: The date, please.

THE WITNESS: I'm sorry?

MR. BURKE: The date, please.

THE WITNESS: November 10, 1975.

Q. (by Mr. Baumer) Who showed you the letter?

A. Monsanto attorney.

Q. Do you recall participating in the conduct that is reflected in the second paragraph?

A. Yes.

Q. Did you undertake to track down information on process details that might possibly be relevant to the origin of the dibenzofurans?

A. Yes.

Q. What did you find?

A. I found that the process used by Monsanto in making PCB's differed from the other companies making similar mixtures. That our process used lime to neutralize the acid conditions formed whereas the other manufacturers used caustic soda. I also established that the temperatures used by our competitors or other manufacturers were higher in the processing of PCB's. This led me to believe that possibly these two differences could establish that the reason -- or could explain the reason that Monsanto PCB's

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did not have the dibenzofurans, whereas the other manufacturer's PCB's were determined to have detectible dibenzofurans present.

Q. Has Monsanto run any tests or commissioned any tests or studies to determine whether or not Aroclor 1254 and 1260 contained dibenzofurans?

A. Yes, they have.

Q. And what was the result of those studies?

A. They were non-detectible.

Q. When were those studies performed?

A. Oh, 1971 or thereabouts.

Q. Who performed the studies?

A. That would have been done in Dr. Robert Keller's laboratory.

Q. Was there a report issued?

A. Yes, as I remember. Dr. Tucker was involved, and some of the other chemists in that laboratory.

Q. Is Dr. Tucker still with Monsanto?

A. No, sir.

Q. Where is he now, do you know?

A. I do not know.

Q. Is Dr. Keller still there?

A. No.

Q. Where is he?

A. He is retired.

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Q. Where does he reside?

A. I believe he is still in the St. Louis area.

Q. What was the reason the tests were run in 1971 for dibenzofurans?

A. When we visited with the University of Utrecht scientists, the question of the presence of dibenzofurans was discussed, and from that discussion, Dr. Keller came back to St. Louis and started the activities that led to developing methods, and finally conducting the actual analyses to determine whether Monsanto's material did or did not have these materials in them.

Q. Did he conduct any experiments to determine whether dioxins were released under certain conditions when Aroclor 1254 was exposed to oxygen and to heat?

A. No.

Q. What were the nature of the tests he performed, to the best of your knowledge, with respect to dibenzofurans?

A. Analytical.

Q. At the time the product was leaving Monsanto's facility?

A. Yes.

Q. Okay. Would you look at Exhibit 156, please. Are you the author of that letter?

A. Yes.

MR. BURKE: Date, please?

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THE WITNESS: December 17, 1970.

Q (by Mr. Baumer) Did Monsanto develop a facility for disposing of solid waste contaminated with polychlorinated biphenyls?

A We did develop and demonstrated a unit, yes.

Q Well, was it effective?

A Yes.

Q Did it create any problems upon its use?

A No.

Q Were any by-products of the use of that facility objectionable?

A Not to my knowledge.

Q Is the facility in use today?

A No.

Q Why not?

A The unit I referred to is a test unit, and a unit to actually do the destruction of solid waste was never constructed.

Q Why not?

A We could not find enough interests in the use of such a unit to justify its construction and operation.

Q Who was charged with the responsibility for developing the unit?

A Well, the unit was developed as a part of an ongoing activity of a Monsanto subsidiary, designed to

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destroy obnoxious wastes of all kinds. And we tested to see how effective it was in destroying PCB's.

Q. And how effective was it in destroying PCB's?

A. Very effective.

Q. But the unit is not in operation?

A. Never was.

Q. Again, which individual or individuals were charged with the responsibility of developing that facility?

A. I don't -- Your question doesn't fit my understanding of how facilities are developed.

Q. Well, the unit -- someone came up with the theory and the plans for developing the particular mechanism that was used to dispose of solid waste contaminated with polychlorinated biphenyls, is that not true?

A. No, it's really a case of a test unit was installed and being developed to destroy undesirable wastes.

Q. Was there a scientist or engineer in charge of the project?

A. Yes, but I don't recall his name.

Q. What facility of -- or Monsanto facility was the work being performed?

A. It was not a Monsanto facility. It was a quarry site in the local area that was leased temporarily for the installation of the test unit, and the demonstration of its capabilities.

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Q. Do you know who designed the unit?

A. No, I don't.

Q. Did Monsanto ever develop a unit to dispose of liquids that were contaminated with polychlorinated biphenyls?

A. Yes.

Q. Is that facility in operation?

A. No, it's been dismantled.

Q. Why?

A. When we stopped producing PCB's, the unit was dismantled along with all the other equipment that was involved with PCB's.

Q. Is that the sole reason why that unit is no longer in operation?

A. No, it can't be the sole reason. The unit was fully depreciated, needed extensive repairs; it was in many ways becoming obsolete because the demands by the regulatory agencies were becoming more stringent. So it was finally dismantled.

Q. When was that?

A. 1978, I believe.

Q. Where was it located?

A. In Sauget, Illinois.

Q. And do you know how it functioned?

A. Yes.

Q. How did it function?

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A. Quite well. Very well.

Q. Do you know who it was designed to dispose of the contaminated polychlorinated biphenyl product?

A. I don't know the thrust of your question.

Q. Did it burn the product?

A. It burned the product at the destruction temperatures and above with the right amount of oxygen and the right period of time, at the destructive conditions to insure that the PCB's or any other undesirable material did not survive.

Q. Were there any by-products of that operation?

A. Yes, there is carbon dioxide, there is nitrogen oxides, and there was a hydrochloric acid formed.

Q. How about furans?

A. No furans were detected.

[There was an off the record discussion.]

Q. (by Mr. Baumer) Mr. Papageorge, were there any tests run to determine if there were any furans emitted from the operation of the disposal unit for liquids containing polychlorinated biphenyls?

A. I believe there were, yes. Yes.

Q. There were?

A. Yes.

Q. And who performed those?

A. Dr. Keller's laboratory.

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Q When were they performed?

A 1971.

Q Let me ask you to look at Exhibit 235. Have you ever seen that document?

A I saw it here recently.

MR. BURKE: Give us the date, please.

THE WITNESS: August 25, 1971.

Q (by Mr. Baumer) Does Therminol 66 contain PCB's?

A No.

Q Does Therminol 77?

A No.

Q Look at Exhibit 162, please.

MR. BURKE: Give us a date, please.

THE WITNESS: 6 January 1972.

Q (by Mr. Baumer) Did you know Mr. Dixon?

A Yes.

Q What was his position in 1972?

A He was Marketing Director for Monsanto, Canada.

Q All right, sir. Would you look at Exhibit 151, please. Are you familiar with that?

A May I look at the whole packet?

Q Yes, sir.

A Yes, I am familiar with this exhibit.

MR. BURKE: What is the date, please?

THE WITNESS: October 27, 1972.

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Q. (by Mr. Baumer) What was Mr. Gann's position with Monsanto in October 1972?

A. Mr. Gann was assigned the project for helping customers phase out of the use of PCB containing heat transfer fluids and replacing with fluids that did not contain PCB's.

Q. Did Therminol RF contain PCB's?

A. Therminol FR.

Q. Excuse me, FR.

A. FR, fire resistant, contained PCB's.

Q. Look at the letter dated April 1972 which is attached.

A. Yes.

Q. Did you author that letter?

A. Yes.

Q. What was its circulation?

A. It was given to customers on record in April -- on April 1972, as well as uses as typified by this exhibit.

Q. Was it sent to General Electric, the April 1972 letter?

A. Yes.

Q. Look at the report, "Polychlorinated Biphenyls-Inter-Departmental Task Force on PCB's", do you see that?

A. Yes, I see.

Q. Have you reviewed that report?

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A. Yes.

Q. Prior to today?

A. Yes.

Q. And is that a -- what you have there in front of you a copy of the final report?

A. It looks like a copy, except that I have no way of knowing if Page 81 is really the last page of the original.

Q. All right.

A. I am under the impression the original report at least seemed thicker to me.

Q. I think some of the appendix is not attached here.

A. There is one section that I find is missing.

Q. What section is that?

A. There was a section in which the amount of PCB's manufactured or used by user, and also a breakdown of the uses in terms of dielectric heat transfer and types of applications.

Q. Let me ask you to look at Exhibit No. 90. Is that a copy of the -- a complete copy of the report?

A. This looks like it is very likely a complete copy.

Q. Do you see the missing section that you indicated to be present in Exhibit No. 90?

A. I did.

Q. What was your participation in the preparation, if any, of this report, Exhibit 90?

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A. We, Monsanto, made a presentation before the Task Force.

Q. Okay. Would you look at 91, Exhibit 91. Is that the presentation made by Monsanto for the Task Force?

A. This looks like -- yes, this looks like the presentation to me.

Q. Would you look at the last page of that document. Did you write that summary?

A. Yes. Yes, I did.

Q. Is that summary of the entire document, is that what you were attempting to summarize?

A. That was the intent, yes.

Q. All right. Thank you. Look at Exhibit 122, please. What was Mr. Gossage's position with respect to Monsanto and PCB's in 1974?

A. Mr. Gossage was the Marketing Director for the group of products that contained PCB's.

MR. BURKE: Do you have the date of the document, please?

THE WITNESS: January 15, 1974.

Q. (by Mr. Baumer) Do you know what caused this letter to be written and circulated?

A. The EPA was interested in establishing standards for permissible levels of PCB's in water, the levels they were proposing appeared to us to be unreasonable and

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unwarranted and Mr. Gossage prepared this memo and sent it to the customers on record at the time informing them of this -- these activities, and encouraging participation by our customers in an attempt to influence the setting of a standard.

Q. Is this the same standard that we were talking about with Dr. Sager's committee back in -- that commenced back in the early '70-'71 time frame?

A. Yes.

Q. And you say that the standards were too low, is that what you indicated?

A. The standards contemplated at that time we believed to be too low, yes.

Q. And how would that affect Monsanto if those standards had been adopted, what effect would that have on Monsanto?

A. The effect would have been indirect, in that our customers in many cases would not have been able to meet them and they, in turn, would be forced to discontinue using the PCB's.

Q. Look at the letter to Dr. Sager which is attached, dated July 13, 1973, that is a letter that you wrote? Did you author those comments?

A. Yes.

Q. Did you also send a copy of those comments to

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Mr. Thompson by letter of August 16, 1973?

A. Yes.

Q. Do you see the letter from -- General Electric letterhead dated November 21, 1973 to Dr. Sager?

A. I do.

Q. And that one is signed by Mr. Nelson?

A. Yes.

Q. Do you -- Did you receive a copy of that contemporaneously with its being mailed?

A. Yes.

Q. Go on. Do you see a letter dated November 21, 1973 to Dr. Thompson, also -- or signed by Dr. Simons?

A. I have found it, yes.

Q. Did you receive a copy of that letter contemporaneously with it being mailed?

A. Yes.

Q. And this is again the same regulations or proposed regulations that the work was commenced on to your knowledge in 1970,'71?

A. Yes.

Q. Look at the last -- the pages entitled Polychlorinated Biphenyls.

A. I see them.

Q. That is a Monsanto document?

A. Yes.

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Q Was it prepared by you or with your assistance?

A I was involved and I had help from others from Monsanto.

Q And what was the purpose for that document?

A This was presented before Dr. Sager's advisory committee and the intent was to familiarize the members of the committee with PCB's, Monsanto's role in the manufacture, sale, distribution of PCB's, the amounts produced and the degradability of some. It was intended to be tutorial to the committee.

Q Did you share the information in this document with General Electric?

A Yes.

Q Was the information contained in this document shared as it was developed?

A Yes.

Q Would you take a look at Exhibit 141? Did you write the letter that is identified on the first page of Exhibit 141?

A Yes.

MR. BURKE: What is the date, please?

THE WITNESS: September 23, 1975.

Q (by Mr.Baumer) Why did you correspond to Dr. Simons at that time?

A I had received copies of General Electric letters

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sent to General Electric customers in which the proper handling of PCB's were described and wanted to make certain that Dr. Simons was aware that this activity was taking place and to reemphasize that we had hoped that information would be relaid onto the eventual users of PCB's.

Q. Do you know whether General Electric sent a letter to its customers concerning PCB's?

A. Only that they told me they would.

Q. Look at the last page of that exhibit. Is that a letter from Mr. Benignus to Mr. Raab?

A. Yes.

Q. Did Monsanto receive materials in drums and hold those materials in storage tanks pending installation of an incinerator as indicated in Roman Numeral III?

A. Yes.

Q. Yes?

A. Yes.

Q. What product was shipped and maintained by Monsanto?

A. Any liquids containing PCB's.

Q. And from whom did Monsanto receive those liquids, do you recall?

A. I certainly don't recall specific sources, but they came from dielectric users, they came from heat transfer applications, they came from paint and varnish companies.

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WATER_PCB-SD0000071814

Q. Why was Monsanto collecting the scrap Pyranol or Askarel in 1970?

A. This was part of our program to help in the proper disposal, and to my knowledge, we were one of very few units -- We had one of very few units capable of destroying PCB's in 1970, '71 time frame.

Q. And is it true then that Monsanto advised GE that it could destroy the PCB's if they were returned to Monsanto?

A. Yes.

Q. Would you look at Exhibit 104. Are you familiar with that document?

A. Yes.

Q. What is it?

A. It is a copy of a label which was available to customer to affix to containers of returned PCB materials, liquid PCB materials.

Q. Were similar labels placed on containers of Askarels when they were initially shipped by Monsanto to its customers that contained the information portion and the caution portion?

A. Caution portion and the environmental statement, the two paragraphs that appear on this exhibit were also used on the product labels of materials shipped to customers in packages.

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MR. BURKE: Is that label dated at all, Mr. Papageorge?

THE WITNESS: I'm sorry?

MR. BURKE: Is that label dated at all?

THE WITNESS: There is no date on this exhibit.

Q (by Mr. Baumer) When did Monsanto commence using a label such as the one you are holding, 104?

A Late 1970.

Q Look at Exhibit 95, if you would, please. Have you seen that document before?

A Yes.

Q What is it?

A It is a copy of a label for a liquid dielectric fluid, transformer Pyranol A-13-B-3 B .

Q Does that Pyranol contain -- or did that product contain PCB's?

A Yes.

Q Did it contain Aroclor 1254?

A Yes.

Q When did Monsanto commence to use a label that contained the information as on Exhibit 95?

A About March 1970, early -- fairly early 1970.

Q And was such a label with that type of information placed on all containers that left Monsanto's plant that contained PCB's?

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A. Yes. And I hesitate because I -- I want to make certain that tank trucks and railroad cars are not containers in your definition.

Q. Was the information on tank trucks and railroad cars?

A. No.

Q. How would information -- how would this type of information be communicated to the customer who purchased the product by tank car?

A. Product literature, brochures. It appeared on invoices. And also with letters addressed to customers.

Q. Look at Exhibit 115. Is that the type of information that would be on order forms commencing in 1970, '71, for product for Monsanto containing PCB's?

A. This reflects the type of -- the message, yes.

Q. And is that called the environmental message?

A. Yes.

Q. Look at Exhibit 114, if you would, please, and tell me if the environmental message is on that exhibit?

A. Well, looking through this exhibit, I see the environmental message on some of the documents but not on every document.

Q. Is there any reason why you can determine from the document itself why the environmental information isn't on it?

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A. I do not know of a reason.

Q. Is the environmental information that is on that document typical of the type of environmental information that was contained in the literature and other sales information that went to the customers of Monsanto from 1970 forward?

A. Yes.

Q. Could you tell us what this information means here where it says "Price includes .005 p-e-r -- per pound royalty Monsanto pays to General Electric Company"?

A. I don't know anything about that.

Q. You don't know anything about that?

A. (Witness shakes head)

Q. Would you please look at Exhibit No. 27. Have you read it?

A. Yes, I have.

MR. BURKE: Give us the date, please.

THE WITNESS: December 9, 1968.

Q. (by Mr. Baumer) Is the information contained in this document information that Monsanto would have made and did make available to General Electric?

A. Well, I am personally aware that some of this information was eventually shared with General Electric.

Q. And when would it have been eventually shared?

A. After the completion of some of the studies.

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Q. All right. And when do you believe these studies were completed, in the early seventies?

A. I am of the understanding that some of this information was shared with General Electric in 1969, before I became personally involved.

Q. I see. And then after that, you know from your personal knowledge that you shared some of the information; is that correct?

A. I believe that is correct.

Q. And which information do you know was shared before you personally were responsible for sharing the information? You can give it to us by numbered paragraph if that will help you, Mr. Papageorge.

A. I don't know that I am that knowledgeable of the details of what was shared.

Q. All right. It was shared with General Electric; was there not information relative to the various studies that are reflected in Exhibit 27?

A. It's my understanding.

Q. All right, sir.

A. That it was.

Q. All right. Would you please look at Exhibit 34? Was the information contained in Exhibit 34 shared with General Electric on or about 1969, 1970?

A. I do not know.

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Q. Do you know whether any of it was?

A. Later I was able to share with General Electric some of the items I see listed here.

Q. Did you share with General Electric in 1969 or 1970 the information that Monsanto can prove some things are okay at low concentrations?

A. I don't know that I understand. Can prove some things?

Q. Do you see the probable outcome portion?

A. I do.

Q. Of that exhibit? And it says "We can prove some things are okay at low concentrations. Give Monsanto some defense". Did you share that information with General Electric?

A. I don't know what Dr. Richard had in mind on that.

MR. BURKE: Give us the date of that document, please.

THE WITNESS: The date?

MR. BURKE: Yes, sir.

THE WITNESS: September 9, 1969.

Q. (by Mr. Baumer) Did you share with General Electric the information that some animals or fish or insects will be harmed?

A. Yes.

Q. And did you share that information in 1970 or

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before?

A. We shared the information when it was available to us, so --

Q. Well, this is dated 1969; if it was available to you in 1969, did you share it on or about that time?

A. I wasn't involved then. I don't know.

Q. How about 1970?

A. 1970, what I knew then, I would share with them.

Q. All right. Did you know that some fish or animals or insects would be harmed by PCB's?

A. I was made aware of the alleged harm in the birds off the California Coast; I was aware of the sensitivity to juvenile shrimp in the Gulf Coast of Florida; I had heard of the report of the North Sea incident, these kinds of things. When I became aware of them I would share with GE.

Q. And those occurred in 1970,'71, did they not?

A. Some occurred before that.

Q. Before that?

A. But in the seventies when I became aware of them, I would share them.

Q. And did you also share with General Electric that Aroclor degeneration rate would be slow, tough to defend against, higher chlorination compounds will be worse than low chlorine compounds?

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A. Yes, that was the biodegradation reports which we shared with everyone.

Q. And did you also share with General Electric that there will have to be a restrictive use and clean-up should be done as much as possible starting immediately?

A. I didn't start -- share that starting immediately with them.

Q. But you shared the other portion of that?

A. Yes.

Q. As soon as you had the information?

A. Correct.

Q. Which would have been then in 1970?

A. Yes.

Q. Did you share with General Electric that Aroclor product is refractive, will settle out on solids, sewage sludge, river bottoms, and apparently has a long life?

A. Yes.

Q. Did you do that in 1970?

A. Yes.

Q. You shared, as you said, the Florida Gulf shrimp incident, the San Francisco incident, and the Great Lakes incidents?

A. Yes.

Q. Did you share with General Electric that Dr. Wheeler and Dr. Keller were going to continue FDA-type

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limit on -- studies on limits of toxicity on Aroclor 1242, 1254 and 1260?

A. Yes.

Q. In 1960? Excuse me. 1970?

A. We shared with everyone the results of those studies. They were not completed until about 1971 or '2, but we had status reports at about six-month intervals.

Q. And you shared those with General Electric?

A. That is correct.

Q. With Mr. Raab?

A. Mr. Raab and others.

Q. And Dr. Pozefsky?

A. Yes.

Q. And you, of course, shared the biodegradation studies as they were being -- as they were in process?

A. Yes.

Q. Are you familiar with Baxter and Liggett -- Lidgett, excuse me, Lidgett?

A. Yes.

Q. Who are they?

A. They are Monsanto employees in Monsanto Europe.

Q. Were they doing degradation studies in 1969?

A. They started some studies there, yes.

Q. And the results of those studies, as they were known to you, were shared with General Electric?

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A. Yes.

Q. Mr. Papageorge, look at Exhibit 50, please. What is Exhibit 50?

A. Exhibit 50 is a copy of a Monsanto bulletin entitled "Transformer Askarel Inspection and Maintenance Guide".

Q. Can you tell us from looking at this document when it was published?

A. I don't see any specific date in print.

Q. All right. Look on the last page. Can you -- There are some numbers down in the lower right-hand corner. Can you help us out with those?

A. No, I can't. Are you referring to 2-3438-127?

A. Yes.

Q. That is the printer's identifying number; I don't know what it means. But the fact that ANSI C-107 is mentioned as having published a guide and also the reference to the Inter-Departmental Task Force, it would have to be published after 1972.

Q. Who could tell us when this was published?

A. I don't know the specific individual. I would --

Q. Who is charged with the responsibility for preparing it?

A. This was part of Mr. Benignus's responsibilities.

Q. Well, we will ask Mr. Benignus and see whether

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he can help us. Look, if you would, at what is indicated as Page 25 of that document. I think you have it right there.

A Okay.

Q Do you see Appendix K?

A Yes.

Q Did Monsanto recommend that all transformers contain a caution label as indicated in Appendix K?

A Yes.

Q And did they do that prior to the date -- prior to 1973?

A Yes.

Q And was the caution label that is depicted on Exhibit 50 representative of the type of caution label that Monsanto recommended to be placed on all transformers prior to 1973?

A Yes.

Q Is this type of material circulated to purchasers of PCB's, Exhibit 50? What is the circulation of Exhibit 50?

A This is to purchasers of PCB-containing fluids used in electrical equipment.

Q That would include transformers, would it not?

A Yes.

Q Mr. Papageorge, would you look at Exhibit 17,

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please?

MR. BURKE: Give us the date, please, sir.

THE WITNESS: March 10, 1969.

Q (by Mr. Baumer) Have you seen this document before?

A I saw it recently.

Q Who showed it to you?

A A Monsanto attorney.

Q Did you share the information that is contained in this document with General Electric people?

A I didn't.

Q Do you know whether it was shared with General Electric people?

A I do not know.

Q Do you know whether any of the information contained in this document was shared by you with General Electric people?

A Well, eventually the results of some of the studies listed here, as they evolved and were finally reported, were shared.

Q Would that be in '70 and '71?

A '70, '71, '72.

Q All right. What other information did you share with -- you certainly shared the Risebrough and San Francisco matters with General Electric, did you not?

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A. Yes.

MR. BURKE: Objection, leading.

Q. (by Mr. Baumer) Well, for Mr. Burke, did you share the Risebrough-San Francisco items with General Electric?

A. Yes.

Q. Did you share with General Electric the DDT Wisconsin hearings?

A. Yes.

Q. Look at Exhibit 67, if you will, please. Are you familiar with that sales information bulletin?

A. Yes.

Q. All right. Look at the last two pages

MR. BURKE: Give us the date first, please, sir.

THE WITNESS: December 1, 1971.

Q. (by Mr. Baumer) The last two pages.

A. I have it.

Q. Okay. Does that correctly depict the various committees and chairmens and subcommittees that were formed under the ANSI committee C-107?

A. It appears to accurately reflect the membership of those committees, yes.

Q. All right. Tell me, what is the CBMA?

A. Where do we see that? Capacitor and Ballast Manufacturers' Association. I believe that's it.

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Q Okay. What is the IEEE there by Mr. Raab's name?

A Let's see if we can find it up front here. Institute of Electrical and Electronic Engineers.

Q Look at Exhibit 71, please, sir. Are you familiar with that sales bulletin, bulletin No. 156?

A Yes, I am.

MR. BURKE: Give us the date, please.

THE WITNESS: February 12, 1975.

Q (by Mr. Baumer) The second and third page of that exhibit, do you know who authored that -- those two pages?

A No, I don't.

Q Look at Exhibit 86, please, sir. Are you familiar with that document?

A Yes.

MR. BURKE: Give us a date, please.

THE WITNESS: August 17, 1970.

Q (by Mr. Baumer) Was the information contained in that document communicated to General Electric?

A The information was, yes.

Q Not the document itself?

A I don't know.

Q But the information was?

A Yes.

Q By you?

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A. As well as others, yes.

Q. Who would receive this sales bulletin?

A. Members of Monsanto's Marketing and Marketing Services teams.

Q. Why did Monsanto not want to sell electrical grade Aroclors for use in other applications other than industrial electrical industry?

A. Monsanto had decided to discontinue the sale of PCB materials to uses that were not perceived to be closed system.

Q. Is that because of the environmental questions?

A. Yes.

Q. And were all Askarels except for PCB's -- except for Aroclors containing PCB's that were used for electrical grade withdrawn from the market on August 31, 1970?

A. The question confuses me.

Q. All right. Look at the first sentence of the document.

A. Yes.

Q. Is that a true statement?

A. Yes, Aroclors. It is true regarding Aroclors.

Q. Is it true regarding all products containing PCB's?

A. No.

Q. What products were -- or did remain on the market after August 31, 1970 that contained PCB's?

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A. There's some of the hydraulic fluids which were marketed under the Pydral trade mark still contained some PCB's. I believe -- Let me think -- some of the heat transfer fluids which were sold under the Therminol label were still sold as of August 31, 1970.

Q. When were the Therminol label products withdrawn from the market?

A. Late 1971 or 1972.

Q. Were those products sold to General Electric before that date?

A. I believe some Therminols were sold to General Electric plants, yes.

Q. Were Aroclor 1254 and 1260 contained in the products that were left on the market after August 31, 1970?

A. Aroclor 1260 was terminated. Some of the products still contained Aroclor 1254.

Q. Did that include Pyranol?

A. Yes.

Q. Look at Exhibit 88, if you would, please. Is this the final report that was submitted by Committee C-107?

A. The copy I am looking at is entitled "A Proposed Standard". I believe the final copy did not have the word "Proposed" in the title.

Q. Look at Exhibit 89.

A. Uhuh.

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Q. Is that the final --

A. This looks like --

Q. -- report?

A. This looks like the final report, yes.

Q. Would you look through it, please. Is that the final report?

A. It looks like the final report, yes, sir.

Q. You, in fact, were Chairman of that committee?

A. Yes.

Q. And you signed the -- or your name appears under the forward to that report, correct?

A. I am listed -- yes, as a chairman under the forward.

Q. Did the committee approve the final report before it was issued?

A. Yes.

Q. In a formal committee meeting?

A. Yes.

Q. And how many years did the committee work on this report?

A. It first organized in 1970 and issued the report in 1974. So it's a four or five-year effort.

Q. Look at Exhibit 113, please, sir. Did Monsanto completely discontinue sales or distribution of PCB products in October 1977?

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A. By October, yes.

Q. By October?

A. Uhuh.

Q. Have you seen those documents that you have been examining which are part of Exhibit 113 prior to today?

A. Yes.

Q. Did you see them at the time they were issued?

A. Yes.

MR. BURKE: Can you give us the date on any of them, Doctor?

THE WITNESS: The top one is -- it's not dated, but it refers to October 1977 as a target date.

Q. (by Mr. Burke) Mr. Papageorge, are you familiar with a product called MSC 1238 -- or excuse me, MCS 1238?

A. No.

Q. Look at the last -- that's all right. Strike the question. Look at Exhibit 116, please, sir. Would the large paragraph at the bottom of the front page there, that paragraph, let me direct your attention to that. Was that information contained on all sales contracts for Monsanto subsequent to July 1970?

A. It was my understanding it would be on all contracts. I cannot personally say that they -- it was used on all contracts.

Q. Was the language on contracts changed through

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time to get to the environmental statement which you discussed -- which we have discussed earlier?

A. Yes.

Q. And did you ever discuss the language that appears on Exhibit 116 with anyone from General Electric?

A. Yes.

Q. At or about the time indicated on the exhibit?

A. Yes.

MR. BURKE: Which is, sir?

THE WITNESS: July 1, 1970.

Q. (by Mr. Baumer) Let me show you Exhibit No. 2. Have you ever seen that document?

A. Yes.

Q. Were you aware of that document being executed?

A. Yes.

Q. On or about the date that appears on it?

A. Yes.

MR. BURKE: What is that date, sir? Excuse me.

THE WITNESS: January 21, 1972.

Q. (by Mr. Baumer) Was that one of the -- was that document a requirement for Monsanto to continue to sell to General Electric PCB's after the date of the document?

A. Yes.

Q. Look at Exhibit 3, if you would, please. Have

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you seen this document before?

A. Recently, yes.

Q. Who showed it to you?

A. Monsanto attorney.

Q. Within the last several months?

A. Yes.

Q. Do you know, Mr. Papageorge, whether it was a further requirement for sale of PCB's after January 1972 that the purchaser or customer of Monsanto supply a financial statement to Monsanto?

A. I had heard discussions concerning that point; I was not involved in the final decisions. I don't know what the outcome of those discussions were.

Q. What was the purpose, to your knowledge, of the undertaking Exhibit No. 2?

A. I don't know that it's so much my knowledge as it is my understanding from a layman's viewpoint.

Q. What was your understanding of the reason for requiring it?

A. To protect Monsanto's legal interests as it concerns PCB's in the environment.

Q. Would you now look at Exhibit 1. Do you know what that exhibit is -- or go ahead and look through it. Excuse me. Do you know what that document is?

A. I had seen it before, yes.

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Q. This is commonly known as the White Paper?

A. It is known that way within Monsanto.

Q. Within Monsanto?

A. I don't know how common it is.

Q. Within Monsanto it is known as the White Paper?

A. Yes.

Q. PCB White Paper?

A. Yes.

Q. Did you help prepare this document?

A. No.

Q. Who prepared it, to your knowledge?

A. I understand that Dan Bishop's office was involved. I don't know in total all of the individuals that participated.

Q. Have you read the document?

A. No, not totally.

Q. Not totally. What is Mr. Bishop's title?

A. Director, Public Affairs, or something like that.

Q. Is he in St. Louis?

A. Yes.

Q. What was the circulation of this document?

A. I don't know.

MR. BURKE: Is it dated at all, Mr. Papageorge?

THE WITNESS: I'm sorry?

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MR. BURKE: Is there a date on it anywhere that you can discern?

THE WITNESS: I cannot find any reference to date of publication.

Q (by Mr. Baumer) Did you send a copy of this -- did you send a copy of this document to anyone at General Electric?

A No.

Q Do you know whether a copy was sent to General Electric?

A I do not know.

Q Did Monsanto write warning labels in more than one language?

A Yes.

Q And were those warning labels placed on the drums in 1970 and thereafter?

A Yes.

Q Have you ever seen any of the drums containing Pyranol or other PCB products that were returned to Monsanto, have you ever seen any of those drums?

A Yes.

Q Have you seen any of them that contained any labels concerning the environmental warnings that were put on the drums when they were initially shipped by Monsanto?

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A. Let me see if I understand the question. The return drum arriving at Monsanto's plant?

Q. Right.

A. As the original label on it?

Q. No. Did it have a label on it, environmental warning label?

A. Yes.

Q. Did Monsanto provide the drums for return of the product?

A. No.

Q. Did Monsanto provide labels to place on those drums?

A. Yes.

Q. Monsanto, in 1972, sold PCB's only for use in electrical transformers and capacitors?

A. Yes.

Q. And did they -- did Monsanto consider that those electrical transformers and capacitors were sealed systems?

A. Yes.

Q. How did Monsanto define the word -- the condition sealed as it related to transformers?

A. A device in which the liquid used is contained within and there are no openings from which the material could escape.

Q. Under any condition?

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A. Under normal conditions of shipment or in use.

MR. BAUMER: That's all I have. Thank you, Mr. Papageorge.

THE WITNESS: Thank you.

MR. BURKE: Mr. Papageorge, I understand you have to leave here today at five o'clock; is that correct?

THE WITNESS: I would like to.

MR. BURKE: By my reckoning, the direct examination of this witness lasted approximately nine hours. Out of fairness to my client and fairness to this witness, I am not going to try to squeeze my cross-examination in the next seven minutes, so we'll have to come back at some point in time.

MR. DERRYBERRY: I understand the Court Reporter also has a commitment requiring him to leave at five. We will just have to talk with you later about when we have the cross-examination.

[Whereupon, the deposition of William Papageorge was continued to an undetermined date.]

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[Whereupon on the 9th day of April, 1986, at one o'clock P.M., the cross-examination of William Papageorge was commenced.]

A P P E A R A N C E S:

Gallagher, Baumer, Mikals, Bradford, Cannon & Walters,
by: Thomas M. Baumer, Esq.,
and
Lawrence J. Hamilton, II, Esq., . For the Plaintiff.

Thomas M. Burke, Esq., ... For the Defendant.

George Derryberry, Esq., ... For the Witness.

David Moore, Esq., ... For the Witness.

WILLIAM B. PAPAGEORGE,

having previously been sworn, testified as follows:

CROSS EXAMINATION

BY MR. BURKE:

Q Mr. Papageorge, you realize you are still under oath, this is a continuation of your deposition from yesterday?

A I do.

Q My name is Tom Burke. I represent General Electric. I have a couple of questions for you concerning your direct testimony. If you don't understand my question, of course just tell me.

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A. All right.

Q. You were telling us yesterday about your experiences in the Military Service in Japan during the occupation, and you had to dispose of some materials used for chemical warfare that contained chlorine, correct?

A. Yes, sir.

Q. Isn't it true, sir, that the mere presence of chlorine in a chemical compound does not mean that it is dangerous?

A. That is true.

Q. Or toxic to humans?

A. That is true.

Q. For example, chlorine is in table salt, is it not?

A. That is correct.

Q. Chlorine is used benefically in drinking water to purify it?

A. That is correct.

Q. People at least in Florida put it in their swimming pools to keep them ready to swim in?

A. Yes.

Q. So the mere presence of chlorine has no significance in terms of any toxicity to humans or animals or anything else, sir, does it?

A. That is correct.

Q. Now when you came back from your military service

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and went back to work, at some point in time you ended up at the Anniston, Alabama plant of Monsanto?

A. Yes.

Q. That's one of the two places that Monsanto manufactured PCB's?

A. Yes.

Q. The other place was here in St. Louis?

A. Yes.

Q. Sauget, Illinois?

A. Correct.

Q. I think you said you were at the Anniston Plant for approximately four years?

A. Yes.

Q. As the Plant Manager?

A. Yes.

Q. And as such, you were responsible for all the activities connected with the operation of that plant; correct?

A. Correct.

Q. Did you have occasion during that time of your work experience to become familiar with the experience of acute illness of industrial workers from the manufacture of PCB's?

A. No.

Q. Were you aware of any health difficulties that

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any Monsanto workers were experiencing who manufactured PCB's?

A. At what point in time?

Q. While you were Plant Manager from '65 to '69 there at the plant itself.

A. Is it my awareness at that time or the illnesses evident at that time?

Q. Did you have any folks who were getting sick from exposures to PCB's while working with that kind of material?

A. No, sir.

Q. Isn't it accurate that the acute toxicity of PCB's to humans is quite low?

A. That is correct.

Q. And isn't it also accurate that over the thirty or forty years that Monsanto manufactured PCB's, their experience with their industrial workers was very good in terms of a very low rate of acute or even chronic illnesses from PCB's?

A. That is correct.

Q. When you took over your position in January 1st, 1970, I believe, concerning -- or as the Manager of Environmental Control, you described for us an evolving PCB issue, correct?

A. Correct.

Q. At that point, January of 1970, is it accurate that the only evolving PCB issue was its presence in the

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environment?

A That is correct.

Q What is your understanding of the degree of preciseness of analytical chemistry in 1965 to 1970 as compared to today?

A I don't know that I can quantify it, but certainly in '65, for all practical purposes, the ability to analyze PCB's was not there.

Q Okay. And why is that, sir?

A I don't believe the technology which in turn results in methods and instruments, primarily instruments able to detect these materials was available.

Q Okay. What are some of the instruments that are used?

A It's referred to as a gas liquid chromatograph.

Q And were they as precise in 1965 to 1970 as they are today?

A No.

Q Is it not accurate that the development of that technology is what made it possible over the course of time to begin to measure PCB's and other materials at the part per million level?

A That is correct.

Q What is a part per million?

A It describes the amounts of material present in

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terms of -- and compares it to the amount that would be present in a million parts of that sample. So one part per million says that one part of a million units represents this material.

Q. So if your sample was a million ounces, and you measured one ounce, that would be one part per million?

A. Correct.

Q. And the same for pounds or anything else?

A. That is correct.

Q. When these -- when this first information from Jensen, from Sweden I guess, was reported, what were the levels at which he was measuring, do you have any recall?

A. I, of course, don't claim to remember the exact numbers, but they were in the ten parts per million or thereabouts.

Q. In terms of an absolute quantity, is that a very small amount?

A. Yes.

Q. You said yesterday that this discovery was, at the time, 1969, 1970, was startling in terms of the presence of PCB's in environmental samples. Why was that so startling at that time, sir?

A. I don't know that I used the word startling, but it was unexpected.

Q. All right. We'll use that word. Why?

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A. In that the material was never perceived by any of us who worked with it as ever finding its way into some of the materials that were sampled, such as pine needles, children's hair, and museum birds.

Q. When you undertook your duties in 1970 as the Manager of Environmental Control, as I understand it, the only reports were Jensen's perhaps, and that fellow from California, Mr. Ricebrough with the thin eggshells, correct?

A. Yes. There were, I think, two others, at least as my -- if my memory serves me right. There was a North Sea incident with seals.

Q. Was that with seals?

A. With the seals. And at that time, there was some, although not complete in formation, regarding an incident that had happened in Japan with cooking oil.

Q. Can you explain why Monsanto, at that time, simply just didn't shut down all their PCB manufacturing facilities based on those reports?

A. Well, for several reasons. There was still considerable questioning of the analytical methodology. There was --

Q. What do you mean by that?

A. The reports that reached Monsanto were couched in words that qualified the results in terms of we believe it to be PCB's, which we found as we looked for DDT. The

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results were not definitive enough that one could be absolutely sure that these were PCB's being found.

Q. What were the other reasons that Monsanto just didn't quit the business right then and there in 1970?

A. Well, there was no evidence that just even, assuming the presence was factual, that any harm was being noticed. So we felt that we had to try as we could to find out if there was any harm first. First of all is there a presence, if so, is there a harm. And all of that had yet to be developed.

Q. Do you know if Monsanto or anybody else ever was able to duplicate the Risebrough study of the thin eggshells in the California birds?

A. I don't know that I understand the duplicating the study.

Q. Did someone go out and take some more samples and do some more testing or use laboratory animals that lay eggs, for example, so as to attempt to see if PCB's were ingested by birds, could cause thin eggshells?

A. I'm not aware of any particular investigator reporting doing the very things that Dr. Risebrough did. I'm aware that the Wildlife Laboratory in Potuxet, Maryland made a study of the findings off of Southern California and in later years concluded that the results observed by Dr. Risebrough and his helpers were due to DDT, or of that piece

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of information. Also Monsanto did conduct some studies in which PCB's were fed to Leghorn Chickens, which was the fowl or bird available for test purposes, and did determine that at some levels, I believe it was something like three parts per million, I'm not real certain of that, at some levels of exposure through feeding the chickens, it did affect the thickness of the eggshell.

Q. Was the report about the emaciated seals ever attributed or confirmed to be attributable to PCB's?

A. No.

Q. In 1970, what was the importance to the industrial community and to society at large of PCB fluids?

A. The fact that these fluids were difficult to ignite was viewed as a very valuable property where industrial fluids are required in situations that could result in catastrophic fires.

Q. Now as I understand your testimony, in 1970, Monsanto began to phase out of the open ended uses?

A. That is correct.

Q. This would be the heat transfer fluids?

A. Not immediately. The open uses were the -- examples of open uses are such things as varnishes and paints, and ingredient in plastics to make the plastic pliable, flexible.

Q. Carbonless copy paper?

A. Carbonless copy paper was another application

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where the PCB's were used as a solvent for the ink. That was the -- the termination of that use was started at about late 1970, but it was not fully implemented until early '71.

Q. Printers' ink, wasn't -- weren't PCB fluids used in printing ink also?

A. Some formulations did include PCB's, yes.

Q. And those were the uses everytime somebody threw away their Wall Street Journal or New York Times or Nature Magazine, there was a chance that they were putting PCB's into the environment, correct?

A. I don't know if those publications had PCB type inks in them, but ink used in some cases did contain PCB's, and yes, the item with the ink, when discarded, it would enter the environment.

Q. Now by 1972, had Monsanto terminated the sale of most of the -- most, if not all, of the open-ended uses?

A. That is correct.

Q. And the only sales at that time were for dielectric fluids?

A. That is correct.

Q. For transformers and capacitors?

A. That is correct.

Q. Why? Why did Monsanto continue to sell those products?

A. Two reasons. One is the understanding that the

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safety offered by these fire-resistant fluids in that application was critical, was important. It was our understanding that many building codes and all required it. We had to have this property. And secondly, it was our considered opinion that this was a use that could be managed in a way that the release to the environment would be so small that it would not lead to any problems, presence or otherwise.

Q Now I gather that General Electric Company had some open-ended uses of PCB-containing fluids in addition to the dielectric fluids; is that your recollection?

A Yes.

Q Did they -- did those sections or those parts of GE, did they cooperate with Monsanto in terms of returning fluid and phasing out the use of those types of fluids at the time Monsanto requested it?

A Yes, definitely.

Q The name Edward Raab and Dr. Pozefsky came up many times in your direct testimony. Wasn't Mr. Raab your primary contact with respect to transformers and Dr. Pozefsky your primary contact with respect to capacitors?

A At a period of time from '70 to roughly '74 or '73. Other General Electric people assumed those duties later.

Q All right. Talking about the '70 to '74 period, is that a breakdown as to the folks you would talk to at GE

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in terms of that particular product line?

A. Yes.

Q. You described for us yesterday some of the differences between capacitor and transformer disposal; there were significant differences in the manufacturing process also, correct?

A. Oh, yes.

Q. And other than the fact that they both used a PCB-containing fluid in terms of the manufacture and application, there is a significant amount of difference between a capacitor and a transformer?

A. Yes.

Q. Now Monsanto was able to develop a more biodegradable capacitor fluid; is that correct?

A. That is correct.

Q. That is the Aroclor 1016?

A. That is correct.

Q. In the '70 to '74 period, did Monsanto attempt to -- well, did Monsanto do any research in an attempt to come up with a more biodegradable or an alternative transformer fluid?

A. Yes.

Q. And what were the results?

A. We did not succeed in coming up with an alternative that had acceptable fire resistance properties.

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Q So at the end of 1974 when Mr. Raab and Mr. -- Dr. Pozefsky were -- their responsibilities were taken over by others, is it accurate that there was no substitute fluid for transformer dielectric that had the same fire resistant properties as Pyranol?

A That is correct.

Q GE was working on alternates at the same time, weren't they?

A I was told they were, but that's the extent of my understanding.

Q You told us yesterday about some of the meetings and the conferences that you went to concerning the presence of PCB's in the environment; was that the primary topic of discussion at these conferences, its presence and its ways to control it?

A That was the eventual interest, but in most cases the conferences that I attended also -- the audience was also interested in a general description of what are PCB's and how are they manufactured and where are they used. The general background.

Q Uhuh. And was part of your attendance at those and part of your participation in those to provide that background?

A That is correct.

Q In working with Mr. Raab, talking specifically

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about transformers, was he cooperative with Monsanto?

MR. BAUMER: I object to the form of the question.

Q (by Mr. Burke) You may go ahead and answer.

A Yes, he was, very much.

Q Did you ever detect any attempt by Mr. Raab or by any of his contemporaries at GE to overlook or to not face the problem of the environmental presence of PCB's?

MR. BAUMER: Objection to the form.

A No.

Q (by Mr. Burke) As far as you know, Mr. Papageorge, was there a need in the period 1970 to 1974 in society for fire resistant dielectric transformers?

A Yes.

Q Now after Monsanto stopped selling PCB-containing fluids for open-ended uses, various manufacturers of transformers and capacitors continued to manufacture them; is that correct?

A Yes.

Q Transformers and capacitors?

A Yes.

Q So there was a continuing need at that time to provide for control methods to prevent introduction of PCB fluids into the environment through that process, correct?

A That is correct.

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Q. In every manufacturing process, regardless of what it is, there is bound to be some waste of one kind or another, correct?

A. Yes.

Q. And if you're using PCB fluids, no manufacturing process is going to have a hundred percent retention of any type of material that they use, correct?

A. Correct.

Q. Isn't it accurate that the C-107 ANSI Committee was the attempt by industry to address the proper handling and disposal of those uses of PCB fluids that were still going on?

A. That is correct.

Q. At that point in time when the committee started, 1971, I believe, there was no other body, government or private, to undertake that task, was there?

A. That is correct.

Q. You told us yesterday that in your dealings with the federal government, that they were unaware of the potential problems posed by PCB's. Perhaps that's not the right word, but do you recall that testimony?

A. Yes, I do.

Q. Okay. What was your understanding of the folks that you dealt with, what was their level of comprehension of the environmental presence of PCB's.

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A. This, of course, depends on at what point in time I was talking with them.

Q. Yes, sir. Well, in 1970 for example, EPA did not exist, correct, it came into existence, it was chartered in 1970?

A. That is correct.

Q. And it took them a while to get into a start-up mode to where they had folks who could respond and have some staff to do something, correct?

A. That is correct.

Q. Let's talk about the period '70 to '74.

A. All right. In that period, the early part of that period, I personally didn't find any representative of any governmental agency that was truly knowledgeable of even the existence of PCB's. In every case they couldn't even pronounce the word. So I found myself in every case conducting tutorials, some basic chemistry and some manufacturing ideas, discussing uses of these materials, and what their properties were. The representatives in the early part of that period were of course interested, but not highly motivated by what they heard, to do anything unusual in their assignments. As we approached the latter part of 1970, some of the individuals relating to governmental agencies that were health oriented, like the National Institute of Environmental Health, became

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interested in PCB's as an industrial chemical similar to DDT, and questioned should we be doing more. About that time the FDA became interested because of reported presence in dairy products. These are just examples of how, with time, more and more information became available, and therefore more and more government agencies became involved, and assigned individuals duties addressing PCB's.

Q Now did you -- strike that. Did General Electric provide the same kind of informational assistance to governmental agencies with respect to transformers and capacitors which was one of their areas of expertise?

A I was aware that they were communicating, but I don't know to how many agencies, as how frequently, but it was appropriate as far as I could tell for that application.

Q Uhuh. Now after Monsanto terminated the open-ended use sales sometime in '72, that would have been the only -- capacitor and transformer manufacture would have been the only use that GE had for those fluids, correct?

A That Monsanto had, yes.

Q Or that Monsanto was manufacturing for people like GE?

A That is right.

Q Now in terms of the total amount, if we can say that, of PCB fluids, was not just a small portion used just

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in transformers and the rest was for other uses?

A. I don't know how to describe small. As I recall, just before we terminated the open-end uses, Monsanto was manufacturing -- These are not probably exact numbers, eighty million pounds a year of material, and after we terminated the sale to the open uses, but still retained heat transfer applications in addition to the electrical applications, as I remember, the number dropped to about half of that. I don't recall the number that it eventually reached when it was exclusive to the electrical applications.

Q. Uhuh.

A. But it represented a significant drop.

Q. The White Paper that we talked about, Exhibit 1, indicates that Monsanto's production after the phase out of the heat transfer fluids, the total reduction in production was approximately sixty-four percent. Does that coincide with your recollection?

A. That's close, yes.

Q. And subsequent to that, was it not reported to you or did you not hear that the level of PCB's in fresh water, for example, like the Great Lakes, had in fact dropped because of the termination of the open-ended uses?

A. Yes, I had heard that report, yes.

Q. So Monsanto's voluntary action then had a positive effect in terms of reducing the PCB fluid levels in the

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environment?

A. Yes.

Q. And when we're talking about these levels, again are we not talking about relatively small quantities in an absolute sense?

A. Oh yes, very small.

Q. Now Monsanto's effort and action to terminate the sale of open-ended uses of PCB fluids, the sale of PCB fluids for open-ended uses was one that was voluntary?

A. Yes.

Q. There was no governmental agency at that time that could force Monsanto to terminate its sales, could they, 1970 to '74?

A. I'm not familiar with all of the enabling statutes that could have given authority to an agency, but I know for certain that none of them took any action. That's certain.

Q. If the Inter-Departmental Task Force, which we talked about in May of '72, concluded that there was no agency that had the power to match Monsanto's voluntary action, that would be correct, wouldn't it?

A. Yes.

Q. After the termination of the open-ended sales, Monsanto, I gather, turned its attention to keeping customers aware of the continuing need to prevent further

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introduction of the PCB fluids into the environment, correct?

A. Correct.

Q. And this was through -- again through the plant effluent, the people in the manufacturing business would have a certain amount of waste material thai could be introduced into the environment?

A. In the plants or factories manufacturing and using PCB's, that's a potential source.

Q. Okay.

A. There is also a potential source in the transportation of the material.

Q. Uhuh.

A. And there is a potential source with the end user of the manufactured item.

Q. Uhuh. Well, in talking about a distribution transformer for use in a factory or a commercial building, we are not really talking about a consumer product per se, correct?

A. Well, I don't know the definition of consumer as it applies to these items.

Q. Well, it's not something that folks would buy like a car or a toaster or something like that, it's for a commercial or industrial use in either a factory or a pretty large building?

A. Yes.

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Q And while that owner may be a consumer, he is not a consumer in the strict sense of everybody who buys things, right?

A That's true.

Q And we're not talking about a large number of these transformers to begin with containing the Askarel, correct?

A I don't know what to compare large to.

Q Sure.

A It's not like millions of automobiles, no.

Q The ANSI C-107 Committee, was that effective in terms of disseminating to the industry information about proper handling and disposal of PCB fluids in transformers?

A I have no reason to believe it wasn't, yes. It was very helpful.

Q And the folks at GE took an active part in the writing of that standard?

A Yes.

Q And again, if industry had not participated in the preparation and the promulgation of that standard, essentially there was no one to do it, was there?

A That is correct.

Q In the period 1970 to 1974, did you see any scientific or technical reason for Monsanto terminate the production of PCB-containing fluids for transformers?

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A. No.

Q. And why is that?

A. Well, apparently it's because no information existed, therefore I didn't get to see any.

Q. Talking about the period '74 to '77, did you see any technical or scientific reason for Monsanto to terminate the production of PCB-containing fluids for transformer dielectrics?

A. I did not.

Q. You told us about Mr. Raab and I believe Dr. Pozefsky perhaps coming to St. Louis early in 1970.

A. (Witness nods head)

Q. Was that at their request?

A. I don't know.

Q. That followed very closely -- Their first visit followed very closely on the heels of Monsanto's first announcement that it had learned of some studies that had reported the presence of PCB's in the environment, correct?

A. Yes.

Q. And when we talk in terms of what Monsanto had discovered, are the terms "Some studies have reported the presence of PCB in the environment", is that language an accurate summary of Monsanto's understanding in 1970?

A. Yes.

Q. And that's the language that ended up being on the

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labels and on the letters that Monsanto was sending out?

A. Yes.

Q. And that particular language was chosen because there was at that point in time, 1970, no definitive proof yet that this was accurate, that PCB's were present in the environment, correct?

A. That is correct.

Q. We spent some time yesterday discussing water quality rules and comments to a Dr. Thompson and a Dr. Sager; isn't it true that that water quality advisory group never adopted a level for PCB's in waters?

A. That is true. Not as part of their function.

Q. And that discussion went on through the end of 1974, that group continued to meet, didn't it?

A. Yes.

Q. So as of the end of 1973, their regulations were nothing more than proposals that they were submitting for comment?

A. That is correct.

Q. And as a result, at the end of 1973 there was no federal regulation prohibiting the entry of PCB's into a waterway at any level, correct?

A. That is correct.

Q. Now the FDA had an interest apparently in preventing the entry of PCB's into the food chain?

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A. Yes.

Q. In your experience, was that more applicable to the transformer dielectrics or to the open-ended uses, such as heat transfer?

A. I would associate their interests with open-ended uses.

Q. There were heat transfer processes used in the food industry?

A. Yes.

Q. That may have used heat transfer fluids?

A. Yes.

Q. There has been some literature reports, and they may be in some of these documents here that we have, concerning the food industry's use of packaging materials that were processed using PCB fluids; did you become aware of that?

A. Yes.

Q. And basically the way they made the containers for the foods utilized PCB fluids, is that accurate? The impregnated cardboards or whatever they were?

A. To be more accurate, I would suggest that it wasn't necessarily the use of a fluid containing PCB's; it could have been the use of waste paper that at one time had ink which contained PCB's that was reprocessed into a cardboard that was used for the package. Or it could

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have been -- the PCB's could have been present in the adhesive used to fold the ends and seal the container.

Q. Uhuh.

A. Or it could have been used in the inks used to put the company's logo and label on the package. So the PCB's could have come from many sources.

Q. And the elimination again of the open-ended uses went a long way to reducing the PCB levels in the food chain?

A. Yes.

Q. Now as far as you know, those FDA regulations concerning food processing and packaging, they were not effective at the end of '73, sir, were they?

A. I believe they were, in '73.

Q. Okay.

A. There were some FDA standards in effect in '73.

Q. Okay. As a final regulation? That was my question.

A. I don't know if it was called a regulation or a guideline, but there were numbers used by the Food and Drug Administration to monitor and manage food containing PCB's.

Q. Okay. Putting aside the technical point as to whether it was a guideline in 1973 or had the effect of law as a final regulation, that regulation in any form would not have affected the owner of a commercial building that was not in the food processing industry, would it?

A. That is my understanding, yes.

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Q. At the end of 1973, are you aware of any regulation that prevented the owner of a commercial building from owning and properly maintaining a PCB -- a transformer containing a PCB dielectric?

A. I'm not aware of it. I was not aware of any such regulation.

Q. You told us yesterday that between 1970 and in the years that followed, and let's talk about up until 1977, there was an ongoing discussion in Monsanto concerning the withdrawal from the market for the manufacture of all types of PCB's, and the question that kept coming up was: Was there a need for the product, and would withdrawal from the manufacturing be irresponsible. With respect to dielectric fluids, would Monsanto's withdrawal from the manufacture of that fluid in the year 1970 to '74 have been irresponsible?

A. In my opinion it would have been.

Q. Why?

A. Well, I still personally believe that the fire-resistant properties of these fluids definitely benefit society, and at that point in time also the building codes required such a property be present in this equipment. There was none other available, to my knowledge, to replace it. Society, as represented by the construction industry, was dependent on the delivery of these units to complete

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their projects and satisfy some needs out there, and an arbitrary termination would have been -- it would have created some havoc.

Q In fact isn't that what the 1972 Inter-Departmental Task Force concluded, it would cause severe disruptions in the electrical, transportation industries?

A Yes.

Q And at or about that time, 1972, especially in 1973, wasn't there another crisis with energy and oil that had an impact on the electrical industry?

A I am aware of that, yes.

Q Mr. Papageorge, I want to discuss some of these documents with you that we discussed yesterday, primarily to their applicability to their -- of the document to its use in transformers.

MR. BAUMER: I am going to object to the recitation by counsel what he intends to do.

Q (by Mr. Burke) The first one, which is Exhibit 129, has an attachment to it which is an article by Mr. Gustafson of the Federal Water Quality Administration. Do you recall that article being attached to the letters that were sent out to customers?

A Yes.

Q The last page of Mr. Gustafson's article, he concludes that -- over here in this discussion section,

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"That PCB's were only recently discovered" and he's writing in 1970, "and that much research remained to be done before any definitive conclusion could be reached about any long-term or even short-term harm of PCB's". Did you agree and did Monsanto agree with that conclusion?

A Yes.

Q I'll take that back and keep moving. Exhibit 136 is another example apparently of correspondence. Were you aware of the GE facilities where transformers were actually manufactured?

MR. BAUMER: What number is that, please?

MR. BURKE: 136.

A If I understand your question correctly, was I aware of all of GE's facilities at which transformers were manufactured?

Q (by Mr. Burke) Yes, sir, all or any.

A I was aware of some, but not all.

Q Okay. And they were?

A Definitely Pittsfield, Massachusetts, and that's all that comes to mind now.

Q Rome, Georgia?

A Rome, Georgia.

Q Hickory, North Carolina, does that ring a bell with you?

A I have heard the location; I had never visited it.

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Q. Is there any indication in Exhibit 136 that it went to any of those locations? Can you check that for me?

A. I do not find any of those listed.

Q. The actual correspondence of Exhibit 136 concerns the use of PCB fluids in plasticizers and paints, doesn't it?

A. The letter I am looking at refers to heat transfer fluids.

Q. Heat -- Excuse me, heat transfer fluids. That is not a transformer dielectric fluid, sir, is it?

A. That is correct. Now there is -- This exhibit has several letters in it referring to different subjects --

Q. Uhuh.

A. -- so my comments addressed only the first three pages.

Q. Do any of them have any indication, any of those attachments address themselves to dielectric fluids?

A. There is no reference that I can see to dielectric fluids.

Q. All right, sir. Thank you. Composite Exhibit 329 includes in it, as I understand it, some discussion of Monsanto's plan of action of deal with the presence of PCB's in the environment, correct?

A. Yes.

Q. And that would specifically deal then with the actions Monsanto was going to undertake?

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A. Yes.

Q. And the timetable at which Monsanto hoped to carry those actions out?

A. Yes.

Q. Those portions of Composite Exhibit 329 that concern that undertaking by Monsanto do not directly concern the use of dielectric transformer fluids, does it, in transformers?

MR. DERRYBERRY: Take your time.

A. If I recall your question, it referred to the direct use of PCB-containing fluids in transformers?

Q. (by Mr. Burke) Yes, sir.

A. There is no specific wording of that type in these documents.

Q. Okay. Exhibit 317, I believe, you told us yesterday you had not seen until just very recently, correct?

A. That is correct.

Q. And that exhibit refers to an industrial workplace exposure level which I believe you commented was out of date, is that accurate?

A. I forgot the exact context of my comment, but this exhibit refers to a publication dated May 1939. Certainly in 1970 that would have been considered out of date.

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Q For many, many years isn't it accurate that industry, to protect workers in industry, had been using the concept of TLV for workplace exposure to industrial chemicals?

A Yes.

Q And the concept of TLV was to establish a level, either in the air or on the skin, of an industrial chemical that a worker could be exposed to eight hours a day, five days a week for his working life without harm coming to him, correct?

A That is correct.

Q And those standards, and those recommendations were in existence for many, many years regarding all kinds of industrial chemicals?

A Yes.

Q On a relative scale, isn't it accurate that the workplace of -- the workplace toxicity of PCB's to industrial workers was substantially below many other chemicals that were in use in the 1970's and are still in use today?

A Yes.

Q Exhibit 237, if you would look at it very carefully, please, I don't want to rush you. Isn't it accurate that the subject of that letter concerns contaminated cows' milk in Connecticut?

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A Yes.

Q And as such, it would not really go to the question of the use of PCB-containing fluids as a dielectric in transformers, would it?

A One would not expect it to, no.

Q Exhibit 283 is a letter to Purchasing Agent, apparently, at the GE facility in Rome dealing with several matters concerning the shipment and the purchase of PCB materials for transformers, is that accurate?

A It includes the points you just raised, in addition to others, all relating to PCB handling, disposal, analytical methods.

Q Do any of them go to the -- do any of the points made in that letter address the fitness of the use of PCB fluids as a dielectric fluid in transformers?

A It does not address that.

Q Exhibit 263 has several attachments to it. If you would look at them, please, Mr. Papageorge, and confirm for me, if you can, that they address Santovac fluids which are vacuum pump fluids.

A All of these documents do address Santovac fluid.

Q Santovac is not a transformer dielectric fluid, is it?

A That is correct.

Q And that is one of the open-ended uses that

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Monsanto was attempting to bring to a halt?

A. Yes.

Q. Okay. Consequently Exhibit 263 does not address the question of the fitness of PCB fluids for transformer dielectrics, does it?

A. That is correct.

Q. Exhibit 281 is a report apparently concerning the treatment of the effluent from the Anniston Plant, is that accurate?

A. It is accurate, yes.

Q. And that would -- That study would be consistent with Monsanto's effort to prevent further introduction of PCB-containing fluids into the environment?

A. That is correct.

Q. And that report concerns a method that Monsanto was attempting to use to reduce the PCB content of the effluent at its manufacturing facility?

A. Yes.

Q. And as such it doesn't really address the fitness or use of PCB-containing fluids for transformer dielectrics, does it?

A. That is correct.

Q. Concerning plant effluence, were the GE people responsive to the concerns Monsanto had about reducing plant effluents?

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A. Yes.

Q. Did they cooperate with Monsanto and follow the guidelines or the recommendations of Monsanto with respect to reducing plant effluents?

A. To the best of my knowledge, yes.

Q. Exhibit 238 is apparently a letter that you wrote to Mr. Raab in November of 1971, and you're commenting there that you have received some reports that have been generated as a result of both acute and chronic toxicity studies, and there is nothing new to report, I believe is your language?

A. Yes.

Q. Okay. What do you mean by that?

A. I meant that at or near the date of this letter, I had received information from the laboratory conducting the studies and that information did not reveal anything that had not been revealed by a previous report from that same laboratory on that study.

Q. Okay. As of 1971, November of 1971, when Exhibit 238 was prepared, is it accurate that the only known human health effects concerned Chloracne, which is a skin condition, as a result of overexposure to the fluid, and an alteration of certain liver enzymes? Are there any other human health effects that were known in November of '71 that you were aware of?

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MR. BAUMER: I object to the form of the question.

A. I am also aware of reddening of the skin. There is a medical term for that that I have forgotten at the moment. It results from the PCB's extracting the natural oils from the skin resulting in a chapped skin condition. I am also aware of the potential for fumes of PCB's to cause respiratory irritation.

Q. (by Mr. Burke) All right. Now the skin conditions and the respiratory irritation, are those more properly classed as acute or chronic conditions?

A. Those are acute.

Q. And at that point in time, in '71, if the worker was taken out of that particular type of exposure, or that place in the assembly line, those conditions were -- would clear?

A. Yes.

Q. In comparison to the either acute or chronic effects of other industrial chemicals, is it not accurate that in 1971 the conditions that we have discussed, including the chloracne and the reddening and the lung irritation are relatively mild in comparison to chemicals that are still in use today?

A. Yes.

Q. Now apparently you had been in communication with some official of the FDA?

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A. Yes.

Q. And he had concluded, apparently, that PCB's posed no eminent human health threat?

A. Yes.

Q. Was that a valid conclusion, in your opinion?

A. Yes.

Q. Did you have any scientific or technical basis to disagree with that opinion of the FDA official?

A. No, I did not.

Q. As of November 1971, did PCB's present an eminent health threat to the population?

A. No.

Q. As of the end of 1973, did PCB's present an eminent health threat?

A. No.

Q. All right, sir. Exhibit 286 contains another copy of Exhibit 238, for reasons I can't explain, but also has your letter to Dr. Pozefsky of February 1972 that encloses the question and answer brochure, and we talked yesterday about the toxicity of PCB's. As of February 1972, was that statement by Monsanto an accurate assessment of the toxicity of PCB's?

A. Yes.

Q. Would you read that for the Jury, please?

A. This is entitled Question No. 5. The question is,

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"Is PCB toxic?" And the answer is, "Toxicity is a relative term. Some studies have shown it is toxic to certain species of birds and fish. More important, PCB is a persistent chemical which builds up in the environment. It therefore should not be allowed to escape to the environment".

Q. Did that understanding of toxicity in 1972, in Monsanto's view, justify the termination of the production of PCB-containing fluids for transformers?

A. No.

Q. Why not?

A. Because we just don't see the use in transformers leading to the few -- to the exposure of the few species that were sensitive, and there was no other evidence to indicate otherwise.

Q. Exhibit 327 concerns the ANSI C-107 Committee, but that appears to be the capacitor sub-group, correct?

A. No, it's both sub-groups.

Q. Both. Oh, there's a second attachment.

A. There are two letters in the exhibit.

Q. Okay. And again, that is November -- that is December of '71?

A. Yes.

Q. Okay. Was that the beginnings of the group to write the standard for the handling and disposal?

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A When you say the beginnings to write --

Q Well, the formation, I should say, of the group.

A No, the group was being considered back in 1970, so this was a year or more after that.

Q I gather there was no ANSI standard before C-107 Committee wrote one; is that accurate?

A Not for dielectric fluids containing PCB's.

Q And this group was writing this standard for the dielectric fluids because in the very near future that was going to be the only PCB-containing fluid that was left to be manufactured, correct?

A I don't know if that was the reason the group wrote the standard; they were trying to keep it out of the environment and this was, in their opinion, the best way to communicate the proper way to do it.

Q Now that is a nationally recognized institute, correct?

A Yes.

Q That writes standards for industry and users of all sorts of products?

A Well, it sponsors preparation of standards.

Q Yes, sir. That's accurate. Thank you. Exhibit 299 addresses apparently a bill being considered by the Legislature of Massachusetts in 1972. That would not have impacted on the owner of a PCB-containing transformer in

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Florida, would it, sir?

A. I wouldn't expect it to, no, not directly anyway.

Q. I think Exhibit 240, correct me if I'm wrong, addresses a capacitor failure or inability to function or something. Is that accurate, sir?

A. It addresses the question of the rate of failure of capacitors.

Q. So as such it wouldn't have anything to do with transformer dielectric fluids, would it?

A. That is correct.

Q. Exhibit 307 is a letter to you forwarding copies of comments that GE made to Dr. Thompson and Dr. Sager of the Water Quality Committee that we were talking about earlier, correct?

A. That is correct.

Q. Now the government solicited those kinds of comments, didn't they?

A. Yes.

Q. And in fact wanted industry to submit comments?

A. Yes.

Q. As well as any other interested person, in order to have the broadest possible spectrum to make a decision, correct?

A. Yes.

Q. That is essentially a First Amendment Right still,

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isn't it?

A. I sure hope so.

MR. BAUMER: Are you a constitutional lawyer, Mr. Papageorge?

THE WITNESS: No, I am not.

MR. BURKE: Is that an objection, Mr. Baumer?

MR. BAUMER: That was a statement.

MR. BURKE: Please limit yourself to objections.

MR. BAUMER: I will limit myself as I choose, Mr. Burke.

Q. (by Mr. Burke) Did you find the participation by GE in such activities to be helpful?

A. Certainly.

Q. And those are the same standards that we talked about that were never adopted, correct?

A. That is correct.

Q. Exhibit 242 addresses the question of plant effluents and a method to reduce the PCB content of them, correct?

A. Correct.

Q. This is one of the methods that Monsanto looked at but didn't work, the carbon adsorption?

A. I had trouble with it didn't work. It was technically feasible, but practically, for industrial uses, was not appropriate.

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Q. So Exhibit 242 has nothing to do with transformer dielectrics and their fitness for use in a transformer, sir, does it?

A. That is correct.

Q. And Exhibits 241 and 249 and 248 all address copies of the water quality hearings again, correct, and the comments that were being submitted?

A. Yes.

Q. That really doesn't address the question of the use of PCB fluids in transformers, does it, sir, directly?

A. That is correct.

Q. Apparently Exhibit 247 concerns the use by the EPA of Salmon egg mortality to set the effluent standards for the water quality standards that we were talking about earlier, is that accurate?

A. Yes.

Q. Again that doesn't speak to the use of transformer dielectrics, does it?

A. That is correct.

Q. Exhibit 245 again concerns the water quality standards and a meeting that was to be held between Monsanto and GE?

A. Well, GE was certainly a participant; there may have been other industry representatives from other companies.

Q. Who would have come to the same meeting?

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A. The same meeting, yes.

Q. I see. Historically over this period of time that we're talking about, '70 to '74, there were other manufacturers of transformers that also participated to the extent, more or less than GE did, correct?

A. Yes.

Q. Anybody who continued to manufacture PCB-containing transformers had the same concerns or had to have the same concerns Monsanto did about the release of PCB's into the environment?

A. They did.

Q. Exhibit 244 concerns a report on the PCB levels in the Great Lakes, is that accurate?

A. Yes.

Q. And apparently that particular study being commented on in Exhibit 244 showed that the PCB levels had declined?

A. Yes.

Q. That would indicate perhaps a combination of factors, both the termination of the sale for open-ended use, and perhaps some biodegradation?

A. Yes.

MR. BAUMER: I am going to object to the form of the question.

Q. (by Mr. Burke) Regardless of which that is,

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none of that addresses use of transformer dielectric containing PCB's, sir, does it?

A. That is correct.

Q. Exhibit 265, doesn't that concern samples sent to GE for analysis of various Aroclor 1016's?

A. I do not see Aroclor 1016 mentioned.

Q. Is there -- the MCS designation, was that an internal Monsanto -- Here in the first sentence, they discuss --

A. Oh, there it is.

Q. Yes. The MCS was an internal Monsanto designation for what the trade mark name was, Aroclor, is that the idea?

A. Roughly so. MCS stands for Monsanto Company Sample.

Q. Okay.

A. And the number is just a sequential number from a log book that is kept in the technical library.

Q. 1016 was capacitor fluid, correct?

A. Yes.

Q. So that document doesn't really address itself to transformer dielectrics using PCB's, does it?

A. That is correct.

Q. Exhibit 264 has a cover letter of November 1974 concerning transportation procedures, and an attachment to it, is that accurate? I should say the first page of

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the attachment.

A. Well, this again is a collection of several letters on different subjects. The first letter has attached to it a procedure followed by Monsanto in addressing an accident involving the shipment of material.

Q. Then there is a couple of attachments concerning a product called Therminol.

A. Yes.

Q. Which is a heat transfer fluid?

A. Yes.

Q. That is not a dielectric, is it?

A. That is correct.

Q. Then there is an attachment concerning the analytical procedure for the measurement of sediments, correct?

A. The measurement of PCB's in.

Q. PCB's in sediments?

A. And water in sediments, and in biological materials such as tissues and in water.

Q. Neither the cover letter nor any of the attachments address themselves to the use of transformer dielectric containing PCB's, do they, sir?

A. That is correct.

Q. In Exhibit 251, apparently you and Dr. Simons are still exchanging proposed EPA effluent standards, is

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that accurate, copies thereof?

A. Yes.

Q. And that date is January '75?

A. That is correct.

Q. So as of that date, that body had not adopted any standards, correct?

A. That is correct.

Q. As it turned out, they never did adopt a standard for PCB's, did they?

A. Not this body, no.

Q. Exhibit 261 is the fellow from Aerovox of June 1975. Isn't that a proposed comment by a bunch of folks who used capacitors?

A. Yes.

Q. So as such it doesn't really address itself to PCB transformer fluids, does it?

A. Not specifically, no.

Q. Exhibit 324 is the return of a shipping invoice, I believe, for the return of eight thousand gallons of Aroclor 1016, is that accurate, to Monsanto?

A. It appears to be, yes.

Q. The cautionary notice on there -- well, first of all, what is the date on that document, sir?

A. June 20, 1975.

Q. The cautionary notice on there, is that similar to

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the environmental statement that Monsanto was making at the time?

A. Yes.

Q. And was that an accurate assessment as of June 20th, 1975 of the "PCB problem"?

A. Yes.

Q. And would you read that first sentence to the Jury, please?

A. The first sentence?

Q. Starting with the environmental statement, "Important".

A. "This product contains polychlorinated biphenyls (PCB's) which some studies have shown may be persistent and environmental contaminant and possibly injurious to certain forms of bird, aquatic and animal life".

Q. Exhibit 260 is more discussion between you and Dr. Simons concerning the State of Wisconsin having hearings?

A. Yes.

Q. And in August of '75, that would not have affected the owner of a PCB-containing transformer in any other State, would it?

A. That is true.

Q. Questionable whether it would affect the owner of one in Wisconsin?

A. That question did exist, yes.

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Q. Exhibit 253 concerns, apparently one of the topics, in August of '75, addresses the reassembly of the Inter-Departmental PCB Task Force. Did they meet at all between May of '72 and August of '75, that you are aware of?

A. I do not know.

Q. In that interim period, did Monsanto continue to provide the government with information at its request?

A. Yes.

Q. Do you know if the government requested information from GE?

A. I don't recall vividly but it would be surprising to me if they had not.

Q. Were you aware of any instance in which GE declined or refused to provide the government any requested information about PCB's?

A. I had no evidence, no information on that.

Q. Apparently Exhibit 252, are you forwarding some reports, or the results of some studies, toxicity studies to Dr. Simons?

A. Yes.

Q. Do you have any recall today of the results of any of those studies, either specifically or in general?

A. Well, let's see; in general I recall that the results of the studies with 1016 material were similar to the results we had received back in 1971 or '2 with the

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Aroclor 1242, 1254 and 1260 that we had tested.

Q Do you know if any of the results of those tests gave rise to the conclusion that PCB's presented any eminent health threat to humans?

A They did not.

Q Exhibit 275, you received a copy of that note from Mr. Wood of October 3rd, 1975, correct?

A Yes, correct.

Q And somebody is reporting on their trip to General Electric concerning PCB's and their continued use in transformers, correct?

A Yes.

Q Do you have any recall of your own at that time about the statement that the writer makes on the field trip that the EPA would probably continue the permitted use of, and manufacture of PCB transformers?

A I remember that, yes.

Q Do you have any understanding of the thinking or the reasons that went into the EPA's conclusion that they would not prohibit the manufacture of PCB containing transformers in 1975?

A My understanding was that they had no information that would lead them to severely restrict the use, and that they, as a group, were convinced that the benefits of the continued use outweighed any potential problems.

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Q. Exhibit 156, does that address the solid waste disposal facility that Monsanto was planning?

A. Yes, it does.

Q. Eventually only the liquid waste incinerator was actually put into operation; is that correct?

A. That is correct.

Q. If industry, including Monsanto, had not built that incinerator for liquid waste, there wouldn't have been any appropriate facility for the disposal of the liquid waste in the early days, sir, would there?

MR. BAUMER: I object to the form of the question.

A. Not in the early days. You are correct.

Q. (by Mr. Burke) And did Monsanto encourage all of its customers to use that facility for the disposal of liquid wastes?

A. Yes, we did.

Q. And did General Electric cooperate and use that facility and forward material for destruction?

A. Yes.

Q. GE eventually built its own furnace, didn't they?

A. Yes.

Q. Do you know if that is in operation today?

A. I do not.

Q. Exhibit 235, does that address the use of PCB fluids as transformer dielectrics?

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A. No.

Q. Does Exhibit 151 address the use of PCB fluids as dielectric in transformers?

A. This exhibit refers to dielectric fluids in general, and has -- and includes parts of a report issued by the Inter-Departmental Task Force on PCB's dated May 1972 in which transformers are mentioned, and the use of PCB fluids in these transformers.

Q. Okay. And that was one of the very few, if the only recommended continued use by the Inter-Departmental Task Force of PCB fluids?

A. That is correct.

Q. Was for transformers and capacitors?

A. That is correct.

Q. In Exhibit 141, you're corresponding with Mr. Simons, and you mentioned a letter that you had been given in which GE had written to its customers. Do you recall from whom you received that letter, the GE letter?

A. No, I don't.

Q. Was it from a person at GE, do you recall?

A. No, this would be an individual in Monsanto that at that time was involved with the marketing of PCB dielectric fluids.

Q. Okay. The attachments to that Exhibit No. 141 purport to be communications by General Electric to its

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utility and industrial customers, correct?

A. Correct.

Q. And included as an attachment on the GE letters is the initial February 1970 Monsanto letter, correct?

A. Correct.

Q. Do you have any basis to believe that General Electric did not communicate with its customers?

A. I do not.

Q. Is it not accurate to say that that letter that you received tends to confirm that General Electric in fact communicated with its customers?

A. It does tend to confirm, yes.

[There was an off the record discussion.]

Q. (by Mr. Burke) Mr. Papageorge, is Exhibit -- We are still on 141, huh?

A. Yes, sir.

Q. Or have we finished with 141?

A. I am finished.

Q. Okay. Exhibit 115, is a Monsanto -- is Exhibit 115 a Monsanto sales contract?

A. Yes.

Q. And when is it dated?

A. January 15, 1973.

Q. Does it accurately state Monsanto's understanding of the "PCB problem" as of that date?

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A Yes.

Q Okay. And that is contained on what portion of the sales contract?

A There's a paragraph at the bottom.

Q Okay. Would you read the first sentence of that?

A "It is understood that the products sold hereunder contain polychlorinated biphenys which some studies have shown may be an environmental contaminant".

Q I believe you told us yesterday, Exhibit 50, which is the Askarel and transformer inspection and maintenance guide, you were not involved in its preparation or dissemination, is that accurate?

A No, I was involved.

Q Oh, you were. Excuse me. Okay. Well, taking a look at Page 4, down at the bottom, Paragraph B, concerning the personnel precautions, in terms of servicing transformers, would you review those, please?

A I have read that paragraph or that section.

Q Now those particular personnel precautions did not require any extreme clothing or precautions or ventilation, do they?

A They do not.

Q And in comparison to many industrial chemicals which were in use then and which are in use today, those personnel precuations for handling of PCB's are not

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comparatively severe, are they?

A. That is correct.

Q. And that reinforces the absence of any severe acute toxicity to PCB's to industrial workers, correct?

A. That is correct.

Q. Exhibit 67 addresses, does it not, the vehicle of ANSI Committee C-107 as the industry approach to reducing and minimizing the further entry of PCB into the environment?

A. Yes.

Q. And in December of '71, the only group taking an active role in attempting to reduce the further entry of PCB's into the environment was industry, was it not?

A. Yes.

Q. Exhibit 71 is apparently a handout from the Traveler's Insurance Company; did you ever see that, sir?

A. Yes.

Q. Apparently -- did the industry, casualty industry feel that the benefits of PCB transformers far outweighed any potential environmental risk if properly handled and maintained?

A. That was my understanding, yes.

Q. These press releases from Exhibit 113, were they distributed in two major newspapers and wire services at the time that they were released?

A. Yes.

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MR. DERRYBERRY: What Exhibit is that that you just --

MR. BURKE: 113.

Q (by Mr. Burke) Exhibit 116 is a -- is that another example of a sales contract?

A Yes, Monsanto sales contract.

Q That is dated when, sir?

A July 1, 1970.

Q And does that reflect a statement of Monsanto's policy towards the "PCB problem" as of that time?

A Yes.

Q And would you read that first sentence, sir?

A "It is understood that the product sold hereunder contain polychlorinated biphenyls which some studies have shown may be an environmental contaminant".

Q The use of PCB transformers, when Monsanto stopped manufacturing fluid in 1977, were you aware of any scientific or technical reason to terminate the sale of PCB fluid for dielectric transformers in 1977?

A Yes.

MR. BURKE: Thank you, sir. That's all I have.

REDIRECT EXAMINATION

BY MR. BAUMER:

Q Mr. Papageorge, Mr. Burke just asked you if in 1977 you knew of any scientific reason to terminate the

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sale of PCB fluids.

A. (Witness nods head)

Q. Is that what -- was that the last question?

A. Yes.

Q. And you responded, I think, that you knew of no reason?

A. No scientific reason.

Q. No scientific reason. Do you acknowledge that there were scientific reports that led to the various environmental warnings that were put on the labels of containers containing PCB's?

A. Yes.

Q. And do you acknowledge that there were likewise environmental warnings put on sales contracts and invoices from Monsanto?

A. Yes.

Q. And those were based upon scientific information, were they not?

A. Yes.

Q. And Monsanto chose to commence that process in 1970, correct?

A. Correct.

Q. And there was an evolution, was there not, Mr. Papageorge, of that label, meaning it was broadened over time?

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A. Yes.

Q. Because the first one I think that you just -- the earliest one that we have here, which was part of Exhibit -- or was Exhibit 116, that varies to a certain degree, does it not, from the information that is contained in Exhibit 114 in the environmental statement, and to a certain degree the information that is contained on Exhibit 115, in the environmental statement?

A. There is a difference with time and the later statements included newer available information.

Q. Such as that certain scientific reports had indicated that the -- that PCB's were harmful to certain birds, aquatic and marine life, correct?

A. Yes. It refers to some studies.

Q. Some studies.

A. And also later, an additional statement referring to avoid getting into contact with food, animal feed stuffs, pharmaceuticals.

Q. Correct. And that wasn't in the first one that we have here, the earliest one we have here dated 19 -- July 1970, which is Exhibit 116?

A. That is correct.

Q. And some of those scientific studies that are referred to in the later environmental statement were studies that were conducted for or on behalf of Monsanto,

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were they not?

A. Yes.

Q. And if the -- If there were no scientific reason for terminating the sale of PCB's in 1977, why then did Monsanto terminate the sale of PCB's in 1977?

A. I don't know that I ever heard the exact reasons. I can only pass on to you my understanding. I was not personally involved in 1977 so I would be speculating to a degree why the decision was then made.

Q. Well, then you would be speculating too then that there were no scientific reasons that entered into that decision, wouldn't you?

A. Well, I believe I kept up enough with the scientific literature that would keep me informed of any dramatic change in the knowledge of PCB's and its affect on animals, humans and environment. And I do -- I am not aware of any such studies.

Q. See if you can help me out then, because I am not understanding your answer then. If you said that you weren't privy to the decision in 1977, so you didn't know all of the reasons for which it was withdrawn from the market, how then can you say that one of those reasons was that there was no scientific information or scientific reason?

MR. BURKE: I object to the form of the question.

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It assumes that a scientific reason has to be involved. Go ahead, sir.

A. I interpreted the question as indicating that there might have been a scientific study with some dramatic health results or impact on the environment which would have led Monsanto to the quick decision to terminate any sales of PCB's to any application.

Q. Then you're not disregarding the scientific studies that were put on the environmental warnings that were on the labels and on the sales contracts and on the invoices, are you?

A. I'm not disregarding. Those are all presence, studies indicating presence.

Q. Let's get back then. Is it your judgment then that PCB's could as easily be sold today as in 1970, barring any federal legislation or federal rule that prohibited them?

A. And barring any social impressions, yes.

Q. What social impressions?

A. There is a segment of our society that has concluded that PCB's are not acceptable.

Q. Monsanto doesn't agree with that, does it?

A. I don't agree with it.

Q. Monsanto doesn't agree with it, to the best of your knowledge, does it?

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A. I don't know that I can speak for Monsanto in that regard.

Q. Well, have you ever heard it said at Monsanto that Monsanto agrees that PCB's are harmful to the environment?

A. I have never heard that expression personally.

Q. Have you ever heard anyone at Monsanto say that Monsanto believes that PCB's are harmful to wildlife and aquatic life?

A. To some species, yes.

Q. They have acknowledged that?

A. Yes.

Q. And that was acknowledged, was it not, in 1971?

A. I don't know why -- the specific date.

Q. But in -- not on that date, but in 1971, that was an acknowledged fact, was it not?

A. It was still evolving, but the indications were getting stronger, yes.

Q. And it was also getting stronger indications that PCB's were -- certain PCB's were not biodegradable?

A. That is correct.

Q. And that they were -- would accumulate?

A. That is correct.

Q. In wildlife and aquatic life?

A. Yes.

Q. And it was those factors that led Monsanto to

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putting the various warnings on the documents we just looked at, the sales contract, the invoices and on the labels that we discussed yesterday?

A Yes.

Q Now Mr. Burke went through with you a number of exhibits and asked you with respect to a number of them, and I'm going to select a couple of them in a minute, but let's talk generally for a moment, he said there is nothing in those documents that relates to the -- or that directly refers to the use of dielectric fluids in transformers. And I think, for every one, you answered yes?

MR. BURKE: I object.

Q (by Mr. Baumer) Do you recall that line of questioning?

A I don't recall those words. I thought he said something about the -- I forget the exact words, the effectiveness or feasibility or the use of PCB's.

Q Okay. That's fine. Did he ask you on all those documents whether or not there is anything in there that led to -- or discussed the effectiveness of PCB's as a dielectric -- in dielectric fluids in transformers?

A That is close.

Q That is close to what he asked you, right?

MR. BURKE: I think I said fitness.

A Fitness for its use in --

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Q (by Mr. Baumer) I believe the record and the Jury will recall what he did say, because I think that word differs slightly with respect to each question. But going back to what we just discussed, you're not suggesting, are you not -- are you, that the mere fact that a letter referred to PCB's in a capacitor fluid, that one should disregard the impact and the effect of those PCB's on the environment when it looks to PCB's in a transformer environment?

A No.

Q And is it not true, Mr. Papageorge, that PCB's, whether they be in a transformer or in a capacitor or in Therminol or in a heat transfer fluid, that those -- that it was PCB's in general that were being discussed by you beginning in 1970 with General Electric people, particularly Mr. Raab, and Dr. Pozefsky?

A Yes.

MR. BURKE: Objection. Leading.

Q (by Mr. Baumer) And did you ever limit your discussions with those two gentlemen to the PCB's that were contained in a capacitor fluid as opposed to a transformer fluid?

A On occasion, yes.

Q Because of the number -- the Aroclor number?

A Sometimes.

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Q Okay. When you were -- but did that affect the various studies and the information that was communicated with respect to the various studies and the effect of PCB's on aquatic life, and wildlife, and the seals that we talked about, and the birds, and the eggs, and the chickens, did you make those distinctions?

A It could have, yes.

Q Did you make those distinctions when you were discussing them with Mr. Raab?

A I believe I did, yes.

Q And did you tell him that there were differences between the various -- the reaction of animals to PCB's depending upon their chlorine content?

A Yes.

Q And did you tell him that in some capacitors there were different chlorines and in transformers there were different chlorines?

A Yes.

Q And those were discussed with him?

A Yes.

Q So in effect you talked about the whole parameters of the uses of PCB's in whatever the product with Mr. Raab and Dr. Pozefsky over the years, starting in 1970?

A That's true. I find the -- I have difficulty

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responding, sir, because in transformers, the fluid is a free -- you can pour it out of the unit. In a capacitor, it's impregnated in paper. It's a solid material. You can't pour it out of a capacitor. Therefore, from that point on, it impacts the environment differently.

Q. It gets into the environment differently?

A. If it gets into the environment.

Q. If it gets into the environment. Why is that?

A. One is a free-flowing liquid, and the other is entrapped in paper. It's just not going to go anywhere unless the paper goes somewhere.

Q. It's not so much the PCB itself, but the manner in which it could find its way into the environment then?

A. That's the whole discussion.

Q. All right.

A. Keep it from the environment.

Q. So a PCB in a capacitor and a PCB in a transformer are the same, and what the distinction that were being made is the manner and the ease with which it can find its way into the environment?

A. They are not necessarily the same. Some components.

Q. Are the same?

A. Are the same. And the method in which it could

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enter the environment could differ.

Q. Now when you told Mr. Burke that the Great Lakes had less PCB content after 1970 or '71, and that you felt that was attributable to the fact that Monsanto wasn't selling PCB's for open-uses any longer, is that what you said?

A. Yes.

Q. All right. What -- how do you know that that was the reason?

A. I don't have any solid evidence; it's too coincidental not to be related.

Q. There were no tests done, were there, or scientific tests done to determine how the PCB's got into the Great Lakes?

A. No.

Q. All right. So there were not tests done or experiments done after Monsanto stopped selling it in the open-end uses to determine how PCB's found their way into the Great Lakes?

A. That is correct.

Q. So you were speculating on the fact that because Monsanto had done A, that perhaps B occurred?

A. Yes. I speculate along with everyone else involved.

Q. Now you indicated that in your judgment, the

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scientific research or analytical apparatus in 1960 was not adequate enough to measure PCB's in parts per million?

A. That is correct.

Q. Now Dr. Jensen, in his report in 1966, measured them in parts per million, did he not?

A. He measured something that was a chlorinated chemical in the part per million range, using the new instrumentation that was available to some laboratories at that time.

Q. Was that instrumentation likewise available to Monsanto had it chosen?

A. We had some of those units, yes.

Q. And Monsanto did in fact verify Dr. Jensen's findings in 1970 or '71, did it not?

A. Yes.

Q. And it also verified Dr. Risebrough's findings in 1970 or '71, did it not?

A. I'm not aware of any study that verified Dr. Risebrough's studies.

Q. Didn't you indicate earlier that there were chicken experiments in which there were some determination that certain amounts of PCB's caused a thinness of the eggshell?

Q. All right. Is that not the basis of some of Dr. Risebrough's findings?

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A. Of some of the findings. But the effect of thinning eggshells is -- can be attributed to other chemicals.

Q. It could also be attributable to PCB's, could it not?

A. It could be, yes.

Q. And PCB's, as we determined, certain PCB's or certain Aroclors and PCB's are not biodegradable, and therefore they build up over time, do they not?

A. Yes.

Q. So if a particular creature, bird for instance, consumes something that has PCB's in it and kept consuming that same product over time, the PCB level in the bird would increase, is that what we mean?

A. That is right.

Q. And you indicated that it was surprising to you in 1970 to learn that PCB's had been found in children's hair and in pine needles, correct?

A. Correct.

Q. Was it also surprising to you, Mr. Papageorge, that in 1970, after Monsanto learned of that information, and the Risebrough and Jensen experiments, that Monsanto ceased manufacturing PCB's for use in anything other than transformers?

A. No, I cannot say that I felt any surprise. This evolved based on information, it was a deliberate

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decision, and I was part of the decision, so I did not feel any surprise.

Q. It was based upon the scientific information that was accumulating, was it not?

A. Yes.

Q. That is the same type of scientific information that Monsanto chose to communicate to its customers in various ways, including on sales contracts, labels and invoices, correct?

A. Correct.

Q. When was the chicken study that was referred to?

A. It started in about '69 and was completed about 1972.

Q. And during the course of that chicken study, as the information was made available to you, did you make that information available to Mr. Raab and Dr. Pozefsky?

A. Yes.

Q. And did you tell them that -- now this only refers to PCB's in capacitors as opposed to PCB's in transformers?

A. No.

Q. Okay. You, Dr. Pozefsky and Mr. Raab, you didn't discuss it to that limitation, did you, that is PCB's in these tests only relate to the PCB's that are in capacitors?

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A. Oh, no.

Q. You were dealing with the panorama of PCB's, were you not, in your discussions?

A. I don't know what you mean by panorama. I'm talking about, when I refer to the studies, I would refer to Monsanto's trademark Aroclor, with the numbers that would describe a certain commercial mixture that was fed to the animals or the birds and these effects were noted. That's all we did. We did not talk about an application and how that might fit the chicken or the dog or the rat.

Q. So they weren't talked about as far as their particularized use?

A. That is correct.

Q. Now you also said one of the principal benefits of PCB's was that they were fire resistant?

A. Yes.

Q. And you used the word that you didn't -- you thought it would -- it was good because it could avoid a catastrophic incident, you used the word catastrophic, did you not?

A. Yes.

Q. Are you aware of the incidents that have occurred with respect to fires involving transformers that contained PCB's?

A. I have heard of them, yes.

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Q. Binghamton, New York?

A. Yes.

Q. Are you aware that the entire building was shut down because there were alleged dioxins and furans released when the PCB transformers were involved in a fire in that building?

A. I am aware of that.

Q. And that that building has yet to be reopened?

A. I am aware of that.

Q. Meaning it has been closed for a year or more, are you aware of that?

A. Yes.

Q. Do you consider that a catastrophy?

A. Yes, but I think it's manmade, personally. I have a personal opinion regarding that decision, but -- that's for someone else to decide.

Q. That they should not have shut the building down?

A. That's right.

Q. Now back in 1970 you also said that Monsanto was not able to develop a fluid with the same fire resistant properties as those that contained PCB's?

A. That is correct.

Q. Were you able to -- Was Monsanto able to develop a fluid that had all the properties that Askarel contained except the fire resistant nature?

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A. They had a few candidates, yes.

Q. And what -- Isn't it true that in 1970, that there were transformers that were developed that did not contain PCB fluids?

A. Oh yes, many.

Q. Many. And so that there were substitute transformers, but they weren't -- didn't have this fire resistant nature as the PCB transformers in 1970?

A. That's correct.

MR. BURKE: Object to leading.

Q. (by Mr. Baumer) Now you indicated that in 1972, that Monsanto continued to sell PCB -- fluids containing PCB's because of the fire application and that they could be -- their uses could be managed?

A. Yes.

Q. Is that correct?

A. Yes.

Q. Isn't it true that Monsanto would not sell fluids containing PCB's after 1972 unless the customer signed an indemnity agreement?

A. That is true also.

Q. Now Mr. Burke asked you about the task of ANSI Committee C-107 and you indicate, I think, there was no other body that was dealing with that particular task?

A. (Witness nods head)

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Q Is that correct?

A That is correct.

Q That is not to say, is it, Mr. Papageorge, that some other body could not have dealt with that task?

A That's true.

Q And you indicated there was no governmental agency dealing with that task; is that right?

A That is true.

Q Is that to say that some government agency could not have dealt with that task?

A I believe there is -- somewhere in our government structure there could have been an assignment made to individuals to come up with this task, and the example that comes to mind is the National Bureau of Standards could have done it.

Q The FDA could have done it too, could it not?

A In their limited area, food-related or drug-related.

Q And in fact the FDA did thereafter start processes and hearings in 1970 or '71 concerning the amount of PCB's in food and food products and food chains?

A I am not too sure of the exact date you mentioned, but in that -- on or about that time they did come out with some guidelines as to what they would tolerate present in food. They at no time addressed the problems of proper disposal, protection of the worker in the workplace, shipping,

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tagging, the things that ANSI C-107 did.

Q. The things that ANSI C-107 did with respect to tagging and labels and that stuff, that type of activity, is that what was common to -- for industry to do at that time?

A. Yes.

Q. You also, in response to a number of questions by Mr. Burke, indicated that there were just small quantities of PCB's found in the overall environment, did you not?

A. Yes.

Q. You don't mean to infer by that, do you, that merely because there are just small quantities, that they should be ignored?

A. Not necessarily. It depends on the -- many other factors. Where, under what conditions?

Q. So the mere fact that we were just talking about small quantities, like parts per million, doesn't make it insignificant to environmental concern or health -- or from a health perspective, does it?

A. Not necessarily.

Q. I think you also, in answer to a question by Mr. Burke, indicated that in 1970 there was no definitive proof that PCB's were in the environment, do you recall saying that?

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A. Was it by the end of 1970, you say?

Q. In 1970. If I have misstated your answer, tell me. I want to get it right, but that's what I wrote down, that you indicated that in 1970 there was no definitive proof that PCB's were in the environment.

A. There was limited evidence that there was some PCB's in the environment.

Q. But -- and is it also true though that in 1970 Monsanto took off the market a large portion of its PCB's?

A. Yes.

Q. And did Monsanto communicate to GE in 1970 that it was taking these products off the market?

A. Yes.

Q. Because they contained PCB's?

A. Yes.

Q. And Monsanto had already likewise shared with General Electric the scientific information it had up to that time?

A. That is correct.

Q. And when you were doing that, you were doing that principally with Mr. Raab and Dr. Pozefsky, right?

MR. BURKE: Objection. Repetitious.

A. Yes.

Q. (by Mr. Baumer) Mr. Raab and Dr. Pozefsky were your principal contacts although you did talk with other

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General Electric people, did you not, in that time frame?

A. Yes.

MR. BURKE: Objection. Repetitious.

A. Yes.

Q. (by Mr. Baumer) Mr. Papageorge, let me show you Exhibit 136, and does that exhibit and all of the pages of that exhibit, does it generally discuss the use -- usage and concerns about PCB's in general?

A. I don't know that it's that general.

Q. Well, in what way is it -- look at the 1970 letter here.

A. All right.

Q. August 14, 1970. What was the purpose of that letter?

A. It was at least twofold. One is to remind the recipient of previous communications.

Q. Concerning what?

A. Concerning the presence of PCB's in the environment, and the need to control their escape to the environment.

Q. In general, as opposed to the source of the escape?

A. That is right.

Q. Okay.

A. But this particular letter also zeroes in on

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plasticizers and modifiers.

Q. All right, sir.

A. Okay. It then goes on to point out the interest of FDA in PCB's and the fact that they had established some guidelines for the amount of PCB's that would be tolerated in food and fish.

Q. And do those guidelines limit themselves to the source of the PCB's, such as from capacitors or transformers?

A. No.

Q. All right. Thank you. That's fine. Do you recall the exhibit that dealt with the management plan?

A. I recall an exhibit of a proposed management plan.

Q. Exhibit 329?

A. Yes.

Q. And did that proposed management plan, did it make a distinction with respect to the removal of PCB's from the environment as to the source from which those PCB's entered the environment?

A. Well, there is no attempt made in this document to distinguish the original source of PCB's. It addresses what would happen if it entered the environment.

Q. PCB's?

A. Yes.

Q. And again, please look at 237, and you were asked whether or not that document directly referred to or

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related to dielectric fluids, and I think you responded that it did not?

A. Did not.

Q. It relates to PCB's without any source from which those PCB's found their way into the environment, is that not true?

A. Yes.

Q. And it relates to specifically PCB's found in certain milk?

A. Yes.

Q. And there is no indication as to the source from which those PCB's emanated?

A. That's correct.

Q. And it could come as well from a transformer as from a non-transformer fluid, could it not?

A. That is possible.

Q. Well, you indicated that there was no indication that it had anything to do with dielectric fluids in transformers but that's not accurate, is it?

A. There are paragraphs in this memorandum which are admitted to be speculations and assumptions. One would not expect to find a PCB transformer on a dairy farm.

Q. Would one expect to find that there might have been a spill of PCB transformer fluid on a dairy farm?

A. I would not expect that. That would be most

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unusual.

Q. Well, would it be most unusual to find capacitors on a dairy farm?

A. I would be surprised.

Q. So what is the source then of the PCB's on the dairy farm that you refer to -- that is referred to in that letter?

A. We could only speculate, as I did at that time, I suspected the water in that river.

Q. And do we know how the PCB's got into the water in the river?

A. All I know is that the river run through an industrial area; I can assume it was an industrial contamination. All of this is speculation.

Q. Thank you. You indicated earlier that prior to 1970 you didn't think that the government or any government agency was very knowledgeable about PCB's?

A. That is right.

Q. You even said that some of them couldn't even pronounce the word, you mean polychlorinated biphenyls?

A. That is right. In fact it is polychlorinated biphenyls.

Q. You see, some of us lawyers who have been dealing with it for three or four years now can't do it very well either.

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A I understand. But I'm not trying to be facetious.

Q I understand.

A When we first heard it was phenyls, that's an entirely different chemical, and Monsanto could not associate with that material.

Q I guess that's why people refer to it as PCB's, because it's easier to pronounce and understand what we are talking about?

A I believe that is it.

Q But would you look at Exhibit No. 34. Does that exhibit indicate that the government, some governmental agency was concerned about PCB's back in 1969?

A I can only speculate.

Q Well, what does the opening paragraph under the general policy say?

A It says, "Make the government states and university prove their case but avoid as much confrontation as possible".

Q Does that not indicate to you that at that time the government and the states were concerned about PCB's?

A No.

Q It doesn't?

A This tells me that Dr. Richard speculated eventually the government would get interested, and that we should be able to respond.

MR. BURKE: They still can't pronounce it, can they?

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Q (by Mr. Baumer) Look at Exhibit No. 37. Does that exhibit indicate that the FDA was making inquiries about Aroclors in 1968?

A Yes.

Q And that they were interested in looking into the parts per million toxicity?

A Well, again, it's presumably. This is speculation on Dr. Richard's part as to why FDA wanted samples of our material.

Q So it does indicate though that in 1968 the FDA was looking into Aroclors?

A Yes.

Q And Aroclors contain PCB's, correct?

A Not all of the Aroclors.

Q Some Aroclors contain PCB?

A Correct.

Q The ARoclors that don't contain PCB's, would they be involved with toxicity?

A Could be.

Q Could be. All right. Look at Exhibit No. 39. Now that is a letter again from Dr. Richard to Mr. Blinkenstaff?

A Yes, sir.

Q At the U.S. Department of Agriculture, Pesticides Regulation Division?

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A. Yes, sir.

Q. And by this letter, Dr. Richard is forwarding certain Aroclors, correct?

A. Yes.

Q. And are any of the Aroclors that are mentioned there, do they contain PCB's?

A. Yes.

Q. Which ones?

A. All but the last two.

Q. So in 1968 the government is receiving, at the minimum, samples of Aroclors from Dr. Richard that contain PCB's?

A. Yes.

Q. Does that indicate to you that they were studying those Aroclors?

A. Yes.

Q. All right, sir. Would you now look at Exhibit 40, which is a memo from Mr. Paton to Dr. Richard?

A. Yes.

Q. Dated June 18, 1968. Does that indicate to you that the U.S. Bureau of Commercial Fisheries was undertaking to study PCB levels in Lake Michigan?

A. Yes.

Q. And that samples of certain Aroclors had been requested?

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A. Yes.

Q. Do those Aroclors all contain PCB's?

A. Yes.

Q. Does Santovac contain PCB's?

A. Two of the Santovacs did, yes.

Q. Look at Exhibit 263. Is there any indication in that exhibit that it relates to Santovacs that contained PCB's.

A. There is reference to Santovac that contain PCB's, yes.

Q. And is there reference to fluids in general that contain PCB's?

A. I don't see any reference to fluids other than Santovac that contain PCB's. There is a repeated reference to the Santovacs that do -- that did contain PCB's.

Q. It's your position -- Or strike that. Was it the position of Monsanto, beginning in 1970, that all its customers should be provided all available information relative to PCB's?

A. Yes.

Q. And I believe you testified earlier that it was Monsanto's recommendation that its customers likewise pass that information along to its customers?

A. Yes.

MR. BURKE: Objection. Repetitious.

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Q (by Mr. Baumer) Please look at Exhibit 299. That letter, which is dated in '72, I believe, relates to Massachusetts Governmental activity concerning PCB's, correct?

A It's dated 1971.

Q '71. Excuse me.

A It does refer to a proposed Massachusetts bill, yes.

Q That would regulate PCB's?

A Yes.

Q And is that letter indicative of the activity that was being taken by other governmental bodies at that time with respect to PCB's?

A This really represents an exception.

Q In what respect?

A It was unusual for a state to propose regulating a chemical like PCB's at that point in time.

Q Normally the Federal Government regulated chemicals?

A At that time -- Well,no, that's too broad.

Q Well, if the state didn't do it, who did it?

A There was, at that time, in 1971, the EPA which had the responsibility to set standards for water pollution.

Q You're not suggesting though that the states

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could not have their own water quality regulations?

A. No, I was responding to your question, would this be typical. It is not typical.

Q. At that time?

A. At that time.

Q. Is it typical of what occurred later?

A. It was still the exception. It was rather rare for states to consider this type of control.

Q. Do you know whether Florida ever considered controlling its water quality?

A. Yes.

Q. Didn't --

A. But I don't remember, I thought we were talking PCB's now.

Q. Okay. PCB's. How about water quality?

A. Oh, water quality goes way back.

Q. States that --

A. State by state.

Q. State by state?

A. Uhuh.

Q. So to the extent that the PCB's would find their way into water, waterways, and in the water of a particular state, it would not be unusual to find states regulating the quality of their water?

A. For PCB's?

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Q For PCB's.

A It would be unusual.

Q In 1970?

A Yes.

Q In 1971?

A Yes.

Q But it would not be unusual to find that states were, in 1970 or '71, were concerned about the quality of their water?

A That is correct.

Q And to the extent that it was learned later, or it evolved that PCB's were found in the waters of states, that you would not consider it unusual for the states to then be addressing that issue, would you?

A I would not have considered that unusual, but it didn't happen.

Q It didn't happen in that scenario?

A That is correct.

Q The EPA stepped in?

A Yes.

Q Please look at Exhibit 242.

A Uhuh.

Q What does that document relate to?

A This is a letter addressed to Dr. Pozefsky which-- Along which I transmitted some reports or studies -- or

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study results that were conducted by Monsanto Plant to determine how well PCB's could be removed from water using carbon.

Q. Did that make any difference as to the source of the PCB's in the water?

A. No.

Q. Whether it came from a transformer or a capacitor?

A. It does not make a difference, no.

Q. Look at Exhibit 241, please. What does that document refer to?

A. This refers to a presentation that Monsanto made before the committee chaired by Dr. Sager.

Q. And did the response or report that Monsanto made to that committee address itself generally to PCB's?

A. Yes.

Q. And their having been found in the environment?

A. Yes.

Q. Without regard to the source of those PCB's?

A. That is right.

Q. Thank you. Did Therminol FR contain PCB's?

A. Yes.

Q. Mr. Papageorge, back in 1970,'71, was there not a group of people who believed that non-PCB fluids were preferable in transformers to PCB fluids?

MR. BURKE: Objection. Leading. Vague.

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Q (by Mr. Baumer) If you understand the question, you can answer.

A I think I do. I don't recall any group. There were individuals that felt this.

Q What type of individuals? Governmental?

A I don't recall any government representative stating that.

Q How about EPA, did the EPA conclude that non-PCB fluids were preferable, even if they didn't contain as good a fire characteristic?

A I don't recall EPA people saying that.

Q At any time?

A Not in my presence.

Q You never read that?

A I don't recall that, no.

Q You are aware, are you not, that there has been EPA rules that have banned the use of PCB's in certain facilities?

A Yes.

Q Some of which are transformers?

A Yes. The EPA you say or FDA?

Q EPA.

A EPA.

Q You are shaking your head --

A I was trying to think. I know FDA has limited the

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presence in situations where the potential for contaminating food or drugs is there.

Q Was that in the use of any facility in relation to food preparation where PCB's were in the particular facility?

A That's my understanding, yes.

Q Would that include a transformer that was in a kitchen?

A Yes.

Q Or above a kitchen?

A Or a conveyor belt or --

Q Was it not the recommendation of ANSI and NEMA that there be warning labels placed on equipment that contained PCB's?

A Yes.

MR. BURKE: Objection. Repetitious.

Q (by Mr. Baumer) With respect to whether or not General Electric communicated with its customers regarding PCB's, you have no knowledge one way or the other, do you?

MR. BURKE: Objection. Repetitious. Go ahead, sir.

A The knowledge I have is the assurance I got from my discussions with representatives of General Electric that communications were taking place.

Q (by Mr. Baumer) Who gave you those assurances?

A Several people. Certainly Mr. Raab and later

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Dr. Simon and --

Q What was the form of the communication that was passing between General Electric and its customers?

A Well, I understood there was a letter that was prepared.

Q Was it sent?

A And sent, I was told that. I had no way of personally seeing to it that it was sent.

Q Did that knowledge -- Did your understanding also include that General Electric was putting warnings on its transformers?

A Yes. In fact Monsanto bought some with warnings on it. I saw that.

Q When did Monsanto buy --

A In that period of time, '72, '73.

Q Didn't General Electric -- Excuse me. Didn't Monsanto require assurances from its customers that the customers would warn their customers of PCB content of particular items, whether they be transformers or whatever?

A We -- I don't know that it was a condition that had to be documented.

Q No, I didn't ask that. I said --

A Assurance.

Q I said was that not a condition of the further sale of PCB's in 1972?

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A. I don't recall the exact wording of the special undertaking. If so it would be in that wording.

MR. BAUMER: That's all I have. Thank you.

RECROSS EXAMINATION

BY MR. BURKE:

Q. One quick question, Mr. Papageorge: For the period 1970 to 1974, specifically for that period, what other fluids are you aware of that were available for liquid transformers besides mineral oil and Askarels?

A. Near the end of that period I was aware of some studies that were made using materials that were referred to as silicones.

Q. Do you know if they were commercially available in that period?

A. I don't know if they were commercially available. I knew there were test quantities available.

MR. BURKE: Thank you, sir. That's all I have.

MR. BAUMER: No questions. You have a right to read this deposition when it is concluded, and I would imagine you would like to do so, so if you will give the Court Reporter a telephone number, he will call you when it's ready to be read.

THE WITNESS: He has my business card with the telephone number on it.

MR. BAUMER: Thank you. Let's put on the record

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what we are going to do. The deposition, as I understand, by agreement of the parties, Mr. Burke, between he for GE and I for Independent Life & Accident Insurance Company, a copy will be sent to the witness and the witness will be sent the original signature page along with that copy, and the signature page and the errata sheet, if one, will be sent back to the Court Reporter for placement in the original deposition.

MR. BURKE: That's fine.

_____

Signature of Witness.

Subscribed and sworn to before me on this _____ day of _____, A.D., 1986.

My commission will expire _____

_____

Notary Public.

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STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

I, Richard E. Schroeder, R.P.R. and Notary Public duly commissioned and qualified in and for the County of St. Louis, which adjoins the City of St. Louis, State of Missouri, do hereby certify that pursuant to notice there came before me on the 7th, 8th, and 9th days of April, A.D., 1986, between the hours of eight o'clock in the forenoon and six o'clock in the afternoon, at the law offices of Peper, Martin, Jensen, Maichel & Hetlage, 720 Olive Street, in the City of St. Louis, State of Missouri, the following named person, WILLIAM B. PAPAGEORGE, who was by me duly sworn to testify to the truth, and nothing but the truth of his knowledge touching and concerning the matters in controversy in this cause; that he was thereupon carefully examined upon his oath and his examination reduced to writing under my supervision; that the deposition is a true record of the testimony given by the witness; and that the deposition was read and signed by the witness.

I FURTHER CERTIFY THAT I am neither attorney nor counsel for, nor related to, nor employed by any of the parties to the action in which this deposition was taken, and further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, or

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financially interested in this action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal on this _____day of _____, A.D., 1986.

My commission will expire June 3rd, 1986.

_____
Notary Public.

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