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 CUMMING PATCH
TAKEN ON BEHALF OF THE PLAINTIFF.

April 9, 1986

Richard E. Schroeder
Registered Professional Reporters
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621-0107

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IN THE DISTRICT COURT OF THE UNITED STATES
MIDDLE DISTRICT OF FLORIDA
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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 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 foreigh corporation, is Defendant, pursuant to notice between counsel, under the provisions of Rule 26(a) of the Rules of Civil Procedure, taken on the 9th 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.

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

CUMMING PATON,

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

DIRECT EXAMINATION

BY MR. HAMILTON:

Q. Could you please state your full name for the record?

A. Cumming Paton. C-u-m-m-i-n-g P-a-t-o-n.

Q. And your address?

A. 978 Morena Court, M-o-r-e-n-a, Court, in Ballwin, Missouri, 63011.

Q. What is your educational background, starting with when you finished high school?

A. I went to the University of Aberdeen in Scotland; I took a Bachelor of Science Degree in Chemistry, and then I took a Ph.D. at the same university.

Q. When?

A. Well, the Bachelor of Science Degree was 1955, yes, 1955; the Ph.D. Degree was 1959.

Q. From the same university?

A. The same university.

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Q What was your Ph.D. in?

A It was also in Chemistry.

Q Have you had any further studies since that time?

A I think I did a couple of semesters, I started an M.B.A. at Western Reserve in Cleveland, but then I came to St. Louis and didn't proceed further.

Q Okay. Have you had any specialized training concerning PCB's?

A No.

Q You had, I guess, some training concerning PCB's during your Bachelor and Ph.D. program?

A No.

Q Have you attended any seminars or conferences concerning PCB's?

A I can't recall any.

Q Okay. Could you give us a detailed work history from the time you received your Ph.D. forward?

A Yes, I started to work for Monsanto Company in Wales in Great Britain, as a Research Chemist.

Q In 1959?

A Yes, 1959. I stayed with them three years or so, then I went to the Geigy Co., Ltd., which now is a part of Ciba-Geigy in Manchester, England, and I was in charge of their Technical Services Laboratories for additives for plastics. I stayed there two years, then decided to leave

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Great Britain, came to the United States in late 1964, yes, 1964. I joined the Diamond Akali Company, which would now be Diamond Shamrock in Painesville, which is just east of Cleveland. I was in I guess a marketing technical service role with them. Decided I liked the United States but careerwise I wasn't too enchanted so I rejoined Monsanto in 1966 in St. Louis in Marketing and Plasticizers, which is a -- you know, types of chemicals that get added to modify polymers and plastics.

Q So your position was marketing of plasticizers?

A Yes, I guess I am a marketing specialist or something would probably have been the title.

Q Okay.

A Then the beginning of 1968 I became a Marketing Manager responsible for a group of these products and then I did that for two years, then I went into the International Division. I was there for two years, 1970, probably '71, as the Area Marketing Manager for Latin America, Organic Chemicals for Monsanto. Late 1971, I think it was, I became a Product Manager for Fluids and then I had, as I recall, for the next four or five years, I gradually took over responsibility for more groups of products in that general area and probably -- I tried -- I'll try to get the dates right because I didn't really -- I don't have the chronology, but probably sometime in 1977 maybe, that sounds about right,

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I would have -- I became a Director of Commercial Development for our Plasticizer Division. Then in early 1979 I went to Brazil as Commercial Director for Industrial Chemicals. In '82, I stayed in Brazil and became the Business Director for a new growth program in Brazil, came back to the United States in August of 1984 as Director, International Development and Administration for our International Operations, and that's the position I hold today.

Q Okay. During which years did you work with PCB's or market PCB's?

A I would have had some involvement with them in the 1968 to 1970 period, in my plasticizer role, because we sold certain PCB's for what we called plasticizer-type applications. Then I would have probably done some marketing of them or had some marketing responsibility for them in Latin America, '70 to '71, among a whole lot of other products. And then 1971, for several years, I was heavily involved with it as Product Manager with heat transfer fluids, Pydraul hydraulics fluids and also our dielectric PCB's.

Q Okay. 1971 would have been when you first became--

A Late.

Q -- actively involved?

A Late '71 is when I got actively involved.

Q During that time you were involved with heat transfer fluids as well as dielectrics?

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A. Yes.

Q. Do you recall a PCB issue or concern arising at some point in time?

A. I became aware of it, as I sort of -- as sort of events occurring, when various scientists were claiming that PCB's were being found in the environment.

Q. About what time period was that, as you recall?

A. I think that I was aware of it maybe in the late 1960's, but I think it was somewhat at that time, maybe an isolated incident, something to do with Sweden, as I recall.

Q. Jensen, do you recall a report --

A. The name Jensen rings a bell.

Q. Do you recall anything in that time period by a Dr. Risebrough?

A. That name is also familiar. And it could have been in that time. You know, as far back -- I'm having a difficult time pinning down dates, but the name Risebrough is certainly familiar.

Q. Why did you notice the PCB issue or whatever, was any part of it important to you?

A. I think, in the case of the Swedish instance, I think that was brought to my attention by our Medical Director at the time, Emmett Kelly. And it was -- a paper had been published, you know, it was extremely vague as I

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recall at that time, but there was -- you know, the PCB's had been found. Since it was, you know, a product that we manufactured, you know, you took at least some cognizance of the fact. And then I think in the case of the Risebrough thing, I think it was in the newspapers, as I recall, a newspaper article was published alluding to some research work that he had done.

Q. Why was Monsanto concerned that -- with the finding of the studies?

A. I guess because -- the allegations were that these products were persistent in the environment and were building up and doing damage to certain types of wildlife. As I recall, that -- you know, you get an instance like that surrounding a product, you have to, you know, feel, if you're socially responsible, you want to investigate to find out, you know, more about what the facts are and is this part of a wider problem.

Q. What was your involvement in this investigation of the facts concerning PCB's?

A. I would not have been involved in the scientific investigation as to whether the facts were right and whether we had -- you know, way back in that time, I think the type of analytical methodology that is maybe commonplace today was still in its infancy, so there was still a lot of genuine scientific debate as to whether or not -- what the

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facts were, and these were in the levels, et cetera, et cetera, could you identify these minute' levels that were being claimed. My involvement would have been more from a customer standpoint. Customers read about this, their first thing is to kind of ask what this might mean.

Q. Do you recall a time when Monsanto verified in its own mind that these PCB levels that people were reporting really were in the environment?

A. That might well have happened in my stint in the International Division. As I say, the Swedish thing I think was brought to my attention when I was in the Plasticizer Group and I think the Risebrough thing probably at that point too. If that was in the '68 to '70 level, then I was out of it for about two years, when I wasn't really following it that closely.

Q. Okay.

A. And then I came back in, as I say, in late '71.

Q. So you believe it was during the late '70, '71 period that Monsanto verified PCB's were in the environment?

MR. BURKE: Objection. Leading.

Q. (by Mr. Hamilton) At what point in time did you believe Monsanto verified PCB's were in the environment?

A. I can't really answer that and pin a definite date to it.

Q. By the time you returned from the International

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Division in late 1971, had that been done?

A. I guess so, but I -- you know, I came back as a Product Manager in a group of products. As I recall, the problem at that time was a heat transfer, fluid problem. I cannot pin down exactly when the scientists and so on we had working on it said gee, yeah, we can identify and agree.

Q. Let me show you an exhibit --

A. And it's because, you know, to some extent I can't remember all of the details.

Q. Okay. It's been a while.

A. Yes.

Q. I'm going to show you some exhibits this morning. They are marked from the deposition of Mr. Bistline that was taken. This one is Exhibit 27, December 9, 1968. I guess internal Monsanto memorandum. You are shown as having received a copy of this memorandum, correct?

A. Uhuh.

Q. Would you take a look at it. Do you recall this memorandum?

A. No, but I am -- I don't mean by that that I am denying that I got a copy of it, but God, I can't remember this with specific memory.

Q. Sure. Do you recall discussions concerning a Dr. Colandra?

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A That name rings a bell. I don't think he was a Monsanto employee, I think he was a consultant.

Q Industrial Biotest?

A That probably would be right.

Q Do you recall some discussions during the 1968 time period?

A I don't think I -- As best I can recall, I don't think I ever had any specific discussions with Colandra. It would have been probably on a medical -- our medical people that would have been the interface between Monsanto and Colandra.

Q Okay. Does this memorandum refresh your recollection as to whether at least as early as December 9 of 1968 you were familiar with the PCB issue?

A Yeah, I think very clearly would say that I was, and as I say, it was sometime in the late sixties that I became aware of Dr. Kelly bringing to my attention the Jensen article and then the Risebrough work.

Q I am going to show you what is Exhibit 17. It's a March 10, 1969 Monsanto Memorandum. You are also shown as receiving a copy of this memo.

A Uhuh.

Q If you would take a look at that and see if this meeting, you recall this meeting being held, even if you didn't attend, being told what transpired?

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A. Well, from the memo, I didn't attend.

Q. Right.

A. And by being carboned in was to keep me apprised as to what was going on.

Q. Were you involved in the consulting work on PCB's that Industrial Biotest did with Monsanto?

A. No.

Q. Were you apprised of the ongoing studies?

A. Yes.

Q. During this time period before you left with International Division in 1970 for a couple of years, what contact, if any, did you have with representatives of General Electric?

A. I don't think I had any contact with them at that time because I wasn't handling dielectric fluids.

Q. Let me show you Exhibit 65 and 66 which are sales information bulletins dated -- 65 is dated October 13, 1971, and 66, October 14, 1971.

MR. DERRYBERRY: He is looking at 65 now.

Q. (by Mr. Hamilton) With respect to 65, you prepared this bulletin.

A. I have to say, with my signature on it, and it looks like my scrawl, that the answer would be yes.

Q. Okay. What was the purpose of these type bulletins in 1971?

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A. They were a communication mechanism between a product group and the field sales force and this was a Monsanto-- this type of communication was a Monsanto practice in Monsanto at that time, and then each product group, if you will, you know, put their own little logo on it.

Q. Okay. I take it by October 1971, you were back with Monsanto in St. Louis?

A. Yes, I must have just been back, I would say a month or two.

Q. Do you know what the circulation of these bulletins was outside of Monsanto?

A. Not always. There was somewhere, if it was an internal communication giving maybe some policy direction directly to the field or whatever, you might say specifically, you know, this is for internal company use. Do not distribute. The idea was that you could attach things which salesmen could use to answer questions that customers bring up or could volunteer, and you obviously relied on the discretion and the knowledge and the competency of the salesman to decide when that was appropriate, and if they had any questions he could come back, either ask his manager or come back and ask someone like me or someone on my staff.

Q. Okay. If you all wanted something not to be disseminated to customers, it would be -- the statement would appear on a memorandum?

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A. Pretty much I think.

Q. During the time period when you came back in 1971, did Monsanto have any policy as far as communicating with its customers about PCB's?

A. I think they may just have begun, I believe.

Q. Okay. Communicating with customers?

A. I think there might have been, but I can't recall for sure, but I think there might have been.

Q. Okay. Before that you were out of the country?

A. I travelled extensively out of the country.

Q. In 1970 and --

A. And '71.

Q. Whose job was it primarily to communicate with customers such as General Electric concerning PCB's?

A. In the case of dielectrics it would have been twofold, would either have been through the field sales effort which in the case of dielectrics, I think it was a small sales group or it would have been through a marketing manager who was part of my group and the man who reported to me.

Q. Where would Mr. Papageorge and Mr. Benignus fit into that?

A. Okay. At some point, and I can't recall when, Bill Papageorge was given the title of Product Acceptability Manager and he probably -- we might well have referred

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specific inquiries to him to handle. Mr. -- Did you ask someone else or just Papageorge?

Q. Mr. Benignus.

A. Oh, Mr. Benignus reported to me, and again I can't recall the exact dates when Paul did report to me, but he did report to me as Market Manager for dielectric fluids.

Q. Did he communicate with customers such as General Electric?

A. Yes.

Q. Concerning PCB's?

A. Yes. And you know, the whole -- any aspect, marketing aspect of dielectric fluids.

Q. Okay. If you will take a look at Exhibit 66, this is the October 14, 1971 sales bulletin, do you recall why you sent this bulletin?

MR. DERRYBERRY: Take a moment and look at it, if you like.

A. Yes, because I think that the use of dielectric fluids in things like capacitors and transformers, these were very much closed systems. There was, once you put the fluid into the capacitor or transformer, you didn't have the danger of leakage or environmental pollution like you would have with heat transfer fluid applications or with hydraulic fluid applications. But there were risks of environmental

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pollution, if for example leakage occurred at the primary manufacturing site, or when a transformer had to be repaired and drained and so on. And so I think this obviously had started before I got involved because, you know, in October I'm reporting -- again I would have to speculate, maybe you don't want me to get into speculation, but I can see how a committee like this was informed to address what might be accidental environmental pollution, and one service that Monsanto was able to offer was we had an incinerator and we were prepared to take this fluid back and dispose of it properly and therefore I was communicating to the field sales force what we were doing so if they were asked questions about this, they could intelligently tell the customer what to do.

Q Okay. Are you aware of some instances where transformers have leaked dielectric?

A You mean in use?

Q Yes, during use.

A I can't recall.

Q Are you aware of any instances where transformers have been involved in fires with PCB dielectrics?

A I can't recall that.

Q Okay. Are you familiar with the Binghamton incident in New York?

A That doesn't ring a bell.

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Q. Okay. Nor an incidents in buildings in San Francisco or Chicago or Miami or Tulsa?

A. I can't recall any of those.

Q. Okay. Was part of your job responsibility during this time period to evaluate the incidents of failure of transformers?

A. I don't think I personally got involved in that that I can recall.

Q. Are you able to testify that during use transformers never fail in that they -- that they never leak fluid out of the transformer?

A. No.

MR. BURKE: Objection. Multiple question.

Q. (by Mr. Hamilton) Are you able to testify that transformers do not leak fluid during use?

A. I am not able to testify that, but that doesn't mean to say that I -- that the converse is true, that they leak. I am not competent to do that.

Q. Okay. That hadn't been within an area that you have focused on in your employment?

A. No.

Q. Did you have any involvement with keeping up with the development of alternative dielectric fluids to PCB's?

A. Yes.

Q. Let me show you an October 3, 1975 memorandum

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that is Exhibit 275. You are shown as having received a copy of that. It's sort of marked through.

A. Uhuh.

Q. Mr. Paton, if, for the Court Reporter's benefit, if you could answer yes, it will be a little easier for him to transcribe it.

A. Oh, I see.

Q. As opposed to uhuh.

A. Oh, I'm sorry. Yes.

Q. If you will take a look at that to see if you remember this report. Do you recall in the 1975 time period General Electric working on transformer dielectric replacement fluids for PCB's?

A. I recall Monsanto working to try and develop replacement fluids and we would have been in touch with the transformer manufacturers concerning those. From this I see that there was some discussion. I wasn't intimately knowledgeable of what alternatives GE might have been evaluating either on their own or with other companies.

Q. Okay. Do you know what fluid General Electric put on the market after it ceased selling PCB transformers?

A. No, I can't recall that.

Q. Did you ever discuss with General Electric how much work would be involved to convert its transformers from the use of PCB Askarel to a silicone fluid?

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A. I may have, but I can't recall any specifics.

Q. Would you tell me what discussions, and with whom you had those discussions with General Electric people during the 1971-1972 time period concerning PCB's?

A. I would have had discussions with the capacitor people at Hudson Falls.

Q. Anyone in particular? Do you remember Mr. Pozefsky?

A. That name rings a bell; I don't think I would have had a great deal -- I may have met him once but I can't definitely recall that.

Q. Do you recall any names specifically?

A. My memory fails me. I feel embarrassed.

Q. What type discussions did you have with the people in Hudson Falls?

A. It would have involved programs that we had underway to try and find replacements. At one point we tried to change one of our Aroclors to what we considered a more biodegradable form. In fact as I recall, that was commercialized. And then we also had programs to try and develop products that had no polychlorinated biphenyls in them at all.

Q. Did you discuss the PCB issue in general terms with the General Electric people during this time period?

A. In general terms, probably, yes, but it would have been probably very general terms. I would have looked

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to people like Paul Benignus or our research people, or a Bill Papageorge to be, you know, very specific on that.

Q. In your discussions, did it appear that the General Electric people at Hudson Falls were aware of the PCB controversy?

A. Yes.

Q. That they were?

A. Yes.

Q. Did you speak with anyone from the transformer group in Pittsfield, Massachusetts of General Electric?

A. This memo refreshed my memory that Ed Raab I recall was an individual that was involved.

Q. Would that have been in the 1971-72 time period you talked with him?

A. I'm not sure if I talked to him that early; I might. I can't recall.

Q. Did you talk with -- Did he appear to be knowledgeable of the PCB controversy?

A. I can't recall for sure.

Q. Did you all discuss PCB's in environmental matters when you all talked?

A. It's difficult for me now to recall, when I would have visited GE transformer manufacturing facilities, it's difficult for me to recall if I was there talking general commercial terms or got into specifics.

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Q. Okay. Do you recall if you discussed possible alternatives to PCB's or biodrgradable qualities of PCB mixtures?

A. Again I can't recall specifics. It wouldn't surprise me that it was because it was something that was being discussed.

Q. But the medical people, Mr. Benignus or Mr. Papageorge were more charged with that, in your mind?

A. Yes.

Q. Let me show you Exhibit 286. It is a November 4, 1971 letter by Mr. Papageorge to Mr. Raab. Let me ask you whether that is an example of communications by Mr. Papageorge to Mr. Raab concerning PCB's? You were copied on the November 4, 1971 letter?

A. Yes.

Q. Do you recall receiving copies of letters like this periodically addressed to General Electric concerning PCB's?

A. You know, I recollect this one, now that it's put in front of me. I can't really recollect others. That's not to say there weren't any, I just can't recall.

Q. Seeing this one jogged your memory to that you remembered it?

A. Yes, but this is the kind of work that Mr. Papageorge did.

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Q. Okay. Attached to the February 2, 1972 letter that is attached to this Exhibit is a question and answer sheet on PCB's.

A. Yes.

Q. Do you recall ever seeing this question and answer sheet?

A. Yes, this was an example of the ones that we prepared to answer, you know, the many questions that we were getting.

Q. Okay. And question and answer sheets like these would have been disseminated to your customers for them to disseminate in turn to their customers?

A. They would have been disseminated either to our customers or to our salesmen to give to customers. Beyond that, you know, I can't say what happened.

Q. Okay. Thank you. I show you Exhibit 259, which is the October 1, 1971 Monsanto memorandum. You were copied as receiving a copy of this.

A. Yes.

Q. This memorandum has reference to the PCB food contamination incident in Japan; is that correct?

A. Yes.

Q. Do you recall the Yusho incident?

A. No.

Q. You don't. Okay. Do you recall an incident

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in Japan?

A. Vaguely now that, you know, you bring the subject up, but I can't recall any specifics about it.

Q. Were you involved at any time in the disseminating information for Monsanto to International customers?

A. I can't recall. You're probably going to find a memo that says I did.

Q. Well, this one I think you were copied on, Exhibit 266, it's April 11, 1972. I know it's been a long time.

A. Yes. It wouldn't have surprised me. Obviously we would have had to start informing International people, so it doesn't surprise me.

Q. Okay. This memorandum relates to I think a letter warning of the potential hazards of PCB's entering the environment that was sent to General Electrical Company of Australia. Does this refresh your memory that Monsanto did send letters to International customers?

A. It does, and I got a copy, so yes.

Q. I direct you to the 30th of March 1972 letter which I take it is the warning letter that was sent out.

A. Uhuh.

Q. In the second paragraph it states "We feel certain you are aware of the interest and concern being demonstrated around the world by scientists about this

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problem", the problem being PCB's "in the environment and in the food chain". Is that a problem that you were aware of in 1972?

MR. BURKE: We object to the form of the question. There is nothing in the letter that talks about found in the food chain or as existing in the food chain except as a very elliptical reference. I object to the form of the question.

MR. HAMILTON: This letter speaks for itself.

Q (by Mr. Hamilton) Do you recall a concern at that period about PCB's in the food chain and accumulating in the environment?

A There was a concern that we -- there were published reports about PCB's being found in the food chain and this had led to our -- you know, our investigations as to whether these reports were true or not, et cetera.

Q If you will please turn to the next page, it states "The undertakings with which we would request you to agree are as follows". Are these conditions to Monsanto selling PCB's to these International customers?

A Yes.

Q Number two refers to "Acknowledging being advised of potential harm to the environment and to food and the food chain by the escape of PCB's into the environment". Is that accurate?

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A. Yes.

Q. Is that something that Monsanto advised both its International and its United States customers?

MR. BURKE: I object to the form of the question. It's a letter to an International customer. Go ahead, sir.

Q. (by Mr. Hamilton) You can answer the question.

MR. DERRYBERRY: Just a minute. Sometimes he will object to the form of the question. This just means he is preserving certain objections, but it doesn't mean you can't answer.

THE WITNESS: I see.

MR. DERRYBERRY: If you are able to answer the question that he asks you, proceed to do so.

A. As I recall, there would have been a similar type program introduced domestically.

Q. (by Mr. Hamilton) Do you recall Monsanto advising its domestic customers to assure PCB's did not enter the environment and to so advise their customers?

A. As I would recollect, it probably took the form that we were -- that we advised our customers of potential harm if PCB's did escape into the environment.

Q. Did Monsanto recommend that your customers in turn tell their customers?

A. That I can't recall.

Q. I will ask you to take a look at Paragraph 5 of

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the conditions.

A. Yes. Okay.

Q. There at least with respect to the International customers, they were agreeing to notify their customers of the hazards of PCB's, is that accurate?

A. Yes.

Q. Do you know if that was done domestically as well?

A. I would think it was done. You know, I can't recall specifically, but --

Q. Do you know any reason why the International customers would have been asked to do things that the domestic customers wouldn't have been asked?

A. No, I don't think so. That's why I think chances are it was done in both cases.

Q. Thank you. Did you follow or become involved in any Monsanto studies or experiments concerning PCB's?

A. Experiments, no; studies, you would have to clarify a bit what you mean by a study.

Q. Well, any -- what type of -- what does study mean to you?

A. Studies could mean studying almost anything, you know. Studying could be a market study, it could be some kind of a scientific study to take care of PCB's in the environment.

Q. I am referring to --

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A It could be a study how to handle communications on this particular issue.

Q Okay. Well, first, do you recall any studies on communication or on -- did you say marketing PCB's, do you recall any studies of those type?

A We did studies to see where our customers were located so we could communicate with them, people that had bought PCB's from us so we could try to be as certain as we could when we were communicating, what our policies were going to be when selling these products, so we could reach them.

Q Okay. Did Monsanto believe it important that it notify all of its customers before they bought PCB's about the characteristics?

A After this issue of environmental contamination was raised, gradually we took steps as best we could to try to communicate with all of the people that were using them, and that communications also in certain cases, like heat transfer fluids and Pydrauls, and eventually dielectrics, told them we were no longer in a position to continue to supply their products and precautions they should be taking.

Q And it was Monsanto's policy to convey these messages?

A Yes.

Q How about scientific studies concerning PCB's,

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did you follow such studies by Monsanto?

A. I would have followed them insofar as their conclusions would impact on marketing policies.

Q. Do you have a present recollection of those types of studies?

A. There were several going on at the same time. There were those trying to confirm some of the allegations that were being made, trying to determine the accuracy of the amounts and the analytical procedures to be able to detect them. There were studies going on as to the biodegradability, their toxicity, and there were studies going on as to determine whether or not, initially, different types of PCB's might be more biodegradable and therefore less of a -- less persistent in the environment, and whether these in turn would be suitable for substitution, and then we got into studies on non-PCB products.

Q. Okay. Did Monsanto wait until all these studies were concluded to notify its customers of the potential problem?

A. No, I think we began fairly early trying to alert people to potential problems.

Q. Were you involved with any decision within Monsanto to require its purchasers of dielectric fluids to sign an indemnification agreement?

A. I recall that, and I would have been involved, yes.

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Q. What would your involvement have been in that?

A. It would have been to work with our legal personnel to determine how we could do it in a way that commercially and from a practical business standpoint, it was a doable situation.

Q. When you say a doable situation, what do you mean? What were the obstacles that you all saw?

A. Well, the fact that my position from the marketing commercial part of Monsanto would have been to try and make sure that I, as a layman, and therefore, in the purchasing and other areas that we dealt with with customers, that we could communicate clearly what was involved in this, and then making sure that these -- there was measures I think where orders had been to stamp, so we informed our people accepting orders what was needed and so on. So it might be in trying to interpret the legal situation.

Q. What was the reason that Monsanto required an indemnification of its customers?

MR. DERRYBERRY: As far as you know.

A. As far as I know, it probably would be because, you know, increasingly we are getting into a litigious society, so it would be a means of protection.

Q. Do you know if Monsanto ever required the customers not only to sign an indemnification but also to

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give a financial statement or financial information?

A. Yes, I recall that there were cases where they did do -- they had to do that.

Q. Do you know what the criteria for being considered financially sufficient were for Monsanto to sell to someone?

A. I recall criteria being established; I can't today remember specifically what they were.

Q. Who might recall that, or know that?

A. Hard to say. Our legal people might, I would guess.

Q. Who were the legal people that you worked with?

A. Oh God!

Q. Is there a Mr. Putzell, is he from Monsanto?

A. He was a Senior Legal Counsel for Monsanto; I can't recall if he was involved in that.

Q. Do you recall an indemnity being required of General Electric?

A. I cannot recall. It was a policy; whether it applied -- I would think it would apply to General Electric. I can't recall specifically. I take it you are going to pull it out and show it to me.

Q. I'm going to try. Let me show you what is marked as Exhibits 2 and 3 and ask you if Exhibit 2 looks like the indemnity agreement as you recall?

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A Yes, it does.

Q In that indemnity agreement, did Monsanto spell out what all it covered?

MR. BURKE: I object to the form of the question, requiring this witness to give a legal opinion of a document which he did not recall. Go ahead, sir.

Q (by Mr. Hamilton) Do you recall this document?

A I recall this document, yes.

Q Let me ask you this: Was it your understanding that the indemnification was intended to protect Monsanto from any incident in which people or animals or the environment were harmed due to PCB's?

MR. BURKE: I object to the form of the question. It calls for a legal conclusion.

Q (by Mr. Hamilton) You can answer.

MR. DERRYBERRY: I think he is still reading.

Q (by Mr. Hamilton) Strike the last one. Let me ask this when you are finished reading. Did Monsanto intend to insulate itself from liability for any environmental contamination from PCB's?

A That I can't answer.

Q You don't know if that was part of the reason for the indemnity?

A That, you know, I can't recall that being part of it.

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Q. Okay. As specifically as possible then, what was the purpose of the indemnity agreement?

MR. DERRYBERRY: Can we go off the record a minute? You can certainly ask him anything he has knowledge of. Go ahead.

A. I would not have put this document together myself. As I said, my responsibility was to get it to the customers to get it signed, and that no -- my job was to police the sales to make sure none were sold, no PCB's were sold to customers that hadn't signed this.

Q. (by Mr. Hamilton) Okay.

A. If there were questions arising, once customers got this, I would have sought legal advice and had the legal people either counsel me as to what to say to the customer or deal directly with the customer.

Q. Okay. Generally the purpose of the indemnity, as far as you know, was to protect Monsanto from liability for PCB sales?

A. It was to try to insure that people didn't buy PCB's for uses that we didn't want PCB's being used for.

Q. Were you answering yes to my question and then elaborating?

A. As it comes back to me now, this was a means of policing our sales so that they didn't go to people that might then have misused them.

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Q. Okay. Was it intending to insulate Monsanto from liability?

MR. BURKE: Objection. Repetitious.

A. That I cannot recall.

Q. (by Mr. Hamilton) What involvement, if any, did you have in any actual or proposed governmental regulations concerning PCB's?

A. I don't think -- I can't recall getting directly involved. Mr. Papageorge would have been the person that would have probably had the primary contact with the government on that.

Q. All right.

A. For Monsanto.

Q. Do you recall in 1971 or '72 time period governmental regulations of PCB's being proposed?

A. Yes, I vaguely do. There were --we were in contact with FDA and they, as I remember, promulgated some regulations.

Q. Were you involved with PCB's at the time Monsanto ceased their manufacture?

A. Yes, I think I was. I think so.

Q. What was your understanding of why Monsanto ceased manufacturing PCB's?

A. I think economics would have played a part in it.

Q. In what way?

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A. In that clearly we were devoting considerable management time and direct time on all these programs to police sales, to try to develop alternatives, and so on and so forth. At some point you have to decide whether or not this is really a long-term business that you can sustain.

Q. Do you recall any deadlines placed upon Monsanto by the EPA?

A. I can't recall that.

Q. Okay. Why did Monsanto cease manufacturing PCB's for open uses in the 1970 time period?

A. As I recollect, and again it's recollection, it would have to do with if there were open uses, it would be hard to prevent environmental contamination. Whether or not that environmental contamination created problems is another matter.

Q. I'll show you Exhibit 133. This is an October 3, 1973 letter written by you.

MR. DERRYBERRY: This says August 3.

Q. (by Mr. Hamilton) I'm sorry. You're right. August 3, 1973.

A. Yes.

Q. Okay. Do you recall this letter?

A. Yes.

Q. Would this letter have been mailed out to customers of Monsanto who purchased PCB's?

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A. This specific one went to customers who purchased hydraulic fluids.

Q. Would that have included General Electric?

A. It includes General Electric locations that had purchased hydraulic fluids from us.

Q. Some General Electric locations used PCB hydraulic fluids?

A. Yes, that is my recollection.

Q. Okay. Let me ask you to take a look at Exhibit 136, which is a May 25, 1972 letter by you to customers.

A. Yes.

Q. Do you recall this letter being sent to Therminol FR fluid customers?

A. Yes.

Q. Did General Electric buy Therminol FR fluid in May of 1972, up to December 15, 1972?

A. Up to December 15, 1972, certain GE locations conceivably -- you know, we would have gone back through our customer list of people that had bought heat transfer fluids and if GE -- a GE location showed up, they would have received this letter as would all other customers.

Q. And this fluid had PCB's in it?

A. FR had, yes.

Q. And the purpose of this letter had to do with Monsanto offering to incinerate its customer's Therminol fluid

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with PCB's?

A. Heat transfer fluids and hydraulic fluids were in a class where we couldn't -- that there was -- we couldn't say for sure that in the course of their use, there couldn't be leaks, and therefore a chance of ongoing environmental contamination as they were being used. These are the ones that we therefore decided, first the heat transfer fluids, then I think eventually the Pydraul, where we felt the prudent course of action was to take these off the market.

Q. Okay.

A. And we did everything we could in the case of the heat transfer fluids to try and assist customers in making conversion from a fire resistant fluid to fluids that were non-fire resistant.

Q. Did Monsanto offer to incinerate the contaminated fluids that customers possessed?

A. Yes, there was a period in which we were prepared to do that at our cost. As you see here, we give them what, about six months that we were prepared to do that.

Q. Why did Monsanto believe that customers should incinerate PCB contaminated fluids rather than just disposing of them otherwise?

A. Well, if we were discontinuing our products because we were concerned that they would leak into the environment through operation, it wouldn't be very -- you

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know, it wouldn't make a lot of sense to say take it out and pitch it, would it? There would have been far more fluids into the environment than could have happened from accidental leakage during operation.

Q Why did Monsanto not want additional PCB's into the environment?

A Because of the allegations being made by scientists.

[There was a recess.]

Q (by Mr. Hamilton) Let me show you Exhibit 50. It's an Askarel inspection and maintenance guide by Monsanto.

A Yes.

Q Are you familiar with this kind of document?

A Yes.

Q What was your involvement?

A It would have been reviewing it along with Paul Benignus who probably would have taken the key role in getting these kind of information bulletins kept up to date.

Q Is there any way of identifying the time period? There are some numbers on the last page, do you know if those give us a date?

A It might be 1973.

Q Okay.

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A. But I'm guessing. But I think it might have been 1973.

Q. Who were these inspection guides, maintenance guides disseminated to by Monsanto?

A. They would have been disseminated to customers.

Q. Okay.

A. Customers at that time might have included people that ordered their own fluid to refill transformers that they were repairing.

Q. Let me ask you to turn to Page 25.

A. 25?

Q. Right. Appendix A.

A. Uhuh.

Q. Were you aware that this caution label concerning PCB's was placed at some point in the inspection and maintenance guide?

A. Yes, because I would have looked at this guide before it went to the printers and I would have seen it there. So yes, I would have been aware of it.

Q. Why was that placed in the guide, as far as you know?

A. Again it was to emphasize the care that needed to be taken to prevent accidental spillage into the environment since again there were these allegations that said that PCB's didn't biodegrade and therefore could build

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up in the environment and ultimately get into the food chain. Since by 1973 we had discontinued our heat transfer fluids, it made sense that any other uses, at least they be made aware of the potential for accidental environmental contamination.

Q Okay. Do you recall a similar type warning being placed on sales contracts and purchase orders to customers?

A I recall that, yes.

Q Would that have been for the same reason?

A Yes.

Q Do you know if the policy of Monsanto was to give that type of warning to customers each time they purchased PCB's?

A Yes.

Q Okay. Were you involved with the NEMA or ANSI committees or reports?

A I was aware of these committees. I might have attended some of their meetings. Again Paul Benignus and/or Bill Papageorge probably would have been the primary contacts. At least until the time Paul Benignus retired.

Q Do you recall the reports by NEMA and ANSI on PCB's?

A I recall that there were reports.

Q Do you recall if they had any recommendation as to labeling PCB transformers as to environmental PCB

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caution?

A. I can't recall specifically; it wouldn't surprise me, but I can't -- I'd have to look at the reports to --

Q. Okay. Why don't I let you look at them. Let me show you Exhibit 88, which is the NEMA official standards proposal dated January 25, 1973.

A. 88?

MR. DERRYBERRY: 88.

Q. (by Mr. Hamilton) That is the Exhibit number.

A. Oh, the exhibit number. I see. Okay.

Q. That's just identifying it for the record.

A. Yes. Thank you.

Q. Was this the proposal by NEMA to ANSI as to what it thought the PCB policy of ANSI should be, do you know? Would that be accurate?

A. It says here it was prepared by NEMA in cooperation with ANSI.

Q. Let me ask you to turn to Page -- on the right-hand corner, Page 001901.

A. 001901?

Q. Right.

A. On the right-hand side?

Q. Right.

MR. DERRYBERRY: Your recollection as to whether the NEMA proposal included a transformer labeling

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recommendation.

A. Yes.

Q. (by Mr. Hamilton) Okay. And what now is your recollection as to NEMA's proposal?

A. I wasn't -- you know, I wouldn't have been involved. In part, Monsanto wasn't a transformer manufacturer nor did we repair or refill transformers, therefore this would have been an organization that the transformer manufacturers or other NEMA groups would have been -- they would have been the ones doing this part of it.

Q. Okay. Is it your recollection that they suggested labeling PCB transformers with a warning?

A. As I look at this, NEMA clearly did suggest that.

Q. Let me ask you to take a look at Exhibit 88, which is the ANSI standards -- 89, the ANSI standards. I will ask you to turn to Page 16, Paragraph 4.2.2.

A. 4.2.2?

Q. Right.

A. Where are we? Oh, yes.

Q. Transformer labeling. Does this refresh your memory as to whether ANSI recommended labeling on transformers?

A. Yes.

Q. That a cautionary label was recommended?

A. That is what the 4.2.2 says.

MR. BURKE: May I see that exhibit, please, when

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you are done with it, sir?

MR. HAMILTON: I am done with it.

Q (by Mr. Hamilton) Let me ask you to take a look at Exhibit 80.

MR. BURKE: For the record, Mr. Reporter, please note that Exhibit 89, ANSI Standard C-107, was not approved until January 9, 1974.

Q (by Mr. Hamilton) You've got Exhibit 80 there?

A Yes.

Q That is a March 7, 1972 sales information bulletin by you, correct?

A Yes.

Q Do you recall this bulletin?

A Now that I see it, yes.

Q And the topic was "Proposed tougher legislation on PCB by the FDA"?

A Yes.

Q Would this have been something that Monsanto's sales and marketing people would have been permitted to disseminate to customers?

A Yes.

Q Would you expect this type of information to have been disseminated to General Electric by Monsanto?

A Yes, I would.

Q Okay. Thank you. I will show you what has been

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marked as Exhibit 40. It's a June 18, 1968 letter, appears to be from you, do you recall that letter?

A. I cannot recall it, but clearly I sent the memo. Clearly the call must have taken place.

Q. Do you recall the U.S. Bureau of Commercial Fisheries studying pollutants including PCB's in Lake Michigan in the 1968 time period?

A. I can't recall this one specifically but I can recall that there were groups doing this kind of study.

Q. During the 1968 time period?

A. You know, I wouldn't have thought it was this early, but clearly -- again, going that far back, it's hard to pin dates.

Q. Before you took the International position in --

A. This would have been just about -- I would have been involved early '68, so I was just becoming involved in the plasticizers at that time which included certain types of PCB's.

Q. By the time you left to go to the International Division in 1970, were you aware of the involvement of the government in this way?

A. Yes, because I think it was in the exploratory stages of trying to see how widespread this was, was it a real problem, et cetera, et cetera, et cetera.

Q. Did you make a presentation to the FDA or the EPA

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in connection with any of the proposed regulations?

A. I seem to recall making some sort of a presentation. As I recall, it probably would have involved talking about, you know, how much product we had sold, what kind of product it would have been, et cetera. I seem to recall that type of meeting.

Q. Would that have been in connection with the water quality standards?

A. It might have been. I can't recall for sure now.

Q. Do you know the approximate time period? Was it after you came back in 1971?

A. I'm almost certain it was after I came back in 1971.

Q. Any idea of the amount of time after that?

A. No.

Q. Would it have been before the end of 1973?

A. Might have been.

Q. What involvement, if any, did you have in the preparation of the Monsanto -- what is known as I guess the White Paper, which has been marked as Exhibit 1?

A. Uhuh. That was the thing I was maybe thinking about where I would have been involved in maybe pulling together statistics about how much we had sold, what the different types were and so on.

Q. Are you familiar with this document?

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MR. DERRYBERRY: Exhibit 1?

Q (by Mr. Hamilton) Exhibit 1.

A Yes, I think it rings a bell.

Q Do you know why Monsanto prepared that document?

A It was probably to try and put in one place information and deal with the questions we were being asked, the ongoing contacts we were having with government on the subject and so on and so forth.

Q Have you ever read Exhibit 1 before?

A I'm sure I did because -- yes, I would have been involved probably -- no --

Q Would you be the one to ask about the medical and toxicological information in the White Paper?

A Wait a minute. Now wait a minute. Let me go back. It looks as though this was put together after -- It was after 1979, in which case I wouldn't have been involved.

Q Would you be the person to ask or question about the medical and toxicological information contained in the White Paper?

A I would not be the person.

Q That isn't within your training and experience?

A No.

Q Okay.

A No, this -- I'm sorry, I misled you. I would not have been involved in putting this together because I

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see it goes on through '78 and then by 1978 I was no longer involved.

Q. Okay. Do you recall a Dr. Martha Sager or Dr. Hugh Thompson?

A. No.

Q. With any governmental agencies?

A. No.

Q. Do you recall making -- I'm not sure whether you do or not recall now having made a presentation to one of the government authorities.

A. I recall making a presentation at which we talked about, and it had clearly -- probably was in 1972, 1973 maybe time frame, maybe as late as '75, probably a meeting with somebody like a Papageorge where I would have been called upon to say this is how much we sold on this type of thing, up to whatever point in time that presentation was given.

Q. All right.

A. I would have tried to give factual background to whatever committee was discussing it.

Q. Do you recall part of your presentation concerned things Monsanto had done in answer to the PCB controversy?

A. Yes, that's why when I first took a look at that it looked familiar. I would have gone through, you

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know, whatever state we were at at the time I made the presentation. We discontinued heat transfer fluids, we discontinued hydraulics, we discontinued plasticizers, we discontinued the miscellaneous uses.

MR. HAMILTON: Okay. Thank you. That's all I have.

CROSS EXAMINATION

BY MR. BURKE:

Q Dr. Paton, just a couple of questions.

A Sure.

Q My name is Thomas Burke. I represent General Electric in this case. Would you please tell me why Monsanto didn't immediately terminate the production of PCB's after the first newspaper report and the first scientific study that appeared in the late 1960's?

A Because I think initially it was sort of one or two instances, but they were-- it didn't appear to be very widespread. There was even some I think in the literature, some scientific debate as to whether this was really so or not. And you know, so we then started an exploratory phase.

Q What is your understanding of the preciseness of analytical chemistry in the middle sixties and late sixties as compared to today?

A I would say it was much less precise then.

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Q. What were the quantities of PCB's that were being measured by these first reporters in the late sixties?

A. As I recall, I think it was parts per million, as I recall.

Q. What do you mean by part per million?

A. One part of whatever the contaminant or impurity or whatever you would like to call it in a thousand parts of the total. I'm sorry. In a million parts of the total.

Q. So if you had a pound of PCB's and one part per million would be one pound in a million pounds?

A. Exactly.

Q. Or one ounce in a million ounces?

A. That's right.

Q. Were there advances made in the specialty of gas tomography in the late sixties that made it possible to measure these levels in the first place?

A. I think so. I think -- I think Monsanto scientists began to -- were involved in that. The details I'm not sure of. Again I can't specify times but I think yes, there were attempts made to see, could we be able to measure that precisely.

Q. Based upon your experience, do you know whether there was instrumentation available for example in 1960 to measure parts per million and parts per billion?

MR. HAMILTON: I object. That is a compound

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question.

A. I can't recall, although I got a Ph.D. in 1959, I didn't really follow analytical chemistry that closely, so I would have relied on other groups to give me answers and I didn't delve too deeply on how they got there.

Q. (by Mr. Burke) At the time that Dr. Kelly reported to you this initial European publication and the newspaper article, were PCB's perceived at that time to be a major public health threat?

A. No.

Q. As of 1973, as of the end of 1973, based on all the work that Monsanto did in between, did Monsanto perceive PCB's to be a major public health threat?

A. I don't think it was a health threat; it was -- you know, more just pollution of the environment that was the overriding concern.

Q. Okay. Is it not accurate, Dr. Paton, that in the period from the initial reports until the end of 1973, whatever you want to call it, the concern, the controversy, the issue about PCB's was it presence in the environment and the detection of its presence in the environment?

A. Presence in the environment, detection in the environment and specifically with the heat transfer fluids,

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if they were being used in places where food was being processed. Again, you don't want any kind of a foreign body getting into the food chain, you know, whether it's good, bad, or indifferent.

Q Whether it be PCB's or anything else?

A That's right. And the link with PCB's was that if they were perceived to be persistent, they might build up, whereas if something else got in it, it could rapidly biodegrade.

Q Now as between the open-ended uses, hydraulic and heat transfer fluids and dielectric fluids in the transformer, which had the greater potential for entry into the food chain?

A I think the heat transfer fluids.

Q Is that one of the reasons why Monsanto terminated all of what is called the open-ended uses?

A I think that had an impact. We -- as I recall, we tried to go out to tell people don't use heat transfer fluids where foods are being processed, but then the difficulty we had was being able to police those sales and make sure that, you know, we didn't sell to a certain person who would, in turn, sell, and so they would circumvent the situation. And there were other heat transfer fluids available so that therefore we were in a position, as were other companies, to be able to supply a

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replacement heat transfer fluid and that involved redesign and so on and so forth to eliminate fire risks. In the process of discontinuing PCB heat transfer fluids, we had a team of engineers that, at the request of a customer, we would be willing to send them out and if the customer desired assistance, our engineers would sit down and make suggestions as to what should be done.

Q Were the PCB containing fluids for whatever use a useful product in society?

A Absolutely. I would have to say that the industry decided what the benefits really were. We were the only producer, as I recall, in the United States, and therefore from a competitive and maybe a price position, customers would have preferred to have a wider choice. But I think the product per se had certain benefits, fire resistance was very clearly a very great benefit, and particularly in the dielectric industry. And I think that was acknowledged by the government authorities when they, you know, they had open to them all sorts of independent people who advised them as to what the risks and benefits were.

Q Do you recall the May 1972 Inter-Departmental Task Force study on PCB's?

A That rings a bell.

Q Did you participate in any of the presentations made by Monsanto to that group?

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A. Possibly. Again it's getting back to this thing that I recall having to put together, you know, statistics and so on and so forth.

Q. Do you recall the conclusion of the Inter-Departmental Task Force, that the use of PCB's and dielectric fluids for transformers and capacitors should continue?

A. I recall the Federal Register I think coming out with specifics and guidelines, and then I think that led to the kind of sales information bulletin that I think we were looking at earlier.

Q. As far as you know, in the 1970 to 1973 time period, would you agree with the conclusion of the Inter-Departmental Task Force that the continued use of PCB's as dielectric fluid was essential?

A. Yes.

Q. Why is that, sir?

A. At that time we were unaware of any acceptable replacement. I think frankly that if there had been, the industry probably, you know, might have begun to switch over, but there wasn't any.

Q. And while there may be alternatives today, is it not true that there are no real replacements for the PCB dielectric fluids in terms of a replacement?

A. I am really not aware of what the situation in the industry is today.

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Q. Now up through the end of 1973, did you, in your position, become aware of any toxicological study that presented a conclusion that PCB's were major public health hazard?

A. No, I can't recall that. There were tests being run. At some point I recall the allegations being made that they were carcinogenic, but I cannot pin a definite date on that.

Q. And when that finding was made, do you recall it being made strictly as going on the list because of the regulatory requirement that it caused cancer in animals?

A. That could well have been, because I think we were at a time when all this type of legislation and investigation was building up.

Q. Now are you aware of any regulations that the FDA actually put into effect before the end of 1973?

A. My difficulty is pinning dates. I think by the end of 1973 they had come out with some guidelines on how many parts per -- I can't recall if it's million or billion there ought to be in heat transfer fluid use, I believe.

Q. All right, sir. Whenever they came out with those regulations, that would not have affected a transformer owner of a commercial building, would it, that was not in the food processing business?

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A. I don't think so, but I'm not -- again I can't recall the regulation specifically.

Q. You were asked some questions about an exhibit that had to do with some company down in Australia that may or may not be associated with General Electric. Isn't it accurate that European attitude toward PCB's was always much different than that of America?

A. Yes, I think it was.

Q. In fact don't they continue to produce and use PCB's in many parts of Europe?

A. I can't say today. I know that they continued after we discontinued.

Q. And there were European manufacturers of PCB's throughout the early and middle seventies?

A. Yes.

Q. And late sixties?

A. Yes.

Q. And with respect to Exhibit 266, whatever applied in New Zealand really had no application in the United States, did it, Australia and New Zealand, you were dealing with those customers?

A. I'm sorry, could you repeat the question, sir?

MR. BURKE: Sure. Can you read it back for me?

(Said question read back by the Reporter, i.e.,

"Q. And with respect to Exhibit 266, whatever applied

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in New Zealand really had no application in the United States, did it, Australia and New Zealand, you were dealing with those customers?"]

A. We were dealing with those customers but looking at this, we would not have gone out specifically -- I don't think we would have gone just to Australia and New Zealand and ignored other international locations where we sold product, or domestic. We would have had some kind of parallel program going on with our domestic customers.

Q. Yes. But Exhibit 266 itself addresses only Australia?

A. Only Australia and New Zealand.

Q. All right, sir. Thank you. Exhibit 133, Dr. Paton, if you will look at that again, this is the letter to customers of hydraulic fluids, correct?

A. Yes.

Q. Attached to the letter is a copy of the FDA regulations, correct?

A. Yes.

Q. And hydraulic fluids was one of the open-ended uses that Monsanto had terminated the sales of PCB-containing fluids too; is that correct?

A. Yes.

Q. And one of the objects of the letter was to alert those open-ended customers who may still have some

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fluids to the existence of the regulation?

A Yes.

Q Do you know if any such similar letter was ever sent to dielectric customers that would have attached those FDA regs?

A I cannot specifically say that it was done.

Q But the opportunity for the entry into the environment of PCB fluids in the food processing, packaging or handling industry was more palpable or more likely in those customers who used the open-ended uses, heat transfer and hydraulic fluids, correct?

A I think that was the general feeling at that time, and the FDA had that feeling, I believe.

Q I mean there are a lot of heat transfer processes used in the food industry, correct?

A I was aware of some because they use heat transfer fluids. I'm not expert in that industry. I would guess, yes, there are.

Q Exhibit 136 is a similar letter to heat transfer fluid customers, correct?

A Yes.

Q And again that was an open-ended use that Monsanto was trying to eliminate?

A Yes.

Q Both Exhibit 133 and 136 do not directly address

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themselves to dielectric fluids, sir, do they?

A. The May 25, 1972 specifically addresses heat transfer fluids. The April 1972 letter went to customers, a list of customers saying that -- it addressed the issue of people asking us who our customers were and that we, you know, would consider that confidential but there was a possibility that I -- I guess I am no lawyer, but maybe some judicial orders might come about that would force us to disclose that. But again, it reemphasized this question of trying to prevent PCB's from getting into the environment.

Q. Yes, sir. But does that exhibit -- are you on 133 now?

A. I'm on 136.

Q. Oh, okay.

A. Sorry.

Q. Is there any reference in 136 to customers of dieletric fluids or to dielectric fluids per say that you can see in the exhibit?

A. Monsanto's letters don't make specific reference to dielectric fluids. All I can see is that certain dielectric fluid locations that might have used dielectric fluid got them.

Q. Basically from the late sixties up through 1977 when Monsanto stopped manufacturing PCB-containing fluids, the primary message that Monsanto was delivering to customers

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and essentially anyone else is that PCB's had been detected in the environment and that steps should be taken to prevent any further distribution into the environment, correct?

A. That's correct.

Q. Monsanto never did conclude that PCB's created a major public health hazard, sir, did they?

A. I'm not aware that we did.

Q. And isn't it accurate that the FDA did not conclude that PCB's presented a major health hazard?

A. Up to the time that I was involved in PCB's, I think that is true. I don't know what has happened since. I also think that a Bill Papageorge might be a better, you know, reference source than I am.

Q. Yes, sir. You told us earlier that Exhibit 1, which everybody is calling the Monsanto White Paper, was prepared sometime after 1979; how did you reach that conclusion, sir?

A. I reached that conclusion as I read it and saw in here, that it talked about in 1977 the company ceased production, then we said chlorinated biphenyls were banned in the United States in 1979, so my deduction was that it was written after 1979.

Q. In your capacity with Monsanto up until 1977, did you see any technical or scientific reason for Monsanto to terminate the manufacture of PCB fluids for transformer

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dielectrics?

A. Did I see scientific reasons why we should terminate?

Q. Any scientific or technical reasons, yes, sir.

A. Not that I can recall.

MR. BURKE: Thank you. That's all I have.

REDIRECT EXAMINATION

BY MR. HAMILTON:

Q. Dr. Paton, there came a time that Monsanto decided to cease producing PCB's as dielectrics; is that accurate?

A. Yes, sir.

Q. And notwithstanding that those had earlier been determined closed uses?

A. Uhuh.

Q. Correct?

A. Yes.

Q. Do you know what the EPA or any courts have determined as to whether transformers are indeed closed uses?

A. No, I am not familiar with any conclusions they have reached.

Q. Notwithstanding the fire qualities of PCB's as dielectrics, Monsanto doesn't produce PCB's as dielectrics, correct?

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A. That's correct.

Q. Do you know how difficult or time-consuming it was for alternative non-PCB fluids to be produced?

A. All I can say is that from our own efforts, we had an effort going on, and research, introducing samples for customers to evaluate, so we spent a lot of time and money trying to develop an alternative and in the case of transformer fluids, I think we were technically unsuccessful. In the case of capacitor fluids, I believe the products that we developed were extremely expensive and maybe it's -- other people were able to come up with things which, as I recollect, no one had fire resistant liquid PCB's, that ours really weren't particularly competitive, and therefore we couldn't see us being able to continue on as a future supplier of new products.

Q. Okay. In Monsanto's research and attempts to develop alternative fluids, was fire resistant qualities the major problem it was experiencing?

A. In the case of the transformer fluid, clearly fire resistance was one of the key elements that we were trying to find. And we had to -- you know, to walk this tightrope between finding fire resistance and things that mightn't be toxic and would be biodegradable and this, that and the other, and try to put that together with one package and we weren't successful.

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Q. Do you know if anyone ever found a fluid to use as a dielectric that is as fire resistant as PCB's?

A. I honestly don't know what has happened.

Q. In any event though, with whatever qualities, there are new non-PCB fluids being used in transformers?

A. I guess so, since I'm sure that transformers are still needed and used.

Q. Is it your recollection that around 1970, Monsanto ceased open use sales of PCB's?

A. Let's see; open use was probably the plasticizing use. Plasticizers may well have been gone by 1970. Let's see; I have to think of the chronology. It depends how you define open use.

Q. Were some uses of PCB's discontinued, production of PCB's for certain uses discontinued before you came back in 1971?

A. I think some of the plasticizers possibly.

Q. Do you know if prior to making the decision to do that Monsanto had verified the conclusions of other scientists that PCB's were being found throughout the environment?

A. I'm not the best person to answer that. I would think that people like Emmett Kelly in our Medical Department or maybe some of our research people like a Bill Richard, maybe even a Bill Papageorge would be better

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because they had a kind of an ongoing thing, whereas I had this break in the middle.

Q. By the time you returned to Monsanto in 1971, was it your understanding that Monsanto studies had revealed some PCB's present in the environment?

A. I don't know if our studies, you know, if we had our own evidence to show it or if we were beginning to accept the evidence of others.

Q. Do you believe by that time Monsanto was beginning to accept the evidence of others?

A. Yes, but again, you would have to go to a Kelly, a Richard or a Papageorge to get a better answer than I can give you.

Q. In addition to the problem of PCB's being prevalent in the environment, do you know if some scientists believed that PCB's were injurious to animals, fish or humans?

A. I recall that some research, maybe there were state or university scientists beginning to present some evidence to that effect. Again there was probably scientific debate at that time as to whether that was really the case or not.

Q. But you do recall a debate as to --

A. I recall debate, and when I say debate, it would have been in scientific journals and maybe in the

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media to that regard.

Q. Concerning animals, fish and humans?

A. Yes. And it had to do more with the build-up because these products were perceived as not biodegrading a great deal and therefore could start to build up in the fatty tissues and so on of these animals.

Q. Do you recall any debate as to whether this build-up or exposure to PCB's had adverse health effects on animals, fish or humans?

A. That is, I think, when you get into an area of controversy.

Q. Was there a debate as to actual health effects?

A. There probably were groups that said yes, and others that could produce equal convincing evidence that no, and then as a practical aspect, that gets to, you know, if you feed any kind of an animal sufficient high dosages of anything, it would be rather surprising if a rat got up and walked out of the room. It's controlled controversy, what is in this drink or that drink. If I drink two tank cars a day I'm not going to be too worried about the impurities, I am going to die of all kinds of other things. I am not trying to be facetious. I think that is the kind of genuine scientific debate that went on and still goes on.

Q. Was one of the problems with PCB's that people

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could be exposed without even noticing it through its presence in the environment and in the food chain?

A. I can't recall that part of it.

Q. Would it be true that -- are you aware of studies that concluded that PCB's tended to bioaccumulate in the food chain?

A. I was aware of studies that claimed that.

Q. And that other animals would eat animals that -- including humans, that would contain PCB's?

A. I was aware of that theory.

Q. Do you know if it was Monsanto's policy to ignore government or government regulations until actual regulations were passed and Monsanto's feet were held to the fire?

A. No, in my years of working for the company, I don't think that has been our position.

Q. Did Monsanto wait for full government regulations before it told its customers of possible impending regulation?

A. I think we informed -- we were trying to keep our customers advised as to what we were perceiving going on before -- you know, before governmental regulations came in.

Q. Would Monsanto have recommended that its customers simply inform their customers of the full range of information that was out at that time?

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A. I can't recollect if we specifically did that in correspondence or not.

Q. If that was done as to your international customers, would you expect it would have been done as to your domestic customers as well?

MR. BURKE: Objection. Calls for speculation.

A. It has to be speculation.

Q. (by Mr. Hamilton) Would you expect that more information or recommendations would have been made to international customers than domestic customers on the PCB issue?

MR. BURKE: Objection. Calls for speculation.

MR. DERRYBERRY: You may answer, if you can.

A. No, I think we would have been dealing in this case primarily with the domestic situation. We would have addressed the international situation, as far as we, Monsanto, with a supplier, because in the international environment there were other producers who might have been saying different things. At some point we withdrew obviously around the world and what customers did outside the United States after that, you know, we really didn't follow because there were other people in the marketplace, and might even be in the United States too, I don't know.

Q. (by Mr. Hamilton) Do you know any reason why Monsanto would treat foreign customers any differently than

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domestic as far as the information that was imparted to them?

A. No.

Q. With respect to the possibility of government regulations and the overall PCB issue, were Mr. Benignus and Mr. Papageorge more involved with customers than you?

A. Yes, I think they probably were.

MR. HAMILTON: That's all I have.

RE-RECROSS EXAMINATION

BY MR. BURKE:

Q. Was the existence of a scientific debate or controversy, assuming one existed, about human health effects in the early 1970's, did that, in Monsanto's mind, warrant termination before 1973 in the production of PCB's?

A. I'm not sure. As I say, I didn't get involved -- I ceased to be involved in '77 so I wasn't a party to the final decision to discontinue.

Q. But just the fact that scientists may differ is a part of the scientific method and process.

A. That is exactly right.

Q. And did not obviate usefulness of transformer dielectric fluids at that time, did it?

A. No.

MR. BURKE: Thank you.

MR. HAMILTON: No questions.

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MR. DERRYBERRY: No questions.

MR. HAMILTON: You have a right to read and sign the deposition.

MR. DERRYBERRY: Do you want to do that?

THE WITNESS: I probably should, I guess.

_____

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 9th day 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, CUMMING PATON, 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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