

IN THE CIRCUIT COURT IN HAMILTON COUNTY, TENNESSEE
AT CHATTANOOGA

MARY ELLEN POWELL, BOBBY CALAHAN	:	
and wife, RUTH CALAHAN, and	:	
JAMES RONALD McINTYRE and wife	:	
NELDA McINTYRE,	:	
	:	
Plaintiffs,	:	Division 2
	:	N-38751
-versus-	:	N-33787
	:	N-33788
WESTINGHOUSE ELECTRIC CORPORATION,	:	
and UNIVERSAL ELECTRIC COMPANY,	:	
	:	
Defendants.	:	
	:	

IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TENNESSEE
SOUTHERN DIVISION

ELECTRIC POWER BOARD OF	:	
CHATTANOOGA,	:	
	:	
Plaintiff,	:	
	:	
-versus-	:	CIVIL ACTION NO.
	:	1-87-93
WESTINGHOUSE ELECTRIC CORPORATION,	:	
UNIVERSAL ELECTRIC COMPANY,	:	
WAGNER ELECTRIC COMPANY, and	:	
MONSANTO COMPANY,	:	
	:	
Defendants.	:	
	:	

July 27, 1988
Chattanooga, Tennessee

DEPOSITION OF WILLIAM B. PAPAGEORGE, P.E.

1 APPEARANCES:

2
3 FOR THE ELECTRIC POWER BOARD:

4 FREDERICK L. HITCHCOCK, Esq.,
5 Strang, Fletcher, Carriger, Walker,
6 Hodge & Smith
7 4th Floor, Krystal Building
8 Chattanooga, Tennessee 37402

9 FOR WESTINGHOUSE ELECTRIC CORPORATION:
10 (State Case)

11 WILLIAM E. GODBOLD, III, Esq., and
12 KELLY J. PETERS, Esq., of
13 Leitner, Warner, Moffitt, Williams,
14 Dooley, Carpenter and Napolitan
15 3rd Floor, Pioneer Bank Building
16 Chattanooga, Tennessee 37402

17 FOR UNIVERSAL ELECTRIC COMPANY:

18 DAVID NAGLE, Esq., of
19 Chambliss, Bahner, Crutchfield,
20 Gaston & Irvine
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22 Chattanooga, Tennessee 37402

23 FOR WAGNER ELECTRIC:

24 WILLIAM E. GODBOLD, III, Esq., and
25 KELLY J. PETERS, Esq., of
26 Leitner, Warner, Moffitt, Williams,
27 Dooley, Carpenter & Napolitan
28 3rd Floor, Pioneer Bank Building
29 Chattanooga, Tennessee 37402

1 APPEARANCES: (Continuing)

2
3 FOR MONSANTO:

4 GEORGE M. DERRYBERRY, Esq., of
5 Miller & Martin
6 Chubb Life Building, 10th Floor
7 Chattanooga, Tennessee 37402

8 -and-

9 GERARD H. DAVIDSON, JR., Esq., of
10 Smith, Helms, Mulliss & Moore
11 500 NCNB Building
12 Post Office Box 21927
13 Greensboro, North Carolina 27420

14 ALSO PRESENT: Ron Fugatt

15 - - -

1 The deposition of WILLIAM B. PAPAGEORGE,
2 P.E., a witness called at the instance of the Electric
3 Power Board of Chattanooga, for use in discovery and/or
4 evidence in the above-entitled cause, taken on notice
5 pursuant to the Tennessee Rules of Civil Procedure and
6 Federal Rules of Civil Procedure, taken on the 27th day
7 of July, 1988, at the offices of Miller & Martin,
8 Chattanooga, Tennessee, before Elizabeth B. Coffey,
9 Registered Professional Reporter and Notary Public,
10 pursuant to the stipulation of counsel.

11 STIPULATION

12 It being agreed that Elizabeth B. Coffey,
13 Registered Professional Reporter and Notary Public, may
14 swear the witness, report his deposition in machine
15 shorthand, afterwards reducing the same to typewriting.

16 All objections, except as to the form of the
17 questions, are reserved to on or before the hearing.

18 It being further agreed that all formalities
19 as to notice, caption, certificate, transmission, the
20 qualifications of the notary, etc., are expressly waived.
21 The reading of the completed deposition by the witness
22 and the signature of the witness are not waived.

1

1

EXAMINATION

2

BY MR. HITCHCOCK:

3

Q Mr. Papageorge, good morning. I am Rick

4

Hitchcock. Am I pronouncing that correctly?

5

A Yes.

6

MR. DERRYBERRY: Hitchcock, too.

7

MR. HITCHCOCK: Thank you very much, George.

8

BY MR. HITCHCOCK:

9

Q Mr. Papageorge, I'm Rick Hitchcock and I'm

10

one of the attorneys representing the Electric Power

11

Board of Chattanooga in the two cases that are pending

12

concerning an incident that occurred atop the American

13

National Bank Building on September 23rd, 1985. I think

14

it is probably unnecessary for me to ask you if you have

15

ever had your deposition taken before, but I will do that

16

for the record.

17

A I have.

18

Q I understand you've had it taken a number of

19

times and you're familiar with the procedures that are

20

used in an oral deposition. Is that correct, sir?

21

A That's correct.

22

Q You understand that as I ask you questions,

23

if you have any concern, any misunderstanding of the

24

nature of the questions, the questions that I'm asking,

25

that you will please interrupt me and ask me to repeat

1 them so that we're sure we're communicating.

2 A I will.

3 MR. DERRYBERRY: Let me interject something.
4 We understand this deposition is being taken only in the
5 Federal case in which Monsanto is a party. I don't even
6 know that the plaintiffs in the personal jury case are
7 aware of the date of it or anything.

8 MR. HITCHCOCK: Well, they are aware, but
9 that is correct. My statement was that I represent the
10 Power Board in both cases, and that was a correct
11 statement.

12 MR. DERRYBERRY: In addition, as I have told
13 you, because of his flight arrangements, we'll have to
14 terminate the deposition promptly at 5:30, which should
15 give you adequate time.

16 MR. HITCHCOCK: We'll decide at noon exactly
17 how we're going to handle that. We essentially can
18 adjourn the deposition today to accommodate his flight
19 schedule. I doubt if we're going to be through today,
20 but we can make arrangements for the continuation of it
21 as necessary.

22 MR. DERRYBERRY: Okay.

23 BY MR. HITCHCOCK:

24 Q Mr. Papageorge, I'm going to dismiss with a
25 number of the usual preliminary matters that are asked in

1 depositions. I'm not going to ask you where you were
2 born and where you went to grammar school. I'm going to
3 go on and get to things perhaps a little bit more
4 substantive in connection with this case, and we can come
5 back to those if we have time later.

6 Can you please tell me the periods of your
7 employment with Westinghouse, excuse me, I'm sorry, with
8 Monsanto?

9 A November 1951 through December 1986.

10 Q All right, sir. And during what periods
11 within those 35 years were you involved with the
12 management or the control of PCB's for Monsanto?

13 A Can you help me with the words "management"
14 and "control"?

15 Q All right, sir. For purposes of this
16 question, I'm interested in knowing of the period of time
17 in which you were involved in activities with Monsanto
18 managing Monsanto's sales and distribution of PCB's or
19 controlling any releases of PCB's or other problems with
20 PCB's on behalf of Monsanto.

21 A I'll try.

22 Q All right, sir.

23 A My first exposure to these chemicals
24 occurred in about 1957-'58. At that time I was a
25 maintenance superintendent at one of Monsanto's plants,

1 and reporting to that position were the electricians for
2 the plant. These electricians at times were involved
3 with the repair or installation of the electrical
4 equipment which contained PCB's. As a superintendent, I
5 was responsible to make certain that the employees knew
6 the proper methods for handling PCB's to minimize
7 exposure and potential harm.

8 Q All right, sir. You may go ahead.

9 A I was going to go to the next period.

10 Q Please do.

11 A My next exposure, as best I recall, occurred
12 in the period 1962-'63. At that time I was a general
13 superintendent of services at a Monsanto plant. One of
14 the units reporting to me was the unit that blended
15 different chemicals to make industrial hydraulic fluids.
16 One of the ingredients in those blends were the PCB's.

17 Again, I had to make certain that the
18 employees involved with these operations understood the
19 safe handling procedures.

20 At the same time another unit reporting to
21 me was the plant's electrical distribution system. We
22 called it the utilities department. There were
23 individuals involved in that operation that operated the
24 systems that contained electrical equipment that, in
25 turn, contained PCB's.

1 Again, it was a matter of knowing for
2 certain that the employees, in the event of leaks and
3 escape, knew the proper method for handling PCB's.

4 My next assignment that involved association
5 with PCB's was as plant manager at the Monsanto plant in
6 Anniston, Alabama, from the period 1965 to the end of
7 1969.

8 At that plant we manufactured PCB's and
9 packaged them and shipped them. That, of course, called
10 for assuring myself that, again, the plant employees that
11 manufactured, packaged, shipped and used PCB's were well
12 trained as to how to handle them.

13 From 1970 through the early part of 1976, I
14 was assigned the job of coordinating the PCB's
15 environmental issue for Monsanto. That, I believe,
16 summarizes my involvement with PCB's.

17 Q After 1976 you did not have any involvement
18 as an employee of Monsanto with PCB's?

19 A Only in legal matters or as a source of
20 information for the individuals who were currently
21 involved and needed to know some background.

22 Q All right, sir. You described your
23 involvement in the four positions. In terms of exposure
24 to the chemical, you don't mean physical exposure, do
25 you, in that regard?

1 A Yes.

2 Q You do mean physical exposure? Would you
3 describe the physical exposure that you have had to PCB's
4 in your employment with Monsanto?

5 A I'm sorry. I misunderstood. When I
6 referred to exposure, I was referred to training of
7 employees to avoid physical exposure.

8 Q All right, sir. Excuse me. I didn't mean
9 to interrupt you.

10 A As I understand your latest question, it had
11 to do with my involvement with PCB's rather than physical
12 exposure.

13 Q You used the term "exposure" in describing
14 your involvement in a couple of the positions, and I was
15 trying to clarify.

16 MR. DERRYBERRY: I thought you used it in
17 your question.

18 MR. HITCHCOCK: I may have. I'm trying to
19 clarify the meaning of the term.

20 MR. DERRYBERRY: Having something to do
21 with.

22 BY MR. HITCHCOCK:

23 Q Did you have physical exposure to PCB's
24 during your employment with Monsanto?

25 A Yes, I have.

1 Q All right. Would you please describe those
2 circumstances?

3 A As plant manager I was in a position where
4 at times I did breathe PCB fumes. I did get it on my
5 hands, my shoes, my clothing. That's the extent of it.

6 Q All right, sir. When you breathed PCB
7 fumes, how were you in their vicinity? For what purpose
8 were you near the source of the PCB fumes?

9 A Part of my assignment involved my getting
10 out into the plant and making personal observations. As
11 I toured the manufacturing unit that made PCB's, at times
12 because of the operation there would be vapors emitted
13 from the vats and the tanks, and as I walked by I could
14 smell it.

15 Q Were the employees wearing breathing
16 apparatus working around those vats or tanks?

17 A Only for serious upsets, which happened
18 rarely. Normally they would not.

19 Q Were you wearing a breathing apparatus?

20 A No.

21 Q When you got PCB's on your hands during the
22 period you were the plant manager, what were the
23 circumstances of that exposure or those exposures?

24 A Well, it would be on doorknobs or handrails,
25 instrument knobs (indicating).

1 Q Was it apparent that it was present on those
2 fixtures within the plant, or were you just assuming that
3 it was there because it was spread throughout the plant?

4 A Both. There are times when the handrails or
5 doorknobs would be sticky. There are other times you
6 just assumed, knowing the material was in the vicinity,
7 that there was some there.

8 Q What did you do after those exposures in
9 which you got PCB's on your hands?

10 A As soon as I finished my plant tour, I would
11 go back to the office and wash my hands, wash my face.

12 Q You would wash your hands and face after
13 every occasion that you entered the plant?

14 A Yes. For any chemical unit, that was my
15 practice.

16 Q Did Westinghouse -- excuse me. Did Monsanto
17 provide to you facilities to wash your hands and face
18 adjacent to your office facilities?

19 A Yes.

20 Q When you got PCB's on your shoes or
21 clothing, what practices did you follow in response to
22 that exposure?

23 A In my case the contamination of shoes and
24 clothing did not result in direct contact with my skin,
25 so I could wait until I got home. The shoes I would just

1 clean off as best I could, take off the visible material.
2 The clothing would go into the laundry.

3 Q This period that you're describing was
4 between '65 and '69?

5 A Yes.

6 Q And this was when you were plant manager at
7 Anniston, Alabama?

8 A Yes.

9 Q Did you have any personal physical exposure
10 to PCB's prior to '65 when you became plant manager at
11 Anniston?

12 A Not knowingly, no.

13 Q Well, knowingly or unknowingly, none of
14 which you're aware. Is that what you mean by that
15 statement?

16 A That's right.

17 Q Following 1969 have you had any physical
18 exposure to PCB's in any other context or in the course
19 of your employment with Monsanto?

20 MR. DERRYBERRY: Let me get you to clarify
21 the question. Are you talking about in the course of or
22 in Monsanto facilities or what?

23 MR. HITCHCOCK: Any time during the period.

24 MR. DERRYBERRY: You can walk by a
25 fluorescent light fixture somewhere in a department

1 store.

2 BY MR. HITCHCOCK:

3 Q Do you think you understand the question?

4 A I think I understand.

5 MR. DERRYBERRY: Okay.

6 A The exposures after 1969 that I recall
7 involved primarily the smelling of PCB vapors at some of
8 the plants that I visited. I do not recall any situation
9 where I got it on my clothing and my skin.

10 Q Okay. Have there been any cases in which
11 you have been physically exposed to PCB's since your
12 employment with Monsanto terminated?

13 A No.

14 Q You indicated that during the period of time
15 of '57 to '58 one of your responsibilities was to make
16 certain that employees dealing with PCB's and electrical
17 equipment knew of practices that they were to follow in
18 handling the PCB's. Is that correct?

19 A That's correct.

20 Q All right, sir. Would you please describe
21 to me the manner in which they handled PCB's and
22 electrical equipment?

23 A They were not to get it on their hands.
24 They were to wear protective gloves. They were to wait
25 until the units were cool to avoid vapors as much as

1 possible. At ordinary temperatures the vapors that are
2 emitted are very low levels, therefore, they would not
3 need any respirators. They were told to, of course, wash
4 their hands before they eat and smoke. That's the extent
5 of it. It's really a respect for chemicals. It's the
6 practice for most industrial companies.

7 Q All right, sir. What plant was that in
8 which you were located?

9 A This is the John F. Queeny plant in St.
10 Louis, Missouri.

11 Q How many persons did you supervise who were
12 involved in the maintenance or involved in work with the
13 electrical equipment containing PCB's?

14 A I don't recall the exact number, something
15 like 25 to 30.

16 Q Were there written procedures or written
17 documents that described the procedures that you have
18 outlined here for us?

19 A I don't remember any. I don't think there
20 were.

21 Q How did you learn that you should advise the
22 25 to 30 employees dealing with electrical equipment of
23 the procedures that you have outlined?

24 A I learned it from our plant safety
25 department, which at that time was monitoring industrial

1 hygiene practices. I also had conversations with the
2 plant physician.

3 Q So, in 1957 or '58 Monsanto was monitoring
4 hygiene issues as they related to PCB's?

5 MR. DERRYBERRY: Objection to form. Go
6 ahead.

7 BY MR. HITCHCOCK:

8 Q I'll withdraw the question.

9 A Monitoring?

10 Q Let me withdraw the question and restate it.

11 A All right.

12 Q Was Monsanto monitoring hygiene practices as
13 they related to the use of PCB's in electrical equipment
14 in 1957 and '58?

15 MR. DERRYBERRY: Same objection.

16 MR. HITCHCOCK: What is the basis of your
17 objection?

18 MR. DERRYBERRY: I don't know what you mean
19 by "monitoring."

20 MR. HITCHCOCK: Well, I'm using the words of
21 the witness.

22 BY MR. HITCHCOCK:

23 Q You used the word "monitoring."

24 A Yes.

25 Q Could you please describe for Mr. Derryberry

1 what you mean by the term "monitoring" so that we can
2 proceed?

3 A I will.

4 MR. DERRYBERRY: Objection to the form of
5 that question.

6 MR. HITCHCOCK: Is there a basis for that
7 objection?

8 MR. DERRYBERRY: I don't really have to tell
9 you. Go ahead.

10 MR. HITCHCOCK: Well, we are proceeding
11 here, Mr. Derryberry, in an effort to get a complete
12 record, and I'd like to get the basis for the objection.

13 MR. DERRYBERRY: I object to you asking him
14 to explain something to me.

15 BY MR. HITCHCOCK:

16 Q Would you please explain what you meant when
17 you used the term "monitoring" in connection with
18 industrial hygiene in 1957 and 1958 at the Queeny plant?

19 A At that time the word "monitoring" covered
20 the attempts by individuals assigned that responsibility
21 to keep abreast of all new information, the literature,
22 the medical data concerning the chemicals at the plant.

23 At that time, as distinguished from today,
24 there was very limited chemical sampling of the
25 atmosphere or what they called wipe testing of the

1 surfaces, work surfaces or skin surfaces.

2 So, it was primarily one of keeping abreast
3 of information and relaying that to the foreman and the
4 supervisors who, in turn, conducted training sessions and
5 passed it on to the workers.

6 Q All right, sir. Was Monsanto monitoring the
7 use of PCB's in electrical equipment in the manner you've
8 described in 1957 and 1958?

9 A Yes.

10 Q Who at Monsanto was monitoring the use of
11 PCB's in electrical equipment in 1957 and 1958?

12 A Primarily the Monsanto corporate medical
13 department.

14 Q Who headed that department in 1957 and 1958?

15 A Dr. R. E. Kelly.

16 Q I believe you also stated that you learned
17 of the practices that you described that you instructed
18 the workmen at the Queeny plant from the plant's safety
19 department at the Queeny plant. Is that correct?

20 A That's correct.

21 Q Was the plant safety department at the
22 Queeny plant monitoring the use of PCB's in electrical
23 equipment in 1957 and 1958?

24 A As defined earlier, yes.

25 Q I understood you to say that the Queeny

1 plant had a plant physician. Is that correct?

2 A That's correct.

3 Q Was the plant physician monitoring the use
4 of PCB's in electrical equipment in 1957 and '58 at the
5 Queeny plant?

6 A Yes.

7 Q All right, sir. Who did you have
8 conversations with at the Queeny plant from the plant
9 safety department concerning PCB's in electrical
10 equipment?

11 A In '57? I can't remember their names.

12 Q All right, sir. You were there from '57 to
13 '58?

14 A Pierce.

15 Q Pierce?

16 A Pierce. I forget his first name,
17 P-i-e-r-c-e.

18 Q All right, sir. Was this in '57 or in the
19 period of '57-'58?

20 A Somewhere in that period, early part of '57.

21 Q Could you please describe for me what Mr.
22 Pierce told you concerning the use in electrical
23 equipment of PCB's?

24 A Don't get it on your skin. Don't breathe it
25 for long periods of time. If it does get on your skin or

1 clothing, wash it off as soon as practical.

2 Q Anything else, sir?

3 A That's it.

4 Q Do you know if Mr. Pierce was referring to
5 any written documents when he transmitted that
6 information to you?

7 A I do not know.

8 Q He did not give you a written document that
9 incorporated that information?

10 A I don't remember any documents exchanging
11 hands, no.

12 Q All right, sir. It's been my observation
13 that PCB's have a distinct odor. Is that correct?

14 A To me it has a distinct odor. It varies
15 from person to person.

16 Q All right. When you were stating, "Don't
17 breathe it for it long periods of time," do you mean do
18 not breathe something you can smell from PCB's? Is that
19 correct?

20 A To a degree, it's correct. It's also the
21 intensity of the odor and also the duration. "Prolonged
22 periods," of course, is not too specific. It varies from
23 person to person. Some people are irritated sooner than
24 others and leave the environment, whereas others tend to
25 stay in that environment longer. The intent is to avoid

1 smelling these vapors day in and day out.

2 Q By "vapors," you mean what you can smell
3 when you're around PCB's?

4 A I'm not talking about a faint odor. I'm
5 talking about one that will make your eyes water or your
6 nostrils tingle. It's pungent. It's pretty strong when
7 I'm talking about industrial vapors.

8 Q All right. How were you instructed to make
9 a distinction between the odor of PCB's and these more
10 intense vapors to which you are referring?

11 A That was just a subjective discussion during
12 training. It was left to the judgment of each individual
13 and his sensitivity to decide, "Do I leave the
14 environment, do I put on a respirator or do I close the
15 piece of equipment?"

16 Q And Monsanto provided no guidelines or
17 training on how to make that distinction?

18 A We tried, but it's very difficult to do.

19 Q In 1957 and '58 you tried?

20 A Yes. We tried with these training sessions.

21 Q Would you please describe --

22 A The fact -- well, for example, the foreman
23 would describe an incident that occurred and try to
24 relate the odors that were released from that incident to
25 the group he was training and by example tried to

1 establish some idea of what he felt was unacceptable.

2 Q All right, sir. What types of incidents
3 were used as examples at the Queeny plant to illustrate
4 the measures or response to take when exposed to PCB's?

5 A Well, let me try. For example, as part of
6 the process, lime is added into a large tank, into the
7 hot PCB's. If the venting system is operating properly,
8 the amount of vapors that come out of that opening in the
9 tank are minimal. But if the vent, for example, is
10 blocked and the vapors cannot be drawn off, they flow out
11 of the opening and form a visible cloud. Under those
12 conditions most workers would withdraw or close the unit,
13 put the cover back on. That kind of incident would be
14 described to explain what we meant by excessive vapors.

15 Q All right, sir. I understood that in '57
16 and '58 your responsibility as to PCB's included only the
17 supervision of people who were working with PCB's in
18 electrical equipment. Is that correct?

19 A That's correct.

20 Q Were the examples you just described for me
21 given to those workers who worked with electrical
22 equipment in 1957 and 1958 to describe how they should
23 react to exposure to PCB's?

24 A No. No. That would not be appropriate to
25 electricians. They would not understand what was meant

1 by that.

2 Q What was told to electricians or others
3 working with equipment in which PCB's were contained in
4 1957 and '58?

5 A They were told, "If possible, wait for the
6 units to cool off before you drain the unit or open it to
7 add more fluid or to take a sample and check it."
8 Primarily they were told, "Don't get it on you and if you
9 do, the first chance you get, wash it off."

10 Q Okay. Let me rephrase the question so I'm
11 sure you understand. What I meant when I asked what were
12 they told, what examples were they given to illustrate to
13 them the manner in which they should react to exposures
14 to PCB's.

15 A I don't recall the exact words.

16 Q Do you recall whether examples were given or
17 you just don't recall what examples?

18 A I don't remember the examples. Examples
19 were given of the type that an electrician would
20 understand, a previous transformer assignment or a
21 capacitor assignment or electrical switch. But as to
22 specifics, I don't personally recall any.

23 Q Did Monsanto own PCB transformers or PCB
24 capacitors at the Queeny plant?

25 A Yes.

1 Q Did Monsanto have a distribution network
2 established at the Queeny plant for electricity?

3 A Yes.

4 Q And did that distribution network utilize
5 distribution transformers that contained PCB's?

6 A Yes.

7 Q Were you aware of any leaks that ever
8 occurred from those PCB transformers at the Queeny plant?

9 A I don't recall. I don't remember anyone
10 reporting a leak to me personally.

11 Q Do you recall hearing of any leaks that
12 occurred in the Queeny plant either before or after your
13 employment at that facility?

14 A No, I don't.

15 Q Do you recall any fires being reported to
16 you that occurred in or near electric equipment
17 containing PCB's at the Queeny plant?

18 A There were no fires.

19 Q And I assume that that means there were no
20 fires involving the electrical equipment itself?

21 A That's what I meant, yes.

22 Q Okay. Were workmen who worked on the
23 electrical distribution system during your two years at
24 the Queeny plant told to report to you or someone else at
25 Monsanto any leaks of PCB dielectric fluid?

1 A Yes. They would normally report this to
2 their foreman.

3 Q I believe you testified on other occasions
4 that leaks from transformers were so common that they
5 normally were not reported. Did Monsanto have a
6 different policy than what you've described in other
7 testimony?

8 A We are talking about types of leaks, I
9 think.

10 Q Describe to me what you mean by "leak."

11 A If the leak was such that it stained the
12 concrete floor, that would not normally be reported. If
13 there were a leak that formed a puddle that tended to
14 flow or attempt to flow somewhere, large enough to flow,
15 that would be reported. If the leak, of course, was
16 large enough where the oil in the unit would be depleted
17 to where it affected the performance of the unit, that,
18 of course, would be reported.

19 Q You've indicated earlier that PCB's do have
20 a distinct odor about them. Is that correct?

21 A Yes.

22 Q Do you know what the mechanism is by which
23 that odor is sensed?

24 A No, I don't.

25 Q Is it because some of the PCB's are

1 vaporized or volatilized into the air when they are
2 released into the air?

3 A Oh, yes. By "mechanism" I thought you meant
4 olfactory, medical system. I don't know anything about
5 that.

6 Q The mechanism by which the odor is
7 transmitted from the source of the PCB's to the person
8 who is smelling it, do you know the mechanism involved in
9 that?

10 MR. DERRYBERRY: Objection to form.

11 A It could be two types. It could be vapors
12 which are the gaseous form of the PCB's brought about by
13 high temperatures, or it could be in the form of a fine
14 mist that can occur under some conditions.

15 Q Based on your experience, is it not correct
16 that if one can smell PCB's, then there has to be some
17 mechanism of transference of those PCB's from the source
18 to the person who is smelling them?

19 A Yes.

20 Q And you understand that those mechanisms
21 would be the change of the liquid form into a vapor form
22 through the application of heat or would be the
23 transmittal into the air of some sort of fine particles
24 or mist of the PCB's. Is that correct?

25 A That's correct.

1 Q So, it is fair to say that whenever one can
2 smell the distinct odor of PCB's, there, in fact, has
3 been a release of those PCB's into the air. Is that
4 correct?

5 A Yes.

6 Q Do you know if Monsanto maintained records
7 in 1957 or '58 of releases of PCB's that might occur from
8 electrical equipment?

9 A The only records that would have been kept
10 if an incident occurred would be those that were of a
11 serious enough nature to warrant an investigation. There
12 were no incidents at that time serious enough to call for
13 a record. There were no records.

14 Q Were there any records maintained by
15 Monsanto concerning maintenance of the electrical
16 equipment containing PCB's?

17 A Yes.

18 Q Would you describe for me what those records
19 were that were maintained in '57 and '58 at the Queeny
20 plant?

21 A I don't remember all the features. There
22 was literally a log describing the piece of equipment by
23 its designated code number, its location, its date of
24 installation, and then entries were made regarding the
25 different kinds of services and inspections conducted on

1 that piece of equipment.

2 Q Was there a separate sheet of paper for each
3 piece of equipment?

4 A Yes.

5 Q Did that sheet of paper indicate whether or
6 not the piece of electrical equipment contained PCB's?

7 A It wouldn't do so literally. It would refer
8 to the generic word "Askarel." PCB's were not a common
9 word at that time.

10 Q The record would have indicated whether the
11 electrical equipment contained Askarel, though?

12 A Yes.

13 Q Who maintained these records?

14 A The maintenance department.

15 Q Were they maintained by you as the
16 superintendent, or were they maintained by someone below
17 you?

18 A They were maintained by the electrical
19 foreman.

20 Q Is the Queeny plant still in operation?

21 A Yes.

22 Q Do you know if the PCB transformers that
23 were there in '57 or '58 are still there?

24 A I do not know.

25 Q Do you know whether Monsanto has undertaken

1 any program to replace PCB-filled equipment at any of its
2 facilities?

3 A Yes, they have.

4 Q Would you please describe for me what that
5 program is or has been?

6 A I can't tell you the specifics since they
7 vary from plant to plant and there are almost 50 plants,
8 but the intent is to replace the PCB-type units in time
9 to meet the Federal regulations.

10 Q Do you recall what the secondary voltage was
11 of the PCB -- excuse me -- of the electrical network at
12 the Queeny plant?

13 A You mean the 220, the output?

14 Q The secondary voltage, yes, sir.

15 A 220 was the...

16 Q 220?

17 A Yes.

18 Q So, the transformers that were on that
19 network transformed the voltage higher than 220 to a
20 secondary voltage of 220 volts. Is that correct?

21 A Yes.

22 Q And, of course, those PCB units do not have
23 to be removed under the present regulations?

24 MR. DERRYBERRY: Objection to form.

25 BY MR. HITCHCOCK:

1 Q Do you know whether those PCB units with
2 secondary voltage of 220 volts have to be removed under
3 PCB regulations?

4 A I'm not that close. I'm not that familiar
5 with the regulations.

6 Q What is manufactured at the Queeny facility?

7 A What is manufactured?

8 Q Yes, sir.

9 A Today?

10 Q Today.

11 A I don't know that I'm current, but I'll try
12 to recall a few of the chemicals made there. Aspirin is
13 a product, I believe, they still make, maleic anhydride,
14 m-a-l-e-i-c, anhydride, a-n-h-y-d-r-i-d-e, phosphate
15 esters, p-h-o-s-p-h-a-t-e e-s-t-e-r-s.

16 They have shut down so many units there, I
17 just don't know what else is left at the plant.

18 Q All right, sir. In '57 and '58 what was
19 manufactured at the Queeny plant?

20 A At that time they made, of course, the
21 aspirin and the maleic anhydride that I mentioned,
22 phosphate esters. That would include at phthalate
23 esters, p-h-t-h-a-l-a-t-e, e-s-t-e-r-s. That will
24 include phthaleic anhydride, p-h-t-h-a-l-e-i-c,
25 anhydride, a-n-h-y-d-r-i-d-e, and nitrochlorobenzene.

1 I believe at that time we were also making
2 weed killers, fumaric, f-u-m-a-r-i-c, acid. We made a
3 group of -- I'm going to call them rubber chemicals,
4 rubber additives. It's called by the acronym TCC. It's
5 bacteriacide. I'm sure there were others, but I can't
6 remember them all.

7 Q All right, sir. Other than aspirin, which I
8 assume -- let me strike that question. I assume aspirin
9 was made for human consumption?

10 A Yes, sir.

11 Q Other than aspirin, were any of the
12 chemicals made in 1957 and '58 made for human consumption
13 directly or as a component of another product?

14 A Some of the fumaric acid was food grade.
15 The TCC is an ingredient added to deoderant soap. It is
16 likely that some of the phthalate esters eventually ended
17 up in products used or consumed by humans, but I wouldn't
18 know the specifics on that. The customer, in turn, would
19 get it registered and apply it to his package or to his
20 rubber tubing or whatever the application might be.

21 Q All right, sir. Were any of these chemicals
22 used -- in 1957 and '58 were the chemicals used in animal
23 feed or as components of animal feed?

24 A Not to my knowledge.

25 Q All right, sir. As to those three

1 chemicals -- excuse me -- as to the two chemicals other
2 than aspirin of which you're aware the Queeny plant is
3 now producing, are either of those two chemicals food or
4 feed components or additives?

5 A Not to my knowledge.

6 Q All right, sir. Tell me please what you
7 know about Monsanto's program to replace PCB units in its
8 plants with other types of electrical equipment?

9 A What I know dates back to the late '70s,
10 early '80s when the plants were asked to submit programs
11 for eventual change-over. This is before the Government
12 passed any regulations. The programs varied from plant
13 to plant, depending primarily on the number of units that
14 existed at each plant. The programs were also
15 multi-year, in the range of five to ten-year type
16 programs. The replacement units were to be selected by
17 the managers and engineers at each plant.

18 Those are the basic features of the programs
19 that I knew back at that time. I cannot speak for the
20 programs in place today. I know nothing about that.

21 Q All right, sir. You're describing a period
22 from the late '70s to early '80s. Could you pin that
23 down a little bit better for me in terms of when the
24 program was initiated and when the program was carried
25 out?

1 A My personal awareness or involvement with
2 these kinds of programs began in '77 and continued on to
3 '85.

4 Q All right, sir. Would you please describe
5 for me what your involvement was with these PCB equipment
6 replacement programs beginning in 1977?

7 A At that time I had an assignment with the
8 title of director, environmental operations for one of
9 the operating units of Monsanto. Reporting in to that
10 operating unit were several plants. I've forgotten the
11 number now, six, eight, something like that. I had
12 individuals reporting to me who were working with the
13 plants to develop these programs I described earlier.

14 Q All right. Tell me, was there a document
15 prepared by someone describing the initiation of a
16 program to consider replacement of PCB electrical
17 equipment?

18 A I don't remember any document, per se. I do
19 recall seminars, training sessions and meetings at which
20 this was a topic of discussion, and the plants were
21 encouraged to give this program a high priority.

22 Q Who encouraged the plants to give it a high
23 priority?

24 A Beginning in 19 -- I believe 1980, Monsanto
25 appointed an individual to concentrate on the subject of

1 PCB's, and this individual was the one that would speak
2 on the subject and promote the idea of a gradual but
3 responsible change-over.

4 Q Who was this individual?

5 A Dr. John Craddock.

6 Q Can you spell the last name, please?

7 A C-r-a-d-d-o-c-k.

8 Q Were you not the person with responsibility
9 for Monsanto's PCB response beginning in 1970?

10 A Yes.

11 Q Was it not among your responsibilities to
12 consider and evaluate how Monsanto would handle PCB's
13 that it itself used in its manufacturing facilities?

14 A Yes, sir.

15 Q What did you do in the course of your
16 responsibilities from 1970 to '76 in connection with
17 Monsanto's handling of PCB's in its manufacturing
18 facilities?

19 A My emphasis was primarily on the prevention
20 of environmental contamination. That was the issue. So,
21 my attention was centered primarily on emphasizing the
22 need to prevent it getting into the atmosphere or into
23 the waterways and to properly dispose of any PCB's that
24 could no longer be used.

25 Q So, you had no involvement prior to 1977 in

1 consideration of what Monsanto was going to do with
2 electrical equipment it owned that contained PCB's?

3 A Well, I feel that I was involved in terms
4 of, again, re-emphasizing the employee contact, points
5 that should have been well placed by then, but it didn't
6 hurt to re-emphasize them. And then I introduced the new
7 element of consideration of the environmental impacts.
8 So, I can't say that I was not involved at all.

9 Q And this included the environmental impacts
10 of PCB's in Monsanto's manufacturing facilities as well
11 as PCB's sold to customers of Monsanto, correct?

12 A Yes, sir.

13 Q But you state that you did not have any
14 involvement prior to 1976 -- excuse me -- 1977 in any
15 program or plan or consideration by Monsanto of the
16 replacement of equipment or retrofilling of equipment or
17 modification of equipment, electrical equipment in the
18 Monsanto plants that contained PCB's. Is that correct?

19 A That's correct. Prior to the termination of
20 sales of PCB's, there was no program for eventually
21 eliminating PCB units from Monsanto plants.

22 MR. HITCHCOCK: Could we take a break for
23 just a second, please?

24 (Whereupon, a brief off-the-record
25 discussion was had.)

1 BY MR. HITCHCOCK:

2 Q Was there a document prepared by each plant
3 describing the plan that it had for the modification of
4 its electrical systems to remove PCB's from electrical
5 equipment?

6 A At what point in time?

7 Q Well, you described 1977 being the date that
8 you first became aware of the program to develop such
9 plans.

10 A There were documents in various degrees of
11 completion at the different plants. Some were just early
12 drafts of programs that had yet to be pinpointed and
13 finalized and approved. Some plants were, of course,
14 ahead of others. Some plants didn't have any because
15 they had no PCB electrical equipment. So, it varied from
16 plant to plant. But the intent was that eventually all
17 plants would have a document that would describe their
18 program.

19 Q Who was the repository or the person
20 receiving these plans or reports from the various plants?

21 A At that time there was no one person. Each
22 plant was the custodian of its own programs. When Dr.
23 Craddock was given the PCB assignment, he, as best I
24 recall, attempted to get copies of all the drafts. I do
25 not know if he succeeded.

1 Q Is Dr. Craddock still employed by Monsanto?

2 A Yes, sir.

3 Q What is his position today?

4 A The same.

5 Q So, he has been continually employed since
6 1980 in the position in which he was given the
7 responsibility of concentrating on PCB's on behalf of
8 Monsanto?

9 A Yes.

10 Q Who would be responsible for preparing these
11 reports at the individual plants?

12 A That varied depending on the plant manager.
13 He could assign it to anyone he felt was the best suited
14 for the job.

15 Q Plant managers generally have a role in
16 preparing or reviewing and approving these plans?

17 A Oh, yes. Not so much preparing as reviewing
18 and approving.

19 Q Did you ever see any plans for any Monsanto
20 facilities relating to the removal or replacement of
21 equipment that contained PCB's?

22 A Yes, I did.

23 Q For what plants?

24 A I recall the plants, the two Texas plants
25 that I had responsibility for in this area. That would

1 be Texas City, Texas, and Chocolate Bayou, Texas, and the
2 John F. Queeny plant in St. Louis. We talked about the
3 other plants, but I don't remember seeing a document in
4 which the program was described.

5 Q Describe for me if you would what the plan
6 looked like in the Texas City plant.

7 MR. DERRYBERRY: Rick, I don't want to
8 interfere with your questions, but I think we're
9 stretching the limits of the scope of discovery here.
10 We're getting pretty far afield.

11 MR. HITCHCOCK: I disagree, Mr. Derryberry.

12 MR. DERRYBERRY: Go ahead.

13 A I don't remember the specifics.

14 Q Did it have budgetary information in it?

15 A Oh, yes.

16 Q Did it have a statement of the purpose of
17 the plan?

18 A The statement of the purpose was because of
19 the corporate desire or intent, "We are embarking on this
20 program. The transformer of a given number at such a
21 location is a PCB unit. It's been in service since so
22 and so. We plan that it be replaced with such and such a
23 unit, mineral oil or air or gas, maybe several units.
24 And we propose that these units be located in these spots
25 as distinguished from the original. We propose certain

1 kinds of voltage or deluge systems." It varied. "We
2 estimate the total cost of such replacement will be so
3 many dollars, and we propose that it be submitted for
4 approval for the funds by a given date. If approved,
5 then we estimate that it will take so many months to
6 implement the program, and we should be complete by a
7 certain date." That kind of information would be for
8 each unit being considered.

9 Q And would these set forth a timetable for
10 the change-out of specific units?

11 A Yes.

12 Q Giving some units priority over other units?

13 A Yes.

14 Q And would this document describe why those
15 priorities were assigned?

16 A In some instances, yes. I recall there was
17 mention made of age of unit, its performance. Any unit
18 that was giving them high maintenance costs would be high
19 on the list. Sometimes it would be tied into other
20 activity in that general area that is served by that unit
21 so that the down time would be minimized so an operating
22 unit, depending on the unit, would not suffer too long a
23 down time. There were attempts made to make that more
24 efficient.

25 Q I assume the risk of releases of PCB's would

1 be a matter that would be considered in the priority?

2 MR. DERRYBERRY: Is that a question?

3 MR. HITCHCOCK: That is.

4 BY MR. HITCHCOCK:

5 Q Is that correct?

6 A It would be a matter, but our experience
7 with PCB's is such that it would not be a top
8 consideration.

9 Q I believe you described that these plans
10 were undertaken to implement policy at the corporate
11 level. Is that correct?

12 A Yes.

13 Q And the motivation wasn't to replace old
14 units, was it?

15 A No.

16 Q The motivation for that policy wasn't to
17 replace units that had to be maintained or repaired a
18 lot, was it?

19 A No. The motivation was that since PCB's
20 were no longer manufactured, would no longer be
21 available, let's make it a deliberate program to phase
22 out those units that today contain -- today being back in
23 1977 through '80 and currently -- let's make it a
24 deliberate plan so that the removal is done efficiently
25 rather than on a crash basis, working midnights, weekends

1 with overtime pay and so on. So, economics played a big
2 part in this.

3 Q You stated earlier that your role, you
4 thought, in forming this corporate policy was the role
5 that you played prior to 1976 in trying to introduce a
6 new element of emphasis involving the environmental risk
7 of PCB's. Is that what you testified?

8 A Yes.

9 Q Wasn't it true that the policy that Monsanto
10 created dealing with plans for replacement or removal of
11 PCB electrical equipment was motivated principally by a
12 recognition of the environmental risk that you helped
13 inform them of?

14 MR. DERRYBERRY: I object to the form of the
15 question because I think essentially it was just asked
16 and answered, but you can answer it again if you want.
17 Do you understand the question?

18 THE WITNESS: I believe I do.

19 Monsanto's experience with PCB's in
20 electrical equipment was such that environmental
21 contamination was not perceived to be a serious problem.
22 It never occurred -- no incident occurred where an
23 environmental problem was created by the use of PCB's in
24 Monsanto's electrical equipment. So, that was not really
25 the prime motivation behind the program to eventually

1 phase out.

2 Q Was it a motivation?

3 A I personally don't believe so.

4 Q All right. You indicated earlier, I
5 believe, and I want to be sure I understand you, that you
6 knew of no document setting forth this policy that the
7 plants were to create plans concerning the phase-out of
8 PCB equipment. Is that correct?

9 A I do not recall seeing such a document.
10 That doesn't mean one didn't exist. I didn't get one. I
11 don't remember seeing one.

12 Q Who told you to undertake any activities as
13 to the plants over which you had supervisory
14 responsibility concerning the phase-out of PCB's?

15 A As best I remember -- I don't know that
16 anybody told me. It was a thought that was considered,
17 and I personally felt it was a pretty good idea and
18 supported it. I just don't recall anybody telling me
19 that this should be done in '77.

20 Q Who would have been involved in 1977, in
21 that time frame, with making such a policy? Who was the
22 level that could tell Texas City and Chocolate Bayou and
23 the equivalent that they were to initiate plans for
24 phasing out PCB's?

25 A In 1977 Monsanto established a vice

1 president of environmental affairs. That's not the
2 official title, but that's what I understood it to be.
3 This is when the directors of the environmental
4 operations were established for each of the operating
5 units. I do not recall specifically that an edict went
6 out. I think it was a matter of in our discussions at
7 times when we would meet at a group, it was considered to
8 be a good idea and it was encouraged and we sort of went
9 out and encouraged it. It was sort of an informal,
10 evolving kind of program at that time.

11 Q Who else was involved in your use of the
12 pronoun "we"?

13 A There were other directors of environmental
14 operation in addition to me. As I remember, there was
15 four of us. Then you had the vice president and he had
16 some staff members that helped him, about three staff
17 members. I don't remember their titles anymore. So,
18 there would be about eight or ten of us meeting on some
19 periodic basis to discuss environmental matters.

20 Q And it's your recollection that the genesis
21 of this policy was from these discussions of those
22 responsible for environmental matters with Monsanto?

23 A That's my recollection, yes.

24 Q And its genesis wasn't those responsible for
25 maintaining electrical equipment, for example?

1 A That's correct.

2 Q Was there a vice president for maintaining
3 plant equipment?

4 A No.

5 Q There were a total of four directors
6 comparable to your position?

7 A As I remember, yes.

8 Q Who were the other three?

9 A I'm trying to recall those. Dr. Will
10 Carpenter for the agricultural chemicals. Dr. Clayton
11 Callis, C-a-l-l-i-s, for industrial chemicals. I can't
12 recall -- there was an individual for plastics and
13 resins. His name I can't recall at the moment. And I
14 represented the intermediate chemicals.

15 Q All right, sir. Who was the vice president
16 at that time for environmental operations?

17 A Monte, M-o-n-t-e, Throdahl, T-h-r-o-d-a-h-l.

18 Q T-h-r-o-d --

19 A T-h-r-o-d-a-h-l, Throdahl.

20 Q Was Mr. Morton Mullins involved in any way
21 in that operations area?

22 A At that time?

23 Q (Nodding head up and down.)

24 A Let me think. Mr. Mullins joined Mr.
25 Throdahl's staff, but I've forgotten just when. I don't

1 believe it was initially.

2 Q All right, sir. Do you know if the policy
3 to request and encourage plans for replacement of PCB
4 equipment was created prior to the time that you went
5 into the position as director of environmental
6 operations? Would that policy pre-exist your assumption
7 of that position in '77?

8 A Not that I'm aware of.

9 Q Other than the plans themselves, do you know
10 of any document that would reflect Monsanto's approach to
11 replacement or retrofilling, whatever, of electrical
12 equipment in order to remove PCB's in the plants?

13 A I do not know of any.

14 Q When did the actual replacement -- strike
15 that. First of all, do you know if any of the plants
16 used retrofilling techniques in order to fulfill that
17 policy?

18 A I do not.

19 Q And in 1977 this policy dealt with all
20 equipment containing PCB's, not just equipment of
21 particular voltages. Is that correct?

22 A That's correct.

23 Q So, it included Pyranol as well as Askarel
24 transformers?

25 A And electrical switches, electromagnet

1 devices and so on.

2 Q Did Monsanto have any transformers that were
3 not designed or intended to contain PCB's, such as
4 mineral oil transformers?

5 A Yes.

6 Q Did Monsanto undertake any tests or
7 investigations or inquiries to determine whether those
8 mineral oil transformers were contaminated with PCB's?

9 A Yes.

10 Q When did those tests or inquiries begin?

11 A I don't recall the exact year. There was a
12 time when the EPA was trying to establish acceptable
13 levels of PCB's in materials that were being disposed of.
14 I forget all the details, but as best I can come up with,
15 somewhere in the early '80s, 1980, 1981. That's as close
16 as I can recall.

17 Q Do you recall whether Monsanto, to your
18 knowledge, ever went to the manufacturers of those
19 mineral oil transformers and said, "Do these have PCB's
20 in them?"

21 A No, not that I'm aware of.

22 Q You traveled around to various plants of
23 transformer manufacturers who used PCB's, didn't you?

24 A Yes.

25 Q For example, the Rome, Georgia, plant that

1 GE had where it produced transformers?

2 A I've been there, yes.

3 Q Did you ever go to any Wagner plants?

4 A I believe I did.

5 Q All right, sir. Do you recall going to any
6 transformer manufacturers' plants and observing how they
7 filled PCB transformers and mineral oil transformers?

8 A I never observed the actual filling. I was
9 taken to the areas where I was told that activity took
10 place, and the process was described to me. I did not
11 personally see any.

12 Q Did any of these manufacturers describe to
13 you a process by which they would fill mineral oil
14 transformers and Askarel transformers using the same
15 equipment?

16 A (Shaking head from side to side.)

17 MR. DERRYBERRY: Rick, let's go off the
18 record.

19 (Whereupon, a brief off-the-record
20 discussion was had.)

21 BY MR. HITCHCOCK:

22 Q Do you know when the actual work was
23 initiated at any Monsanto plant to replace or retrofill
24 any PCB electrical equipment, electrical equipment
25 containing PCB's?

1 MR. DERRYBERRY: Could you please read back
2 the last question?

3 (Whereupon, the pending question was read
4 back by the court reporter.)

5 MR. DERRYBERRY: Excuse me. No objection.

6 THE WITNESS: I'm struggling to try to
7 recall the specific dates, and I can't. The best I can
8 come up with is 1978, '77, '78, '79. In that late '70s
9 some of the plants started replacing.

10 MR. HITCHCOCK: George, as has been our
11 practice in these depositions, I would like to request
12 some documents, and I would be happy to put that in a
13 letter. If you will not agree to follow the procedure
14 we've used in the other depositions, I'll put it in the
15 form of a request for production. But we would like
16 copies of all documents relating to Monsanto's policies
17 concerning the replacement or retrofilling of electrical
18 equipment containing PCB's.

19 MR. DERRYBERRY: Its own equipment?

20 MR. HITCHCOCK: Its own equipment. We would
21 like copies of any plans, reports or other documents
22 prepared by plants or others within Monsanto implementing
23 that policy. I'll include that in a letter to you if
24 that procedure is agreeable with you.

25 MR. DERRYBERRY: Okay. Are you going to

11

1 respond to mine, too?

2 MR. HITCHCOCK: Sure.

3 BY MR. HITCHCOCK:

4 Q Do you know which plants would have
5 initiated that change-out procedure around '78?

6 A The John F. Queeny plant in St. Louis; the
7 plant in Columbia, Tennessee; the plant in Soda Springs,
8 Idaho; the two plants in Texas that I mentioned earlier.

9 MR. DERRYBERRY: Where is Chocolate Bayou?

10 THE WITNESS: It's near Alvin, Texas,
11 A-l-v-i-n.

12 MR. DERRYBERRY: Oh, that cleared it up.
13 That's better. I want to go to Chocolate Bayou.

14 THE WITNESS: No, you don't.

15 Those are the plants I recall being involved
16 with and having programs and initiating steps to complete
17 those programs. I cannot speak for all of the Monsanto
18 plants.

19 BY MR. HITCHCOCK:

20 Q I understand. All right, sir. Do you know
21 what the types of equipment at the Queeny plant were that
22 were changed out under the plan? Was it anything under
23 the Askarel network transformers you've described
24 earlier?

25 A Nothing specific, no, just PCB units.

1 Q You were at the Queeny plant and supervised
2 the unit that did the maintenance on those transformers.
3 Do you recall who manufactured them?

4 MR. DERRYBERRY: At Queeny?

5 MR. HITCHCOCK: Yes, sir.

6 A I remember some General Electric units. I
7 recall some Westinghouse units. I think Maloney Electric
8 was a St. Louis transformer manufacturer. I think it's
9 Maloney. I'm not certain. That's all I can recall.

10 Q Okay. Do you recall any Wagner transformers
11 being at the Queeny plant?

12 A I do not.

13 Q What was your job from 1958 to '62?

14 A '58 to '62? Oh, I was a superintendent in
15 the plant engineering department, which was called at
16 that plant the technical services department.

17 Q Is that at the Queeny plant?

18 A Yes.

19 Q Did you have responsibility in that position
20 for supervision of the operation or maintenance or any
21 environmental or occupational concerns relating to PCB's?

22 A No.

23 Q In 1962 to '63 what plant was it that you
24 were posted at as general superintendent for services?

25 A I was still at the John F. Queeny plant.

1 Q You once again then, as I understand it, had
2 the responsibility for the electrical distribution
3 network?

4 A Yes.

5 Q And then from '63 to '65 where were you
6 employed?

7 A I was at the Monsanto plant in Sauget,
8 S-a-u-g-e-t, Illinois.

9 Q That was one of the plants in which PCB's
10 were manufactured, wasn't it?

11 A Yes, sir.

12 Q Is there an electrical distribution network
13 at that pant?

14 A Yes, sir.

15 Q Did you have any responsibility related to
16 the network or the employees responsible for maintaining
17 it?

18 A No.

19 Q As plant manager at Anniston, Alabama, did
20 you have any responsibility for considering the
21 replacement or retrofilling of PCB units with units that
22 had another type of dielectric or dry units?

23 A No.

24 Q During the period '65 to '69, you had no
25 responsibility in that regard?

1 A That's correct.

2 Q Was there an electrical distribution network
3 using electrical equipment containing PCB's at the
4 Anniston, Alabama plant?

5 A Yes, sir.

6 Q Did you have responsibility for supervising
7 directly or indirectly the maintenance and repair of that
8 equipment?

9 A Yes.

10 Q Do you know what types -- excuse me. Do you
11 know what the secondary voltage was of the distribution
12 network at the Anniston, Alabama plant?

13 A 220.

14 Q Was that --

15 MR. DERRYBERRY: Asked and answered.

16 MR. HITCHCOCK: No, it has not been,

17 Mr. Derryberry.

18 BY MR. HITCHCOCK:

19 Q Was that a standard voltage, secondary
20 voltage, that was used at a number of Monsanto plants,
21 220 volts?

22 A Yes.

23 Q How many transformers were included in the
24 network at the Queeny plant? Do you know?

25 A I don't remember.

1 Q Was it a very extensive plant? Would it be
2 more than two or three?

3 A It was more than two or three. I just don't
4 remember. I'm going to guess a couple dozen.

5 Q Okay. Do you recall how many network
6 transformers would have been involved in the electrical
7 network at the Sauget plant?

8 A I had no involvement with the system there,
9 so I just don't know.

10 Q Do you recall how many distribution
11 transformers would have been involved in the distribution
12 network at the Anniston, Alabama plant?

13 A There again, I don't recall a number. The
14 best I can recall, it was something like a dozen or so.

15 Q Do you recall any of the manufacturers of
16 transformers at the Anniston, Alabama plant?

17 A General Electric and Westinghouse.

18 Q Do you know if any Wagner transformers were
19 there?

20 A I don't remember any.

21 Q Do you know who were the manufacturers of
22 the transformers at the Columbia, Tennessee plant that
23 contained PCB's and were being replaced?

24 A I don't know.

25 Q How about the Soda Springs, Iowa plant?

1 A No, I don't.

2 Q Do you remember the manufacturer? Would you
3 have known the manufacturer of the transformers at the
4 two plants in Texas?

5 A I would have known some of them, but at the
6 moment, all I recall are the two major, General Electric
7 and Westinghouse.

8 Q Okay. Do you know of any Wagner
9 transformers that were installed anywhere in any plant
10 facilities maintained by Monsanto?

11 A I just don't remember seeing any.

12 Q In the course of consideration of this
13 policy concerning the change-out of PCB equipment or
14 equipment containing PCB's -- I'm using the terms
15 interchangeably. Does that confuse you?

16 A No. That's all right.

17 Q All right. In the course of consideration
18 of the policies concerning the change-out of PCB
19 equipment, do you know if anyone at Monsanto consulted
20 with manufacturers concerning alternatives to PCB
21 equipment or concerning the best approach to the
22 change-out procedure?

23 A I personally do not.

24 Q Did you have any conversations with any
25 representative of any electrical equipment manufacturer

1 concerning Monsanto's policy to change out its electrical
2 equipment that contained PCB's?

3 A No.

4 Q With what was it replaced in 1978? What
5 types of transformers were used to replace these PCB
6 transformers?

7 A The type that I recall were mineral oil
8 units.

9 Q Were they located within plants?

10 A I need help on the --

11 Q Let me withdraw that question and see if I
12 can't be more specific, please.

13 At the Queeny plant was it an underground
14 distribution network with underground vaults, or were the
15 transformers located within the plants, enclosed within
16 vaults within the plants?

17 A They were enclosed in vaults. They were not
18 underground. Some were located in remote areas away from
19 chemical-processing equipment.

20 Q So, they were indoor vaults?

21 A Yes.

22 Q Were those vaults designed to withstand
23 explosions or fires that occurred within them?

24 A That's my understanding.

25 Q Were they designed to prevent the escape of

1 dielectric fluids?

2 A Yes, sir.

3 Q Do you know if Monsanto considered dry-type
4 transformers as an alternative?

5 A Yes.

6 Q Would you please tell me what was the nature
7 of that consideration by Monsanto?

8 A In the selection of a transformer, the
9 electrical engineer always considers dry, mineral oil,
10 Askarel types, all types. It then becomes one of
11 performance and cost of maintenance and, of course,
12 initial cost.

13 Dry-type units were considered, and in some
14 instances are installed. The biggest disadvantage we
15 found with dry-type units was in chemical plants that
16 handle dust and powders. The dry units are difficult to
17 operate, so that it precludes the use of the dry unit in,
18 like, an aspirin plant, too much dust. It interferes
19 with performance.

20 Q It coats the surfaces that operate as heat
21 transfer units?

22 A Yes.

23 Q Okay. Do you know during what periods of
24 time dry-type transformers were available as alternatives
25 to Askarel transformers?

1 A From the beginning of time. In fact, dry
2 units, I'm told, were designed before the Askarel units
3 were developed.

4 Q And by "dry unit," you mean a transformer
5 that does not have a liquid dielectric in it. Is that
6 correct?

7 A That's correct.

8 Q It instead uses air, both as an insulating
9 fluid and uses air as a cooling fluid. Is that correct?

10 A Air or gas.

11 Q Air or gas. Would it be an inert gas?

12 A Yes, sir.

13 Q What types of gases?

14 A I understand they used nitrogen.

15 Q What was your title from 1970 to '76 with
16 Monsanto?

17 A Initially it was manager of environmental
18 control. And, as I recall, about 1971 or '72 it was
19 changed to manager, environmental protection. Then about
20 1973 it was again changed to manager, product
21 acceptability.

22 Q Was that the title you continued to hold
23 until 1976?

24 A Yes.

25 Q Beginning in '77 when you assumed the

1 position of director of -- my notes escape me. What was
2 your position in '77?

3 A Director, environmental operations for
4 Monsanto Intermediate Chemicals Company.

5 Q Is it actually a separate subsidiary with
6 that name?

7 A That's an operating unit within Monsanto
8 Company.

9 Q It was called a company?

10 A Yes.

11 Q Did you continue in that position until
12 1986?

13 A The end of 1985.

14 Q What position did you hold as of the end of
15 1985?

16 A I was manager, occupational health for the
17 reorganized Monsanto Chemical Company, an operating unit
18 of Monsanto Company.

19 Q Did you have responsibilities for PCB's when
20 you were manager of occupational health of Monsanto
21 Chemical Company?

22 A As it impacted on occupational health
23 considerations and in those places where PCB's still
24 existed, yes, sir.

25 Q Where did PCB's still exist within

1 Monsanto's operations in 1985?

2 A In the electrical equipment.

3 Q The change-out program had not been
4 completed at that time?

5 A That's correct.

6 Q Had the program or policies adopted by
7 Monsanto to phase out electrical equipment containing
8 PCB's changed between '77 when you first became aware of
9 it and 1985 when you became the manager of occupational
10 health?

11 A In 1977 the intent was in place. There was
12 no fixed program. There were different plant programs
13 evolving. In the early '80s some of the plants had
14 programs that were approved and underway, and some were
15 still rustling with developing programs. So, I guess I
16 can best describe it as being an evolving situation. I
17 don't know where it stands today.

18 Q You described an evolution of the plants'
19 response to the policy.

20 A Yes.

21 Q Was there a change in the policy itself
22 during the period commencing in 1977 through 1985, '86?

23 A Not that I'm aware of.

24 Q The policy was still to phase out the
25 electrical equipment containing PCB's?

1 A That's right.

2 Q Did that policy during some period of time
3 between '77 and '86 begin to address mineral oil
4 equipment that was contaminated with PCB's?

5 A It did address it. The units that exceeded
6 some amount -- I can't remember the amount -- were
7 redefined as PCB units and came under the program.

8 Q All right. Mr. Papageorge, what do you know
9 about the incident that is the subject of this
10 litigation?

11 A This litigation?

12 Q Yes, sir.

13 A I understand there was a fire involving
14 electrical equipment in a building. I understand that
15 individuals were harmed. I understand one individual
16 died. I understand that there were transformers with
17 PCB's in the vicinity. I understand there was a small
18 amount of PCB's in an area of these transformers. And I
19 understand some of those PCB's were found in areas away
20 from the scene. That's about it really.

21 Q Have you read any depositions of other
22 persons given in this case?

23 A No.

24 Q Have you been told what anyone else has
25 testified in the course of depositions in this case?

1 MR. DERRYBERRY: I would object at this
2 point and instruct the witness not to advise anything
3 that's been communicated to him in confidence by counsel
4 in the case.

5 BY MR. HITCHCOCK:

6 Q Let me withdraw the question for a moment,
7 and I'll come back. Are you appearing today as an
8 employee of Monsanto?

9 A I can't be an employee of Monsanto since I'm
10 not.

11 Q You are not employed by Monsanto?

12 A No.

13 Q Have you retained any counsel to represent
14 you in these depositions?

15 A I personally?

16 Q Yes, sir.

17 A No.

18 Q Then I'll repeat the question and ask you
19 would you please tell me --

20 MR. DERRYBERRY: Don't answer him. Don't
21 answer him.

22 MR. HITCHCOCK: Let me make the record,
23 please, Mr. Derryberry.

24 MR. DERRYBERRY: I don't remember -- well,
25 I'll help you. Do you still do any consulting work for

1 Monsanto Company?

2 THE WITNESS: Yes.

3 BY MR. HITCHCOCK:

4 Q You do consulting work? Are you being paid
5 as a consultant to appear here today by Monsanto?

6 A Yes, sir.

7 MR. DERRYBERRY: And we expect to be
8 reimbursed.

9 MR. HITCHCOCK: Well, you're going to be
10 reimbursed for travel expenses. That's the order of the
11 Court.

12 MR. DERRYBERRY: That's what I'm talking
13 about.

14 BY MR. HITCHCOCK:

15 Q Would you please describe the nature of your
16 consulting responsibilities?

17 A As requested by attorneys representing
18 Monsanto in cases such as this, I am asked to participate
19 in depositions and in preparation of interrogatories.
20 That's my involvement.

21 Q Do you know how many days that you have --
22 well, strike that. Are you paid on an hourly basis or a
23 daily basis by Monsanto?

24 A Hourly.

25 Q Do you know how many hours you've spent in

1 your consulting responsibilities with Monsanto so far
2 this year?

3 A This year? I haven't totaled them, but I
4 think I'm approaching 400 hours. That's a very rough
5 guess.

6 Q Do you know how many hours you've spent
7 serving as a consultant to assist Monsanto in litigation
8 during the year 1987?

9 A '87? About 600.

10 Q I believe you testified in another court
11 proceeding that your hourly rate was \$100 an hour. Is
12 that correct?

13 A That's correct.

14 Q Have you been told anything about anyone's
15 testimony by any person other than Mr. Derryberry?

16 A No.

17 MR. HITCHCOCK: For the record, Mr.
18 Derryberry, is it your position that you are representing
19 him because of your representation of Monsanto?

20 MR. DERRYBERRY: Unless he wants to hire me
21 as his personal lawyer, right now, yeah, I am at least
22 doing that because of his consulting relationship and as
23 a practical matter because of his 35 years with the
24 company. So, I think it's clear there's a privilege.

25 MR. HITCHCOCK: All right. We'll not

1 concede that one at this point.

2 BY MR. HITCHCOCK:

3 Q All right, sir. Have you reviewed any
4 documents that relate to the explosion and fire that
5 occurred at the top of the American National Bank
6 Building?

7 A I was shown three copies, three documents.

8 Q What were those?

9 A They were on Electric Power Board
10 stationery. One document -- I did some quick reading, so
11 I don't remember all the specifics. One document was
12 dated 1984, and it was addressed to someone in EPA. An
13 individual with the Electric Power Board was describing
14 the need for PCB's in transformers. The other two
15 documents were dated right after the fire in '85 and
16 described the incident and the hiring of an analytical
17 laboratory and the samples taken where PCB's were found.
18 That's all I remember about those three documents.

19 Q Were there any other documents that you have
20 reviewed that relate to the American National Bank fire
21 and explosion that is the subject of this litigation?

22 A No.

23 Q Have you been told by anyone the results of
24 any analytical studies at the American National Bank?

25 MR. DERRYBERRY: Same objection. Don't

1 answer as to anything you and I have discussed.

2 MR. HITCHCOCK: Let's do make a complete
3 record, Mr. Derryberry. Is it your position that I have
4 no right to inquire as to facts this witness has been
5 told, not legal theories, not any other opinions that you
6 have rendered, but facts that he has been told about
7 which I am interrogating him?

8 MR. DERRYBERRY: You can't inquire into any
9 privileged communications between me and this witness.

10 MR. HITCHCOCK: You understand that I have
11 asked him what he has been told, not what he has told
12 you?

13 MR. DERRYBERRY: Uh-huh.

14 MR. HITCHCOCK: Why is that privileged?

15 MR. DERRYBERRY: Well, Rick, you've been in
16 this a long time. You've been practicing law a long
17 time, and you'd be doing the same thing and probably have
18 made more broad objections to inquiry of your
19 representatives and your consultants. That's all the
20 record I care to make. If you want to ask him about the
21 incident, ask him, but I'm not going to let him answer
22 anything about communications between me and him. If you
23 want to go beyond that and ask him what we said about my
24 car or where we ate dinner, go ahead, but that's
25 irrelevant. But to the extent you go into discussions of

1 theories or anything like that in this lawsuit, it's not
2 subject to discovery and you know it.

3 MR. HITCHCOCK: Mr. Derryberry, you are
4 misstating the nature of the question. The record will
5 show that the question had nothing to do with theories.
6 The question had to do with whether he has been told what
7 were the results of analytical studies after the fire
8 atop the American National Bank Building. That is fact,
9 sir, not theory.

10 MR. DERRYBERRY: Why don't you ask him what
11 he's heard? I'll tell him not to talk about
12 communications.

13 MR. HITCHCOCK: I have asked him that, and
14 you have instructed him not to answer.

15 MR. DERRYBERRY: That's right.

16 MR. HITCHCOCK: Would you please read back
17 the question that was last posed?

18 (Whereupon, the pending question was read
19 back by the court reporter.)

20 MR. HITCHCOCK: That is the question I wish
21 to adopt.

22 MR. DERRYBERRY: We'll certify it.

23 MR. HITCHCOCK: Are you instructing him not
24 to answer that question?

25 MR. DERRYBERRY: You bet you.

1 MR. HITCHCOCK: I will rephrase the question
2 and ask it another way.

3 BY MR. HITCHCOCK:

4 Q Do you know what were the results of any
5 analytical testing undertaken following the American
6 National Bank incident?

7 A No.

8 Q You do not?

9 MR. DERRYBERRY: Just a minute.

10 (Whereupon, a discussion was had off the
11 record.)

12 MR. DERRYBERRY: Will you read the question
13 back, please?

14 (Whereupon, the pending question was read
15 back by the court reporter.)

16 BY MR. HITCHCOCK:

17 Q You have consulted with your counsel. Do
18 you wish to amend the answer that you previously gave to
19 that question?

20 A I recall reading in one of those documents
21 we described earlier a reference to negative findings in
22 the atmosphere of PCB's.

23 Q Okay. Is that all you know?

24 A That's all I remember. That's all I know.

25 Q Tell me about any other incidents of which

1 you are aware in which PCB's have been released in
2 conjunction with a fire or explosion at the time of the
3 fire or explosion?

4 A I'm aware of allegations. I personally
5 don't have any hard facts. There has been reference to
6 the Binghamton, New York fire.

7 Q Any other incidents?

8 A I am aware of an incident in San Fransisco.

9 Q Involving what?

10 A A fire in PCB equipment. I understand that
11 there are allegations that PCB's were released. I
12 personally do not know of any other situation.

13 Q All right, sir. Have you been involved as a
14 consultant on behalf of Monsanto in connection with the
15 Binghamton, New York fire?

16 A No.

17 Q Have you been employed as a consultant or
18 have you been involved as an employee of Monsanto with
19 the San Fransisco fire to which you referred?

20 A Yes.

21 Q Please describe for me the nature of your
22 involvement with the San Fransisco fire?

23 A I've been involved in depositions that I
24 understand concerned that fire.

25 Q You have been involved in what respect, sir?

1 A Depositions.

2 Q You have given your deposition, or you've
3 sat in on depositions?

4 A Oh, no, no, I sat in on a deposition. I
5 have given a deposition rather.

6 Q The only deposition you've been involved in
7 is the one that was taken of you, is that correct, in the
8 San Fransisco incident?

9 A That's correct. That's correct.

10 Q All right, sir. Tell me what you know about
11 the San Fransisco incident.

12 MR. DERRYBERRY: Hold on just a second.

13 (Whereupon, a discussion was had off the
14 record.)

15 MR. DERRYBERRY: I'm unclear as to whether
16 there may be a protective order entered in that San
17 Fransisco case.

18 MR. HITCHCOCK: The witness ought to be
19 aware of it. We ought to ask him.

20 MR. DERRYBERRY: Well, I'm sure he doesn't
21 know about things like that, but I don't see any reason
22 to stop your inquiry. If, in fact, it evolves that there
23 is, we would reserve the right to go in and seal such
24 portions of this transcript in order to comply with it.
25 I'm sure you'd have no problem with that.

1 MR. HITCHCOCK: We have no problem with
2 complying with protective orders.

3 MR. DERRYBERRY: Okay.

4 MR. GODBOLD: We have an objection on behalf
5 of Westinghouse and Wagner to the relevancy of the San
6 Fransisco litigation.

7 MR. HITCHCOCK: I thought we were reserving
8 objections as to relevance, as we have done in all the
9 other depositions.

10 MR. GODBOLD: I understand, but the point
11 comes, Rick, and I want to make a statement. You know,
12 we've got a time limitation here.

13 MR. HITCHCOCK: We've got a time limitation
14 today. We don't necessarily have a time limitation with
15 this witness. I believe the record will clearly show
16 that if I have spent two hours with this witness here
17 today, you have spent 200 hours with Power Board
18 employees, you and Mr. Derryberry collectively, asking
19 them questions.

20 MR. GODBOLD: Which are relevant.

21 MR. HITCHCOCK: With much less relevance to
22 the lawsuit.

23 MR. DERRYBERRY: There's no point debating
24 that point. I would join in Mr. Godbold's objection.

25 MR. HITCHCOCK: I agree. There's no point.

1 As I understand the ground rules --

2 MR. DERRYBERRY: Please go ahead.

3 MR. HITCHCOCK: Am I understanding the
4 ground rules correctly? We have not changed the ground
5 rules?

6 MR. DERRYBERRY: Frankly I don't recall that
7 ground rule.

8 MR. HITCHCOCK: Perhaps you weren't present
9 at some of the depositions, but it's been stated.

10 MR. DERRYBERRY: Well, you've stated it
11 again. Let's go ahead.

12 MR. GODBOLD: I realize all objections
13 except as to the form of the question are reserved. My
14 point was just to give you notice of my position that I
15 think the whole line of questioning is irrelevant.

16 MR. HITCHCOCK: Well, I'm sure we have
17 different views on that.

18 Let's read back the pending question. Let
19 me just repeat it instead of you finding it.

20 BY MR. HITCHCOCK:

21 Q Would you please tell me what you know about
22 the fire that occurred in San Fransisco as to which you
23 have given your deposition?

24 A I don't know an awful lot other than there
25 was a fire. A transformer with fluid containing PCB's

1 was involved somehow. I'm somewhat confused as to
2 whether there was a situation where the building couldn't
3 be occupied. I'm not clear on that.

4 Nevertheless, my deposition just covered
5 Monsanto's actions regarding the PCB's, supplying
6 electrical supplies to the electrical industry and the
7 labels and things that were issued.

8 Q Did you have any role in investigating on
9 behalf of Monsanto any aspect of the fire in San
10 Fransisco? I believe it was One Market Plaza. Is that
11 right?

12 A That's what I understand.

13 Q Did you have any role in investigating the
14 One Market Plaza fire or any subsequent release of PCB's
15 on behalf of Monsanto?

16 A No.

17 Q Did you have any role in undertaking any
18 investigation on behalf of Monsanto of the Binghamton,
19 New York fire?

20 A No.

21 Q Are you aware of any other incidents in
22 which PCB's have been released from transformers as a
23 result of overheating, as a result of the application of
24 heat from external sources as a result of fire adjacent
25 to those transformers?

1 A I am not.

2 Q What are dioxins?

3 A They're chemicals. I don't know how -- it's
4 a chemical with carbon, hydrogen and oxygen.

5 Q Are there several types of chemicals that
6 are generally referred to as dioxins, several different
7 combinations of those base elements that are referred to
8 as dioxins?

9 A Yes.

10 Q Are dioxins produced as a result of the
11 incomplete combustion of PCB's?

12 A I don't believe so.

13 Q You do not believe so?

14 A That's correct.

15 Q What is the basis for your belief that they
16 are not?

17 A Well, from my knowledge and training of
18 chemistry, in the configuration of the PCB's it's my
19 considered opinion that the formation of dioxins is
20 improbable.

21 Q Please describe for me if you will the
22 circumstances or conditions that you are assuming in
23 arriving at that conclusion or opinion?

24 A I don't know how to describe it.

25 Q Let me back up and ask you another question.

1 Has not the United States Environmental Protection Agency
2 found that incomplete combustion of PCB's will produce
3 dioxins?

4 A I am not aware of that.

5 Q You are not aware of the finding published
6 in the Federal Register that such production will occur
7 during the incomplete combustion of PCB's?

8 A I am not aware of it, and I question it
9 seriously.

10 Q All right. Do you know what is meant by the
11 incomplete combustion of PCB's?

12 A I believe I do, yes.

13 Q Please describe what you understand that
14 term to mean.

15 A It is a process whereby the PCB
16 configuration, in the presence of high temperature and
17 oxygen, is changed to some other chemicals other than the
18 eventual products of total combustion, which would be
19 carbon dioxide, water and hydrogen chloride. So, it's
20 somewhere between those three chemicals and the starting
21 PCB's. That's considered incomplete combustion.

22 Q It is your opinion that the complete
23 combustion would produce three chemicals, carbon dioxide,
24 water and hydrogen chloride?

25 A Correct.

1 Q All right, sir. What chemicals may be
2 produced during the incomplete combustion of PCB's?

3 MR. DERRYBERRY: I object to the form of the
4 question, "may be produced."

5 THE WITNESS: Boy, this is almost up to the
6 imagination of the organic chemist. You can form methyl
7 ethanols because of carbon, hydrogen and oxygen. You can
8 form the two benzene rings. They could split off and
9 each one have its oxygen and chlorine and hydrogen groups
10 attached or removed. I'd just be speculating.

11 BY MR. HITCHCOCK:

12 Q All right, sir. Well, I'm interested in you
13 saying that you would be speculating because a moment ago
14 you expressed the opinion that dioxins could not be
15 created during the incomplete combustion of PCB's.

16 A It is my considered opinion, and I used the
17 word "improbable." It's never been demonstrated
18 anywhere, even under controlled laboratory conditions.

19 Q Please describe for me all the controlled
20 laboratory conditions of which you are aware that support
21 your conclusion or your statement that the production of
22 dioxins -- that dioxins are not produced as a product of
23 incomplete combustion?

24 A Well, Monsanto conducted combustion studies
25 and never found dioxins forming.

1 Q Please describe for me those studies.

2 A I don't know how to describe them. They
3 were done in the laboratory.

4 Q When were they done, by whom and how?

5 A God, they were done in the '70s under the
6 direction of Dr. Richard. I don't know the bench chemist
7 who did the actual work. I don't know what else to say
8 about that.

9 Q All right, sir. Was there one study or more
10 than one study done?

11 A I don't know what you mean by that.

12 Q Was there one experiment done by Dr. Richard
13 or were there more than one?

14 A This was a series of combustion tests
15 involving different temperatures and ratios of oxygen and
16 retention time and different kinds of PCB's, different
17 kinds of fuel input. It's one big study with many, many
18 tests to reach a conclusion.

19 Q What is Dr. Richard's full name?

20 A William Richard.

21 Q Is he still employed by Monsanto?

22 A No.

23 Q Do you know where he is employed?

24 A He is retired.

25 Q Do you know where he lives?

1 A I do not know.

2 Q Was he employed by Monsanto in St. Louis the
3 last time you knew?

4 A Yes.

5 Q Did he reside in St. Louis at the time of
6 his retirement?

7 A Yes, he did.

8 Q Do you know of any other place he has lived
9 since his retirement?

10 A No, I don't.

11 Q Do you know what his middle initial is?

12 A R.

13 Q Do you know where he received his PhD
14 degree?

15 A I believe it's the University of Michigan.

16 Q During what period in the 1970s were these
17 combustion studies to which you refer undertaken by
18 Monsanto?

19 A 1970, 1971.

20 Q Was Dr. Richard employed directly by
21 Monsanto at that time or was he employed by a consulting
22 laboratory?

23 A No, he was a Monsanto employee.

24 Q What was his title?

25 A Director, research, functional fluids.

1 Q Have you reviewed any reports that were
2 prepared by Dr. Richard or others recording the processes
3 and procedures that were used in these tests?

4 A No.

5 Q Have you reviewed any reports indicating
6 what the results of the tests were?

7 A No.

8 Q All right, sir. And you are here today
9 stating your opinion about those tests without reviewing
10 any of them?

11 A Yes. He reviewed those before a PCB task
12 force that Monsanto had in place at that time.

13 Q So, your knowledge of those tests is based
14 upon an oral recitation in 1971 of the results of those
15 tests?

16 A Yes, sir.

17 Q And you have no other knowledge concerning
18 those tests other than that oral recitation to an
19 inter-Monsanto task force in 1971?

20 A That's correct.

21 Q Do you know if any written records were
22 prepared of those tests?

23 A The normal procedure would be to have
24 logbooks, documents covering this test.

25 Q Who would have custody of those today?

17
1 A I don't know.

2 MR. HITCHCOCK: Mr. Derryberry, we would
3 like to request all written documents relating to tests
4 undertaken by Monsanto during the period 1970-1971
5 concerning combustion of PCB's. We'll incorporate it in
6 a letter.

7 MR. DERRYBERRY: Let me ask you -- we can go
8 off the record.

9 (Whereupon, a brief off-the-record
10 discussion was had.)

11 MR. DERRYBERRY: I've decided that we will,
12 just on the basis of a letter inquiry, Mr. Hitchcock,
13 which probably has all the elements of especially the
14 local rules. They don't require central filing anymore.
15 And at the same time we will have the right to inquire in
16 the same fashion whether or not we have propounded
17 previous requests for production under Rule 34 that the
18 documents sought are discoverable. Is that okay?

19 MR. HITCHCOCK: That's fine. All right.
20 Let's proceed.

21 BY MR. HITCHCOCK:

22 Q Are you aware of any other studies that have
23 been undertaken and other experiments that have been
24 undertaken to determine what types of chemicals are
25 produced in the incomplete combustion of PCB's?

1 A I'm not, no.

2 Q So, the only study upon which you're basing
3 the opinion that you expressed a few moments ago that
4 dioxins are not produced is the study that Dr. Richard
5 did in 1970 or 1971 for Monsanto. Is that correct?

6 A Not totally.

7 Q All right, sir. Please describe any other
8 studies of which you're aware dealing with the
9 by-products of the incomplete combustion of PCB's.

10 A I'll give you my impression. I've talked to
11 many, many people throughout this period of time when I
12 was intimately involved with PCB's. Many of these folks
13 tried to create chlorodioxins in laboratory studies.
14 They failed to do so. It is a tradition, if nothing
15 else, in the scientific field not to publish negative
16 data. It isn't done. This is why there are no reports.
17 Many laboratories have done this work, but no reports
18 have been issued because they failed to create dioxins.
19 That's my understanding.

20 Q By "dioxins" you're referring to entire
21 homologs of dioxins?

22 A No. To make it clear, chlorinated dioxin,
23 parabenzodioxin, not the dioxin itself.

24 Q All right. Is your opinion the same as to
25 the dioxin itself? Is that produced by the incomplete

1 combustion of PCB's?

2 A Yes, that opinion is the same.

3 Q The opinion is the same? No form of dioxin,
4 in your opinion, is produced by the incomplete combustion
5 of PCB's. Is that correct?

6 A That's correct.

7 Q And the only study to which you can refer me
8 in support of that opinion is that done by Dr. Richard in
9 1971. Is that correct?

10 A That's correct.

11 Q Do you know what dibenzofurans are?

12 A Yes.

13 Q Are dibenzofurans produced in the course of
14 an incomplete combustion of PCB's?

15 A It's possible.

16 Q It's possible?

17 A Yes.

18 Q Were there studies that considered whether
19 dibenzofurans are produced during the course of
20 incomplete combustion of PCB's?

21 A I've heard that there are studies that
22 demonstrate this.

23 Q Can you please give me any more information
24 concerning those?

25 A I don't recall. I just don't recall the

1 authors and dates. I just don't.

2 Q But in your opinion dibenzofurans may be
3 produced during the incomplete combustion of PCB's. Is
4 that correct?

5 A Yes, sir.

6 Q You indicated that it was a tradition not to
7 publish negative data. You believe that is the reason
8 why you cannot cite to me any reports concerning the
9 absence of dioxins being produced by the incomplete
10 combustion of PCB's. Can you give me any reports of
11 studies that did produce dioxins during the course of
12 incomplete combustion?

13 A No, I cannot.

14 Q You know of no studies?

15 A That is true.

16 Q Have you undertaken any research concerning
17 literature to determine whether such studies exist?

18 A When I was directly involved with the PCB
19 issue, I did, yes.

20 Q What time frame was that, sir?

21 A 1970-1971 to 1976.

22 Q So, you could not have or would not have
23 undertaken any research concerning the existence in the
24 literature of studies or reports of studies about the
25 production of dioxins during the incomplete combustion of

1 PCB's since '76 at the latest. Is that correct?

2 A I would not have done research on it, a
3 thorough search of the literature. That is correct.

4 Q All right, sir. So, there would be no basis
5 for you to know whether or not any such studies had been
6 reported since '76. Is that correct?

7 A I wouldn't say no basis. I still have an
8 interest, and I would have been informed by someone of
9 such a finding.

10 Q Have you read the notices placed in the
11 Federal Register by the Environmental Protection Agency
12 concerning what has been referred to generically as the
13 Fire Rule, the rule that was published July 7th, 1985, by
14 the Environmental Protection Agency?

15 A No.

16 Q Do you know what I mean by the "Fire Rule"?

17 A No.

18 Q Have you ever reviewed any of the records of
19 proceedings before the Environmental Protection Agency
20 concerning promulgations of regulations relating to the
21 use of PCB transformers entered in commercial buildings?

22 A No.

23 Q Have you reviewed the records of proceedings
24 before the Environmental Protection Agency as to any
25 rule-making concerning PCB's?

1 A Back in the '70s and early '80s, yes.

2 Q What time periods?

3 A Oh, from 19 -- it would have to be the
4 middle '70s, '72, '75.

5 Q 1972 to 1975 would be the last time that you
6 would have reviewed any proceedings before the
7 Environmental Protection Agency concerning PCB
8 regulation?

9 A That's correct.

10 Q Have you reviewed, since 1975, proceedings
11 before any other Government agency concerning the
12 regulation of PCB's?

13 A No.

14 Q Do you know what EPA has done since 1975
15 concerning the regulation of PCB's?

16 A Not thoroughly.

17 Q So, when you stated before that you did not
18 know of the Environmental Protection Agency reaching the
19 conclusion that dioxins could be produced during the
20 incomplete combustion of PCB's, the basis of your lack of
21 knowledge was that you hadn't read the proceedings. Is
22 that correct?

23 A There are many ways to find out what EPA's
24 thinking is on this matter other than the proceedings
25 themselves.

1 Q Okay. But you haven't read the proceedings
2 and you don't know of EPA doing that. Is that correct?

3 A I have not read the proceedings, therefore I
4 have not seen that statement. But I have seen no
5 reference in any other literature referring to that
6 conclusion.

7 Q Since 1975 what literature have you
8 regularly reviewed concerning PCB's and the effects of
9 PCB's and the production of combustion by-products by
10 PCB's?

11 A I'm not aware of any literature that
12 addresses that topic other than the usual chemical
13 journals and the articles that might appear.

14 Q Can you point me to any piece of literature
15 that you've reviewed since 1975 concerning combustion
16 by-products of PCB's?

17 A No.

18 Q Can you refer me to any piece of literature
19 prior to 1975 that you have read or are familiar with
20 concerning the combustion by-products of PCB's?

21 A No.

22 Q Do you know what the toxicological effects
23 of dibenzofurans are?

24 A Not specifically.

25 Q Generally?

1 A I have the general impression that they can
2 be highly toxic to test animals. There are some that
3 suspect dibenzofurans can cause human health effects
4 similar to those found in an incident that occurred in
5 Japan where rice soil contaminated with chemicals was
6 ingested.

7 Q Isn't it true that the 1970 and 1971 studies
8 undertaken by Monsanto were undertaken to determine
9 whether there were impurities from dioxins or
10 dibenzofurans in PCB's manufactured by Monsanto as a
11 result of the heating that occurred of those PCB's?

12 A Would you repeat that?

13 Q Yes, sir. I would be happy to. It was a
14 long question and I want to be sure you understand what
15 I'm asking. Isn't it true that the Monsanto studies to
16 which you referred, done by Dr. Richard, were undertaken
17 in response to the Kyushu incident that you have
18 described a moment ago?

19 A That is not true.

20 Q That is not true? All right, sir. Were
21 studies undertaken in 1970 to 1971 by Monsanto to
22 determine the level or existence within PCB's of dioxins
23 and dibenzofurans?

24 A Yes.

25 Q Are these the same studies to which you

1 referred that Dr. Richard did?

2 A No.

3 Q Who did these other studies to determine the
4 levels of dioxins and dibenzofurans in PCB's?

5 MR. DERRYBERRY: Objection to form. You
6 said "levels" and "existence" in your other question.

7 MR. HITCHCOCK: It may be unimportant to the
8 witness and probably is only important to counsel.

9 BY MR. HITCHCOCK:

10 Q Who did these studies to determine whether
11 dioxins and dibenzofurans existed in PCB's manufactured
12 by Monsanto?

13 A They were done in Monsanto under the
14 supervision of Dr. Robert Keller, who was the manager of
15 a group of analytical chemists who specialized in this
16 kind of activity.

17 Q All right, sir. What was Dr. Keller's
18 position if you recall?

19 A I believe his title was manager, analytical
20 services.

21 Q Is he still employed by Monsanto?

22 A I believe he retired.

23 Q Does he live in the St. Louis area, or do
24 you know?

25 A The last I heard.

1 Q Okay. Do you know if there were reports
2 prepared recording the results of and the methods used in
3 Dr. Keller's studies?

4 A Yes.

5 Q Have you ever seen those reports?

6 A I have seen some of them.

7 MR. HITCHCOCK: We would like to request
8 that we be supplied copies of any documents related to
9 studies undertaken by Dr. Keller and those within his
10 analytical services group concerning the presence of
11 dioxins or dibenzofurans in PCB's.

12 BY MR. HITCHCOCK:

13 Q Do you know of any other studies other than
14 the ones you've described by Dr. Keller that were done by
15 or for Monsanto concerning the level or presence of
16 dioxins or dibenzofurans in PCB's?

17 A By or for Monsanto, no.

18 Q All right, sir. When were Dr. Keller's
19 studies done in 1970 and 1971?

20 A They started in 1970 and continued on into
21 1976 as best I recall.

22 Q All right, sir. Was Dr. Keller involved in
23 all of these studies concerning the levels and/or
24 existence of dioxins?

25 A Dr. Keller or his successor.

1 Q Who was his successor?

2 A I don't know.

3 Q All right, sir. Do you know what the
4 Environmental Protection Agency required in 1985
5 concerning responses to incidents in which PCB's were
6 released following a fire in electrical equipment?

7 MR. DERRYBERRY: In September of 1985?

8 BY MR. HITCHCOCK:

9 Q In September of '85.

10 A I do not.

11 Q You do not? So, you do not know whether
12 those regulations required any notification of anybody?

13 A I do not.

14 Q Do you know whether those regulations
15 required authorized agents of the Environmental
16 Protection Agency to require new testing?

17 A I do not.

18 Q Have you ever been involved -- strike that.
19 Do you know of any tests that have been run following
20 incidents in which PCB's were exposed to heat from an
21 external source or fire in electrical equipment, tests
22 that were run to determine whether PCB's were spread by
23 the fire?

24 A I don't know of any personally.

25 Q Do you know of any of the analytical methods

1 that would be used to evaluate the spread of PCB's as a
2 result of a fire incident, an incident in which some
3 electrical equipment exploded or otherwise caught fire?

4 A I know of procedures that could be used. I
5 do not know which procedures were actually used.

6 Q All right, sir. I wasn't asking which
7 procedures were used in this incident. I was asking what
8 would be the appropriate procedures to use to evaluate
9 the spread of PCB's as the result of a fire in electrical
10 equipment adjacent to the PCB's.

11 A In my opinion they would use what I would
12 call wipe tests.

13 Q All right, sir.

14 A There are protocols designed to establish
15 how many PCB's, if any, are in a given area, and they
16 reported it as such.

17 Q So, that would be a kind of test that would
18 appropriately be used following an incident where PCB's
19 have been exposed to fire?

20 A Yes, or for any chemical really.

21 Q All right, sir. Well, we're talking about
22 PCB's. I don't want to get into irrelevancies and have
23 counsel object.

24 MR. DERRYBERRY: Not as much as you would.

25 BY MR. HITCHCOCK:

1 Q Do you know of other tests that can be done,
2 for example, to evaluate air contamination?

3 A Well, certainly there are protocols for
4 determining the presence of PCB's in air.

5 Q How are those generally done, those kinds of
6 tests?

7 MR. DERRYBERRY: Are you just asking him
8 what he knows about it?

9 MR. HITCHCOCK: Yes, sir. Obviously I'm
10 only asking him what he knows about it.

11 A Generally the tests that I've observed
12 involved a pump that sucked air through a series of
13 bottles of solvents that would capture the PCB's, and the
14 PCB's, in turn, in that solvent would be analyzed. And
15 knowing how much air was pulled through and the amount of
16 PCB's found, you could determine the quantity of PCB's in
17 that air.

18 Q All right, sir. What kinds of tests would
19 be done to determine the presence of dibenzofurans or
20 dioxins on surfaces?

21 A It would be in terms of getting a sample,
22 very much the same as for PCB's. The analytical
23 methodology is somewhat different and more specific to
24 pinpoint those given chemicals.

25 Q All right, sir. Would you please describe

1 for me what you understand to be meant by volatilization
2 of PCB's.

3 MR. DERRYBERRY: Objection to the form of
4 the question.

5 MR. HITCHCOCK: Do you want to withdraw the
6 objection since you got your hand signals mixed up? Do
7 you want to withdraw it?

8 MR. DERRYBERRY: This is time out. This is
9 you're doing great. Keep it up (indicating).

10 MR. HITCHCOCK: Do you have a symbol for
11 that?

12 Do you want the pending question read back?

13 MR. DERRYBERRY: I'll withdraw the
14 objection.

15 THE WITNESS: As I remember the question, I
16 was asked to describe what I understood by volatilization
17 of PCB's.

18 MR. DERRYBERRY: No objection to that
19 question.

20 BY MR. HITCHCOCK:

21 Q Yes, sir.

22 A PCB's are exposed to varying temperatures.
23 Some of the PCB's in the mixture will evaporate off the
24 surface, just like water evaporates from a pool of water.
25 Since PCB's are mixtures of different members of the PCB

1 family, some of these PCB's tend to evaporate sooner than
2 others. As the temperature is increased, more and more
3 of the liquid changes into gas and leaves the pool. I
4 don't know how else to describe it. That is
5 vaporization. Eventually if enough heat is applied, all
6 of the PCB's are converted from liquid to a gas and they
7 leave the cup or the saucer, whatever it was in
8 originally.

9 Q You understand the term "volatilization" to
10 mean the same thing as vaporization?

11 A Yes, sir.

12 Q And in each case that involves a change in
13 the state from a liquid to a gas without combustion or
14 without a chemical change occurring?

15 A That is correct.

16 Q Should there be, in the course of
17 vaporization and volatilization, any combustion
18 by-products released?

19 A Not under the normal definitions of
20 vaporization and volatilization.

21 Q All right. What temperatures will produce
22 the volatilization or vaporization of Askarel produced by
23 Monsanto?

24 A You mean at normal pressure?

25 Q Normal pressure meaning pressure here in

1 Chattanooga, Tennessee, at 600 and something feet above
2 sea level, yes, sir, that's what I mean.

3 MR. DERRYBERRY: I suppose I should object
4 to the form of the question unless you specify a given
5 Askarel.

6 BY MR. HITCHCOCK:

7 Q Does it matter what Askarel I'm referring
8 to?

9 A Yes.

10 Q All right. Let's talk about 1254 to start
11 with. Do you know what I mean by Askarel 1254?

12 A Yes, I know about 1254. I'm trying to
13 recall the temperature at normal pressure.

14 MR. DERRYBERRY: Just a minute.

15 (Whereupon, a discussion was had off the
16 record.)

17 MR. DERRYBERRY: Go ahead.

18 THE WITNESS: For 1254 I don't recall the
19 exact numbers, but it's in the numbers of 400 degrees
20 Fahrenheit, something like that, 400, 500.

21 BY MR. HITCHCOCK:

22 Q All right, sir. What happens at 400 to 500
23 degrees Fahrenheit when the Aroclor 1254 is subjected to
24 that temperature?

25 A It vaporizes. It changes physical state

1 from liquid to vapor.

2 Q Is there a different range of temperatures
3 that would cause vaporization of the Aroclor 1260?

4 A Yes.

5 Q What would be the difference?

6 A It would be a higher temperature.

7 Q Can you give me a range or a figure?

8 A Oh, it would approach 500 degrees
9 Fahrenheit.

10 Q All of these are in Fahrenheit, not Celsius?

11 A Yes.

12 Q What about 1248?

13 A 1248, a little bit less than that for the
14 1254. Keep in mind these are not exact numbers. I don't
15 recall the exact temperatures. I would say that that
16 would be a little less, about 375 as compared to 400.

17 Q And 1242 would be less than 1248?

18 A A little less than that, yes.

19 Q Did Monsanto ever run tests to determine
20 these values?

21 A Oh, yes. There are charts plotted for this.

22 MR. HITCHCOCK: We would like to request --

23 MR. DERRYBERRY: Just ask a question rather
24 than get 50 charts.

25 MR. HITCHCOCK: Well, he doesn't recall the

1 values. I have asked him the question. He doesn't
2 recall the values.

3 MR. DERRYBERRY: Do you want to know a
4 specific value?

5 MR. HITCHCOCK: I would like to know results
6 of tests run by Monsanto that record -- do you want me to
7 wait? I would like to know results of tests run by
8 Monsanto that record the temperatures and other
9 conditions under which liquid PCB's or Askarel will
10 vaporize.

11 MR. DERRYBERRY: Various Aroclors?

12 MR. HITCHCOCK: Various Aroclors.

13 MR. DERRYBERRY: Can you tell us which
14 Aroclor was in the Wagner transformers, because if you
15 can, that might lessen the burden.

16 MR. HITCHCOCK: Well, I would like -- I will
17 be happy to specify in my letter what Aroclors. How is
18 that?

19 MR. DERRYBERRY: Okay.

20 MR. HITCHCOCK: Because I want it for more
21 than what was in the Wagner transformers.

22 MR. DERRYBERRY: You do? Why would that be
23 relevant at all?

24 MR. HITCHCOCK: As to whether Aroclor was
25 found in the testing.

1 BY MR. HITCHCOCK:

2 Q Okay. What temperature is required to start
3 the combustion of Aroclor? Will any -- I've got a pool
4 of Aroclor here to which I am subjecting or to which I am
5 applying heat. Would any of that Aroclor start burning,
6 start becoming subject to combustion at the temperature
7 necessary to vaporize it, 400 to 500 degrees Fahrenheit?

8 A I have never heard what that temperature is.
9 I don't know.

10 Q You don't know what temperature would be
11 required to burn PCB's?

12 A I am only aware that there's a temperature
13 at which you might get a flash, but it would snuff. It
14 would not sustain the flame. I don't know what that
15 temperature is.

16 Q But you would expect there would be a much
17 lower temperature, would you not, at which some portions
18 of the PCB's would start undergoing chemical change
19 during the course of combustion, consistent with the
20 process of combustion?

21 A Yes. There's a threshold temperature at
22 which this could happen, yes, sir.

23 Q Do you know what that temperature is?

24 A No, I don't.

25 Q Do you know if Monsanto has ever undertaken

1 any studies to determine what that temperature is?

2 A Yes. They did that.

3 Q Would you please describe for me what you
4 know about those studies?

5 A All I know is that tests were conducted to
6 determine the fire resistance of these materials long
7 ago. Underwriters Laboratories were involved. I also
8 know that Monsanto conducted tests to determine at what
9 temperature complete destruction would take place.
10 That's all I really know.

11 MR. HITCHCOCK: We would like to add to your
12 list results of any tests that have been undertaken by
13 Monsanto to determine temperatures at which combustion
14 begins and continues of Askarel PCB's.

15 MR. DERRYBERRY: Were these done for
16 Aroclors? Is that what you're saying?

17 THE WITNESS: Yes.

18 MR. DERRYBERRY: Okay. Please make the same
19 limitation in your letter that you're making in the other
20 tests for vaporization levels. Okay?

21 BY MR. HITCHCOCK:

22 Q Do you recall whether these tests were run
23 as to every Aroclor that Monsanto produced?

24 A Yes.

25 Q They were?

1 MR. HITCHCOCK: To the extent that that is
2 filed, but if it just so happens they didn't run it for
3 the one I asked for...

4 MR. DERRYBERRY: Okay. You and I had in an
5 earlier request that you're talking about certain
6 Aroclors that you apparently say you observed after the
7 fire.

8 MR. HITCHCOCK: He has testified that there
9 were these tests in each case run for all the various
10 Aroclors. If that is the case, we would request those.
11 If it turns out that isn't the case, I will probably
12 limit it. If it turns out there was one test run on one
13 Aroclor that they assume applied to everything else, I
14 don't want to avoid getting that test by making the
15 limitation you're suggesting.

16 BY MR. HITCHCOCK:

17 Q Are you aware of any major leaks that ever
18 occurred in the electrical equipment containing PCB's
19 owned by Monsanto? By "major leak" I mean more than a
20 quart or so.

21 A No.

22 Q Are you aware of any incidents in which
23 transformers or other electrical equipment containing
24 PCB's owned by Monsanto was exposed to fire in its
25 immediate vicinity?

1 A No.

2 Q And other than the Binghamton incident and
3 the San Fransisco, One Market Plaza incident, you're
4 aware of no other fires involving PCB equipment. Is that
5 correct?

6 A That's correct.

7 Q Have you reviewed any studies concerning the
8 levels of PCB's and other combustion by-products that
9 were found following the One Market Plaza fire?

10 A No.

11 Q Have you reviewed any studies or reports of
12 studies concerning the levels of PCB's or PCB combustion
13 by-products that were found after the Binghamton fire to
14 which you referred?

15 A No.

16 Q So, you've read no reports that give you any
17 idea as to whether PCB combustion by-products were found
18 after either of those fires?

19 A That's correct.

20 Q You assumed the position -- I'll rephrase
21 that.

22 A I'll never know what the last part of that
23 was.

24 MR. DERRYBERRY: Maybe you better not know.

25 BY MR. HITCHCOCK:

1 Q When you became manager of environmental
2 controls in 1970 and then when you filled your other
3 positions from 1970 to '76, did you have any involvement
4 in any testing laboratories that undertook tests on PCB's
5 for Monsanto?

6 A Yes.

7 Q Describe for me your involvement with
8 outside testing, please.

9 A I was involved with Governmental
10 laboratories who were testing PCB's on aquatic creatures.

11 Q What laboratories were those, sir?

12 A There's the fish pesticide laboratory
13 located in Columbia, Missouri. There was the water
14 quality laboratory located in Duluth, Minnesota, also the
15 water quality laboratory in Athens, Georgia, and the
16 commercial fisheries laboratory in Gulf Breeze, Florida.

17 I communicated with the Corvallis, Oregon,
18 water laboratory. I was in touch with the EPA laboratory
19 in Cincinnati, Ohio. They were conducting some testing.
20 I was involved with some university testing laboratories
21 or researchers.

22 Q Which universities?

23 A Well, Dr. Riceborough in California,
24 Berkeley University, University of Berkeley; Dr. Peakall
25 at Cornell.

1 Q How do you spell that?

2 A P-e-a-k-a-l-l.

3 Q At Cornell?

4 A Cornell.

5 Q All right.

6 A Of course, we were communicating with the
7 laboratory at the University of Stockholm, also the
8 University of Utrecht in the Netherlands. There were
9 commercial laboratories. There were many of those. I
10 can't begin to remember all of them.

11 Q Please tell me what you remember.

12 A I recall a laboratory in Memphis,
13 Woodson-Tenant, and then ABC Laboratories in Columbia,
14 Missouri; Stuart Laboratories in Knoxville, Tennessee.
15 Analabs up in Connecticut. I forgot which city. These
16 laboratories I just described are all into analytical
17 testing and analyzing fish tissue, animal tissue, water
18 samples, sediment.

19 Q All right. What other laboratories or
20 organizations were you involved in that undertook tests
21 concerning PCB's?

22 A These are health effects?

23 Q Any kind of tests.

24 A All right. Health effects, Industrial
25 Biotest Laboratories in Northbrook, Illinois, and

1 Bionomics up in Massachusetts, which was a fish testing
2 laboratory. That about covers it. I don't recall any
3 more.

4 Q All right, sir. Did any of these Government
5 laboratories do testing under some sort of contract with
6 Monsanto?

7 A No.

8 Q Did any of the universities, testing
9 laboratories or facilities or persons there undertake any
10 testing of PCB's or PCB effects for Monsanto?

11 A No.

12 Q Did any of the commercial analytical
13 laboratories that you have described undertake any
14 testing on behalf of Monsanto?

15 A No.

16 Q None of those were employed by Monsanto,
17 paid anything by Monsanto to undertake the tests?

18 A That's correct.

19 Q For whom did they do the analytical testing?

20 A I can't claim to know customers of Monsanto
21 that bought PCB's. I don't know just which.

22 Q But not Monsanto?

23 A That's correct.

24 Q Did you receive -- well, strike that. From
25 whom did Bionomics undertake any testing effects,

1 analytical testing associated with PCB's?

2 A That was an effects test on fish for
3 Monsanto.

4 Q And for whom did Industrial Biotest do
5 testing?

6 A For Monsanto.

7 Q In what periods of time were you involved
8 with Industrial Biotest or Bionomics?

9 A It was 1970, 1971, maybe into early '72.

10 Q Why would you have stopped being involved
11 with those organizations in 1972?

12 A The tests that had been placed -- no, it
13 went beyond '72. It went into '73, also. The tests that
14 had been placed were terminating. The initial tests were
15 terminating in '72. And then additional tests were
16 placed, which, as I recall, were finished in '73.

17 Q Is it your recollection that neither of
18 those two labs did any testing for Monsanto after '73?

19 A As I recall, it's close to '73, yes. They
20 did some re-evaluation of their work in '74.

21 Q Who was they?

22 A I'm sorry?

23 Q Who were you referring to?

24 A Industrial Biotest.

25 Q Your previous answers relate to both

1 Bionomics and Industrial Biotest?

2 A I'm sorry. I wasn't clear on that.

3 Bionomics, as I recall, Monsanto placed one fish study
4 with them which was completed by 1973 at the latest. I
5 don't know of any further studies placed with Bionomics.

6 Industrial Biotest, the studies on the test
7 animals themselves were pretty well completed by 1973.
8 There were evaluations of the test data ongoing through
9 1974 into 1975.

10 Q Were there any other companies that
11 undertook any sort of analytical or effects testing in
12 relation to PCB's for Monsanto?

13 A There were some after I was no longer
14 involved. I'm not familiar with the details, what
15 laboratories or other types of studies.

16 Q Would that be after 1976?

17 A Yes.

18 Q Is it your recollection that there were
19 other laboratories than Bionomics or Bionetics?

20 A I'm sorry. What was the question? I
21 thought it was --

22 Q It wasn't a very good one.

23 MR. DERRYBERRY: Sort of got interrupted.

24 MR. HITCHCOCK: It did.

25 THE WITNESS: Fish testing?

1 BY MR. HITCHCOCK:

2 Q You thought it was Bionomics?

3 A I could be wrong.

4 Q All right. To your knowledge, were there
5 any other testing laboratories other than Bionomics and
6 IBT that undertook tests, analytical tests or effects
7 tests concerning PCB's?

8 A I understood after I had left the assignment
9 that there were.

10 Q But not until after 1976?

11 A That's correct.

12 MR. HITCHCOCK: Okay. George, we had
13 asked -- strike that. Let me ask another question.

14 BY MR. HITCHCOCK:

15 Q Do you know who that was, who these other
16 laboratories were?

17 A I'm not sure.

18 Q Do you have any idea? Do you recall any
19 names?

20 A No, I don't.

21 MR. HITCHCOCK: George, in the course of the
22 other litigation, we had asked for all test reports
23 concerning the effects of PCB's and have been provided
24 nothing, only one report after 1981. I've only been
25 provided one report, dated '81, that has a date later

1 than '75. We would like to request copies of any of the
2 reports of any tests run by or on behalf of Monsanto
3 concerning the effects on human health and the
4 environment of PCB's. I'll be happy to give you a list
5 of what you've already produced and basically what else.

6 MR. DERRYBERRY: That would be nice because
7 I don't want to duplicate it.

8 MR. HITCHCOCK: Yes, sir.

9 MR. DERRYBERRY: What period of time are you
10 talking about?

11 MR. HITCHCOCK: Through the date of the
12 accident.

13 MR. DERRYBERRY: Even after the regulations
14 had come out and everything?

15 MR. HITCHCOCK: Uh-huh.

16 MR. DERRYBERRY: Let's go off the record.

17 (Whereupon, a brief discussion was had off
18 the record.)

19 (Whereupon, the noon recess was taken.)

20 BY MR. HITCHCOCK:

21 Q Mr. Papageorge, good afternoon. When we
22 broke we were talking a little bit about some of the
23 tests that were run at various times on behalf of
24 Monsanto.

25 Do you know if Monsanto had any

1 participation in the study undertaken by the Eddison
2 Electric Institute and the National Electric
3 Manufacturers Association in which they retained Dill,
4 Friese, Hayes, Loomis and Shaffer to study the effects of
5 PCB's on human health and the environment?

6 A I do not.

7 Q Were you aware that such a study was
8 undertaken?

9 A I have heard of it.

10 Q Have you heard it referred to as the Suez
11 Utility Solid Waste Study, group study?

12 A No, I have not heard that.

13 Q How have you heard it referred to, the
14 Dill-Friese study?

15 A I don't know that I associate any particular
16 term with it. It's an industry study of capacitor
17 manufacturers.

18 Q Do you know when the study was undertaken or
19 why it was undertaken?

20 A Not really, no.

21 Q Have you ever seen a copy of the report that
22 was the result of that study?

23 A No.

24 Q After 1976 did you have any role in
25 reviewing PCB issues for Monsanto?

1 A Yes.

2 Q Would you please describe what that role
3 would have been?

4 A I participated in -- I believe it was
5 November of that year -- a NIOSH panel. This is the
6 National Institute of Occupational Safety and Health
7 panel, which was reviewing the proposed criteria document
8 drafted by NIOSH personnel on PCB's.

9 Q What document was that? Do you know what it
10 was called?

11 A That's called the "Criteria Document on
12 Polychlorinated Biphenyls."

13 Q Can you describe what that document
14 contained?

15 A It was a compilation of all normal animal
16 and human health studies relating to PCB's and NIOSH's
17 attempt to arrive at recommendations on what was
18 acceptable exposure.

19 Q Did they prepare such criteria for
20 acceptable exposure?

21 A Eventually, yes.

22 Q Do you recall to what types of exposures
23 those criteria apply?

24 A These were occupational exposures through
25 skin contact, ingestion and inhalation.

1 Q You were a member of the panel? Who else
2 was involved in that panel?

3 A There were individuals from NIOSH. I have
4 forgotten their names, Dr. Renata Kimbrough from CDC,
5 Atlanta; Dr. James Allen, University of Wisconsin and Dr.
6 Phil -- his name escapes me. He was from Mobil Chemical
7 Company. I can't recall his last name at the moment.
8 That's it. I can't remember any more.

9 Q All right, sir. How many times did this
10 group meet?

11 A Just that once in November.

12 Q For how long?

13 A It was an all-day meeting.

14 Q Were you presented prior to the meeting with
15 some sort of report that had been prepared by someone?

16 A Yes. The draft criteria document was mailed
17 to the participants about a month or six weeks prior to
18 our meeting for our review.

19 Q Did you or any of the other members of the
20 panel prepare written comments concerning the draft
21 criteria document?

22 A No. There were no written comments.

23 Q You indicated it involved a compilation of
24 all human health studies. Describe to me what you meant
25 by that, how that was done.

1 A There were references to their understanding
2 of human health effects, referring to the very early
3 1930s, 1940s, acne, chloracne, incidences with
4 chlorinated biphenyl mixtures. I don't remember the
5 specifics any longer.

6 Q Was there a document prepared that went
7 through a summary of these various studies and prepared a
8 summary of them, or were you familiar with them?

9 A I was familiar with some of them, but the
10 criteria document itself had devoted several paragraphs
11 of each of these known studies or reports or incidences.

12 Q Prior to this time, you were aware of
13 studies that had been done by Monsanto back in the '30s
14 concerning PCB's?

15 A I was aware of Monsanto's involvement and
16 interest in some of the findings. I was aware that
17 Monsanto had conducted animal studies in the '30s, '40s,
18 '50s and so on.

19 Q Animal studies on the health effects of
20 PCB's?

21 A Yes.

22 Q Did Monsanto have some sort of a method for
23 monitoring the literature concerning its products,
24 specifically PCB's?

25 A I don't know that I would describe it so

1 much as a rigid method. It was a responsibility carried
2 out by the Monsanto medical department personnel. How
3 they did it, I personally do not know.

4 Q But it was their responsibility to review
5 studies of health effects of various types of products,
6 including PCB's, to be sure that Monsanto knew of all the
7 studies that had been done concerning them. Is that
8 correct?

9 A That's correct.

10 Q Okay. Did they maintain a library or did
11 they prepare abstracts or what was the result of their
12 investigation?

13 A They had a library. As appropriate, they
14 would prepare abstracts. Now, if there's nothing new and
15 different but reinforcing a previous position, there was
16 no need to write any abstracts. If anything new did come
17 along, they would make it a point to propose changes to
18 any literature, advertising material, labels. Anything
19 that described that product would be appropriately
20 changed. It was their judgment call as to when this
21 should happen.

22 Q You're talking about medical department
23 personnel?

24 A Medical department personnel, yes.

25 Q How was the medical department organized?

1 A When? What period?

2 Q All right, sir. Well, let's start now and
3 go back. How is it organized now?

4 A I can't claim that I know it fully now, but
5 there's, of course, a medical director and he has
6 reporting to him three different functions. One of them
7 is the staff of toxicologists. The last I knew there
8 were maybe five or six professional toxicologists. I
9 don't know what they are today.

10 There's a staff of occupational health
11 physicians, medical doctors. The last I recall there
12 were three of those, along with a professional nurse.
13 And in that group there's a medical team that mans the
14 medical clinic dispensary at the general offices in
15 St. Louis. And it's through that physician team that the
16 plant physicians report from the various plants that have
17 doctors on their staff or for those plants that do not
18 have medical doctors on their staff.

19 (Whereupon, a discussion was had off the
20 record.)

21 THE WITNESS: I was talking about the
22 medical department organization and the tie-in in the
23 central medical department to the plant medical groups,
24 whether they be physicians on staff, employees of
25 Monsanto, whether they're contract physicians in the

1 communities in which the plant is located.

2 In addition, there's a third function which
3 is the epidemiology function reporting in to the medical
4 director. That's my understanding of the current
5 organization.

6 Q All right, sir. Under which of those three
7 functions would the responsibility have been to review
8 relevant medical and scientific literature to determine
9 developments concerning the health effects or the
10 environmental effects of PCB's?

11 A All of them, each one with their particular
12 expertise.

13 Q Did the medical department or anyone else at
14 Monsanto ever provide for you a survey of literature
15 prior to 1976 when you served on that NIOSH panel?

16 A I was never given a survey of the total
17 literature. I was given a tutorial.

18 Q Who gave you a tutorial?

19 A Mr. Elmer Wheeler did about 90 percent of
20 it, and Dr. Emmett Kelly, I would guess another 10
21 percent to bring me up to date -- this was in 1970 -- of
22 their current understanding and knowledge regarding PCB's
23 health effects, both human and animal.

24 Q Tell me what you remember of what they told
25 you in 1970.

1 A Well, they pointed out that in the 40 years
2 that Monsanto had been making and selling PCB's, Monsanto
3 and its customers had never had serious health problems.
4 They were aware of some skin problems. They were also
5 aware of an occasional respiratory aggravation brought
6 about by breathing too many fumes.

7 Their animal studies indicated -- they
8 passed this on to me -- that high levels in these animals
9 would create liver damage, would possibly create some
10 reproduction problems. They had tests underway to
11 demonstrate whether that would happen or not.

12 And as far as the environment was concerned,
13 at that time they just didn't have enough information.

14 Q When you're referring to environment, how
15 did they use that term? What did they mean by the
16 environment as opposed to what they did tell you about
17 human effects and animal effects?

18 A Well, they were referring to recorded
19 incidents that related to the seals up in the North Sea
20 and Europe and the brown pelicans off the southern
21 California coast, the reference by some researchers that
22 the Perigrin falcon, for example, was being harmed by
23 such things as PCB's. That's what they were referring to
24 by "environment."

25 Q Do you remember anything else that they told

1 you?

2 A No.

3 Q Did they tell you what types of information
4 among that which was in their position they had passed
5 along to users of PCB's?

6 A All of this, everything they told me, they
7 had, through the years, shared with the customers.

8 Q Who did they consider the customers with
9 whom they shared this information?

10 A Anybody on record as having purchased the
11 material.

12 Q How was it shared with its customers?

13 A I was going to say the primary way, at least
14 with most customers, would be through literature and
15 contacts with Monsanto marketing salespeople.

16 Q By "literature," you mean literature that
17 Monsanto prepared, sales literature, descriptive
18 literature and so forth?

19 A Yes, descriptive literature. Each brochure,
20 for example, would have a section titled such as
21 "Toxicity" or "Safe Handling," some such words.

22 Q All right.

23 A Many customers, particularly those that were
24 large enough to have medical departments or industrial
25 hygiene departments, would make personal contacts with

1 representatives of Monsanto's medical department, either
2 by letter, telephone, contacts at various medical
3 meetings.

4 Q How about customers who purchased small
5 amounts of PCB's of Askarel, from Monsanto, what
6 mechanism was used by Monsanto to communicate all this
7 information to those customers?

8 A The primary way would be really through the
9 label, the product label.

10 Q What product label was used in 1970?

11 A What product label?

12 Q Yes, sir. Was there a product label in
13 1970?

14 A Yes.

15 Q Do you recall what it said?

16 A Yes. It had reference to prolonged
17 breathing it might be harmful. It had reference to avoid
18 skin contact. It had reference to launder clothing.
19 That message goes back to the '30s. It was consistent
20 through the years.

21 Q Do you know of any labels that Monsanto
22 produced in 1970 or prior to 1970 that talked about liver
23 damage that could occur?

24 A No.

25 Q Do you know of any label after 1970 that

1 Monsanto produced that talked about liver damage that
2 could occur?

3 A No.

4 Q In fact, did any of the labels that Monsanto
5 produced talk about any of the human health effects of
6 PCB's?

7 A No. Labels do not refer to effects. They
8 refer to what to do to avoid exposure.

9 Q Well, I assume you've seen labels that say,
10 "This is poisonous," haven't you?

11 A Yeah.

12 Q Or labels that say, "Danger, harmful if
13 swallowed," something of that nature?

14 A That's right.

15 Q Did Monsanto ever have a label that said,
16 "Poison, PCB's."

17 A You don't see the word "poison" on
18 industrial chemicals. So, no label would have that.

19 Q But that reference, "Harmful if swallowed"
20 or something like that, is, of course, a description of
21 the health effect, isn't it?

22 MR. DERRYBERRY: Objection to form.
23 Argumentative. Answer if you can.

24 THE WITNESS: That was the intent of the
25 message. I didn't use the exact words about prolonged

1 breathing, skin exposure. If that message was followed,
2 there should be no harm. That's the intent.

3 BY MR. HITCHCOCK:

4 Q But you never advised -- I say "you."
5 Monsanto never had a label that said that PCB's can harm
6 the liver?

7 A That's correct.

8 Q Did Monsanto ever have a label saying that
9 PCB's could cause adverse health effects up to and
10 including death?

11 A That is -- no.

12 Q That's true, isn't it?

13 A Yeah.

14 MR. HITCHCOCK: I'd like to mark this
15 document as the next exhibit, please.

16 (Whereupon, the compilation of studies and
17 bibliography was marked for
18 identification as Exhibit 480.)

19 MR. DERRYBERRY: Just so there's no
20 misunderstanding, we understand you asked him about a
21 means of communicating to customers. You have not asked
22 for an exhaustive list.

23 MR. HITCHCOCK: I asked him whether he had a
24 label that stated what I recited in the record.

25 MR. DERRYBERRY: All right.

1 BY MR. HITCHCOCK:

2 Q Let me clarify that. Did you have any other
3 method of communicating with customers such as the
4 Electric Power Board that would buy PCB's?

5 A Talking about health effects?

6 Q Any message on the label you were describing
7 for me earlier.

8 A For human health effects?

9 Q Okay. As to human health effects.

10 A Yes.

11 Q Do you have any means of communicating other
12 than the label that was on the product, communicating
13 with customers like the Electric Power Board that might
14 buy a barrel of Pyranol?

15 A I mentioned the product literature and the
16 label.

17 Q All right, sir. Do you know if a customer
18 like the Electric Power Board was provided the product
19 literature?

20 A That I don't know, but I'd be surprised if
21 they didn't see product literature at some point in time.

22 Q Why would you be surprised?

23 A Because invariably if a customer was working
24 with a product, they get the literature either directly
25 from Monsanto or from Monsanto's customer indirectly.

1 Q That's an assumption that you have?

2 A That's true. None of these are documented.
3 That's right.

4 Q Well, is it documented in terms of some sort
5 of procedural policy or some sort of rule that people
6 would be punished if they didn't follow?

7 A No. There's no such thing.

8 (Whereupon, a brief off-the-record
9 discussion was had.)

10 BY MR. HITCHCOCK:

11 Q Mr. Papageorge, the court reporter has
12 handed you a document that's been marked as Exhibit 480.
13 Take whatever time you need, sir, to familiarize yourself
14 with the document. I'd like to ask you a couple of
15 questions about it. Have you had an opportunity to
16 review it?

17 A I've reviewed it.

18 Q All right, sir. Have you ever seen that
19 document before?

20 A I have not.

21 Q Have you had a chance to look at some of the
22 references to studies that are included in this document?

23 A I have glanced over the bibliography, yes.

24 Q Are you familiar with any of those studies?

25 A I am familiar in that I have read some of

1 the reports.

2 Q That are referred to in the bibliography to
3 Exhibit 480?

4 A Yes.

5 Q When did you read these, the 1970 period or
6 before that?

7 A I believe I read these in early 1970.

8 Q Some of these reports go back, according to
9 their date, to the 1920s and '30s. You would have read
10 reports of that vintage in the course of your work?

11 A I read some in the '30s. I don't recall any
12 of the '20s.

13 Q All right, sir. Am I interrupting you? Are
14 you finished with your answer?

15 A Yes.

16 MR. HITCHCOCK: Let me have the court
17 reporter mark this next document as 481.

18 (Whereupon, the bibliography was marked for
19 identification as Exhibit 481.)

20 MR. HITCHCOCK: I'd like to substitute a
21 copy if you don't mind.

22 BY MR. HITCHCOCK:

23 Q Mr. Papageorge, the court reporter has
24 handed you a document marked Exhibit 481. Have you ever
25 seen that document before?

1 A It appears familiar and I know I had
2 telephone conversations with Dr. Quimby, the author. So,
3 I believe I have seen this.

4 Q Would you please read into the record what
5 the title of that document is?

6 A The title is "Polychlorinated Biphenyls
7 (PCB's) and Related Chlorophenyls, Effects on Health and
8 Environment."

9 Q All right, sir. And is that a bibliography
10 or abstract of a variety of studies?

11 A It's a bibliography from 1881 to 1971.

12 Q All right, sir. Do you recall what year you
13 would have talked to -- is it Dr. Quimby?

14 A Dr. Quimby.

15 Q Dr. Quimby.

16 A Dr. Quimby and I had numerous telephone
17 discussions, I believe, starting in about 1971 which
18 lasted for a year or two, maybe 1972 or the middle of
19 1973.

20 Q What were the substance of those
21 conversations?

22 A Well, the initial discussions were questions
23 relating to Monsanto's operations, what are PCB's, where
24 are they used, where are they manufactured, what do you
25 know about their health effects.

1 Later discussions were centered around what
2 is Monsanto's program for replacing or withdrawing from
3 the PCB uses and how is the program going, what
4 alternates are being considered.

5 He would ask me medical questions that I
6 would ask him to call our medical department to pursue.
7 I didn't try to field those.

8 Q All right, sir. Do you know what Dr. Quimby
9 was doing that led him to ask these questions?

10 A Not initially. Initially he was just
11 telling me that he was a consultant interested in this
12 field and wanted to get familiar with it. Later I found
13 out that he had a contract to produce such a
14 bibliography.

15 Q As Exhibit 481?

16 A Yes.

17 Q A bibliography such as Exhibit 481?

18 A That's correct.

19 Q Do you know if he had any involvement after
20 his preparation of the bibliography in any further
21 studies concerning PCB's?

22 A I'm under the impression he was involved,
23 but I do not know in what areas. And I have never seen
24 any further reports with his name, so I don't know what
25 he was doing.

1 Q Did he share with you information that he
2 had compiled concerning health effect or environmental
3 effect studies on PCB's?

4 A No, not until he sent me a copy of this
5 bibliography.

6 Q Did you share that bibliography with anyone
7 else at Monsanto?

8 A Oh, yes. I immediately sent it to the
9 medical department.

10 Q Do you have any reason to believe that you
11 would have gotten it significantly after the 1972
12 publication date?

13 A No. I believe I got that that summer of
14 1972.

15 Q All right, sir.

16 MR. HITCHCOCK: Mark this as the next
17 exhibit.

18 (Whereupon, the compilation was marked for
19 identification as Exhibit 482.)

20 BY MR. HITCHCOCK:

21 Q Just a moment. Let me ask you one or two
22 other questions on Exhibit 481. Do you know if Monsanto
23 had copies of the studies that were listed in that
24 bibliography among its library?

25 A Some of them, yes.

1 Q Did you undertake to complete the set by
2 getting copies of studies that you didn't have prior to
3 receipt of that bibliography?

4 A I personally didn't, but the medical
5 department attempted to fill their library shelves.

6 Q So, the medical department did use the
7 bibliography to obtain copies of studies they did not
8 have?

9 A To my knowledge, yes.

10 Q That probably would have been in the summer
11 of '72 and thereafter?

12 A Yes.

13 Q Okay. The court reporter has marked this
14 document as Exhibit 482. Have you ever seen that
15 document?

16 A I don't recall this document because I'm
17 certain that I don't remember the reference to
18 polybrominated biphenyls.

19 MR. DERRYBERRY: Polybrominated?

20 BY MR. HITCHCOCK:

21 Q Do you know what polybrominated biphenyls
22 are?

23 A Yes, sir.

24 Q Will you please tell me?

25 A They are -- let's call them cousins to the

1 polychlorinated. But instead of chlorine being added,
2 bromine is the chemical.

3 Q What are their uses?

4 A Primarily as fire retardants in plastics,
5 fabrication.

6 Q This was also prepared by the same group
7 that prepared Exhibit 481, something called the
8 Toxicology Information Response Center. Are you familiar
9 with that outfit?

10 A I've heard of it, yes, sir.

11 Q Do you know what it is?

12 A Well, I understood it to be sort of a
13 back-up for the CDC for gathering toxicity data. As I
14 remember, it had telephone numbers at various emergency
15 rooms and doctors can call for treating people who had
16 been exposed.

17 Q Have you ever seen any other publications
18 from the National Laboratory Toxicology Information
19 Program or Toxicology Information Response Center?

20 A I assume you're referring to PCB's.

21 Q Yes, concerning PCB's.

22 A I don't recall any.

23 Q All right, sir. Who is in charge of the
24 library that Monsanto maintains containing information
25 concerning the environmental health effects of PCB's?

1 A I don't know the name of the individual.

2 There's --

3 Q Someone in the medical department?

4 A The medical department has their own medical
5 library assigned to one of the ladies there.

6 Q Is that where all the PCB health and
7 environmental effects information is kept or is there
8 another place?

9 A The last I knew it was there. I don't know
10 where it is today since PCB's is not an active product
11 any longer.

12 Q Did you ever use that library?

13 A Yes. I used to go looking for articles.

14 Q Is there some sort of card system maintained
15 where you can --

16 A Yes, they do have a cataloguing system.

17 Q Do you remember whether the card catalog
18 cards, whatever system they have comprising the
19 cataloguing system, would indicate the date of
20 acquisition of a particular article or book?

21 A I don't remember.

22 Q Okay. All right, sir.

23 (Whereupon, the instruction booklet was
24 marked for identification as Exhibit 483.)

25 BY MR. HITCHCOCK:

1 Q The court reporter has handed you Exhibit
2 483. Could you take a moment and look through that and
3 tell me whether you've ever had an opportunity to see it
4 before?

5 MR. DERRYBERRY: Is this it, a copy of it?

6 MR. HITCHCOCK: Yeah. I splurged and I made
7 two more copies than I usually make.

8 MR. DERRYBERRY: Can I have one?

9 MR. HITCHCOCK: No. I have one. That's the
10 two more than usual. I've got one, and he's got one.

11 THE WITNESS: I have reviewed this document.

12 BY MR. HITCHCOCK:

13 Q All right, sir.

14 A I have --

15 Q Excuse me. Go ahead.

16 A I have not seen it before.

17 Q You have not seen this document before?

18 A That's correct.

19 Q Are you aware that Wagner transformers were
20 the transformers that were involved in the release of
21 PCB's in the incident here in Chattanooga?

22 A That's what I was told yesterday.

23 Q Would you look at Page 5 of the document?

24 A I have Page 5.

25 Q All right, sir. Is not the description in

1 the two paragraphs underneath the heading "Handling
2 Noflamol Transformer Liquid" a description that was taken
3 from literature provided by Monsanto to Wagner?

4 A It appears that some of the -- there's some
5 paraphrasing, but basically the message is similar to
6 Monsanto's.

7 Q Okay, sir.

8 (Whereupon, the letter was marked for
9 identification as Exhibit 484.)

10 BY MR. HITCHCOCK:

11 Q The court reporter has handed you a document
12 marked as Exhibit 484. Have you seen that document
13 before?

14 A Yes.

15 Q On Page 2 does it show that you received a
16 copy of the document?

17 A Yes.

18 Q Did you have any role in preparing the
19 document?

20 A No.

21 Q Will you please tell me the circumstances
22 under which this document was submitted to Mr. Blumenthal
23 if you know?

24 A Mr. Blumenthal was the FDA representative
25 who in April or really March was assigned the task to

1 follow up on PCB's. He got Dr. Kelly's name from another
2 FDA employee, so he called Dr. Kelly asking him questions
3 on PCB's and health effects. This is Dr. Kelly's
4 response. It's really a cover letter to which he had
5 attached summary reports of the studies.

6 Q All right, sir. Can you please tell me
7 about the studies that are referred to in there?

8 A Well, these are lifetime studies of the
9 three types of PCB mixtures fed to rats. It was also an
10 18-month study of these same PCB's fed to dogs. And they
11 also conducted rat reproduction studies with rats.

12 Q Do you recall when these studies were
13 completed?

14 A These studies were completed in 1971.

15 Q Do you recall who the authors of the studies
16 were?

17 A Not all of them. I recall a Dr. Keplinger
18 and a Dr. Wright. There were a couple other names I've
19 forgotten. These are people who signed the final
20 reports.

21 Q Who were the persons who were copied on the
22 letter?

23 A Those shown under cc, Dr. Calandra and Dr.
24 Fancher are members of Industrial Biotest Laboratories.
25 They are the president, Dr. Calandra, and the study

1 director, Dr. Fancher.

2 Q Do you recall what Dr. Fancher's title was?

3 A No, I don't. I picked him as No. 2 man,
4 pretty high up in the organization.

5 Q Do you know if he was president at one time?

6 A No, I don't know that.

7 Q Do you know if he -- was Dr. Fancher a
8 resident of Northbrook, Illinois, or was he somewhere
9 else?

10 A When Dr. Fancher was with the Industrial
11 Biotest Laboratories, he was a resident of that area. I
12 don't know that it was Northbrook.

13 Q Okay.

14 A But in the Chicago area.

15 Q Did he at some point leave Industrial
16 Biotest?

17 A He retired.

18 Q Do you know where he is now?

19 A I do not.

20 Q Who is Mr. Ingle?

21 A Mr. Ingle was the Monsanto employee located
22 in Washington, D. C. who had the responsibility for
23 communicating and coordinating with the Federal
24 regulatory agencies, the FDA being one of them.

25 Q Was he a lobbyist.

1 MR. DERRYBERRY: Objection to form.

2 MR. HITCHCOCK: What's the objection?

3 MR. DERRYBERRY: I don't know. Some day
4 someone might wonder what a lobbyist is.

5 THE WITNESS: I am not under the impression
6 that he was a registered lobbyist. He didn't lobby with
7 Congress or anything like that.

8 BY MR. HITCHCOCK:

9 Q Was he a full-time employee of Westinghouse
10 or was -- I'm sorry -- Monsanto or was he part time?

11 A Full-time Monsanto.

12 Q Did he deal in issues other than PCB's?

13 A Oh, yes.

14 Q All right, sir. The two-year study that is
15 referred to was one that was summarized in an interim
16 report along with this letter. Is that correct?

17 A That's correct.

18 Q And the two-year study dealt with 1240 to
19 1234 for and 1260 Aroclors. Is that correct?

20 A That's correct.

21 Q Do you recall what the interim study
22 indicated that was forwarded to Mr. Blumenthal?

23 A I'm sorry?

24 Q Do you recall what was indicated in the
25 interim study or interim report that was forwarded with

1 this letter to Mr. Blumenthal?

2 A Yes. It's summarized in the top paragraph
3 of the second page at ten-parts-per-million exposure
4 level. Up to that point, no effects were noted in the
5 test animals and there seemed to be some effect at 100
6 parts per million. That effect was liver enlargement,
7 which was described in the attachment.

8 Q Is that paragraph at the top of Page 2 of
9 Exhibit 484 not a reference to the rat reproduction
10 studies as opposed to the oil toxicity study?

11 A That is true, but the effects noted in the
12 two-year study were the same. This expression would
13 apply to both.

14 Q Would the interim report forwarded in 1970
15 to the United States Food and Drug Administration
16 indicate at that time PCB's at one of these levels was
17 found to be slightly tumorigenic?

18 A No.

19 Q It would not?

20 A (Shaking head from side to side.)

21 Q Okay. Do you recall if you addressed the
22 issue of tumors or cancer at all?

23 A Not in these interim early studies or
24 reports.

25 Q Okay. Do you recall a test denominated by

1 IBT as J-7300 that dealt with chickens?

2 A I remember a chicken study. I don't recall
3 the number.

4 Q Do you recall a study called the toxicity
5 reproduction and residue study on Aroclor 1242, 1234 and
6 Aroclor 1260 in white leghorn chickens?

7 MR. GODBOLD: What was the --

8 MR. HITCHCOCK: White leghorn chickens.

9 MR. DERRYBERRY: Apparently Mr. Hitchcock
10 has the report before him.

11 MR. HITCHCOCK: Mr. Hitchcock does not have
12 the report before him, but he does have some notes.

13 BY MR. HITCHCOCK:

14 Q Do you know if Mr. Fancher had a role in
15 that study?

16 A Yes, sir.

17 Q Did you ever talk with Mr. Fancher
18 concerning that study?

19 A Yes, sir.

20 Q All right, sir. Would you tell me what you
21 remember about your conversations with Mr. Fancher about
22 IBT's work on the white leghorn chicken study, J-7300?

23 A My discussions with Dr. Fancher were part of
24 an overall discussion held at the Biotest Laboratories.
25 I visited with them in the presence of Elmer Wheeler. It

9

1 was part of the status report to me and Mr. Wheeler, and
2 depending on what point in time the visit took place,
3 they were reporting the effects noted.

4 And they reported, as I remember, about -- I
5 forget exactly when, but there was a point in time after
6 about nine months or so in the study that they noted an
7 effect on hatchability of eggs and eggshell thickness
8 changes. The shells were not as thick as normal, and
9 this showed up at the ten-part-per-million level but not
10 at the one-part-per-million level.

11 Q Okay.

12 A That's the report as I remember it.

13 Q Were you told that the study was done with
14 sick animals?

15 A No.

16 MR. HITCHCOCK: Let's mark this.

17 (Whereupon, the memo was marked for
18 identification as Exhibit 485.)

19 BY MR. HITCHCOCK:

20 Q Take a moment to look over this document.

21 A I have reviewed it.

22 Q All right, sir. Do you know what
23 lymphomatosis is?

24 A No, I don't.

25 Q Are you aware before reviewing this document

1 that the study was conducted using animals that were ill?

2 MR. DERRYBERRY: Objection to the form.

3 THE WITNESS: I was made aware in the past
4 two or three years through a deposition that the animals,
5 some of the birds were sick. Prior to that, I knew
6 nothing about that.

7 BY MR. HITCHCOCK:

8 Q What case did the deposition involve in
9 which you became aware of that?

10 A The Westinghouse-City of Bloomington case.

11 Q And have you seen this document before?

12 A It doesn't look familiar. I don't recognize
13 the penmanship. I was shown some handwritten documents
14 similar to this, but I can't remember.

15 Q All right, sir. Are Mr. Fancher's initials
16 O.E.F.?

17 A Yes, Otis E. Fancher.

18 Q And it's your recollection Mr. Fancher was
19 involved in that leghorn chicken study. Is that correct?

20 A Yes, he was.

21 (Whereupon, the letter was marked for
22 identification as Exhibit 486.)

23 MR. DERRYBERRY: Is that one with multiple
24 copies, Rick?

25 MR. HITCHCOCK: Right there (indicating).

1 MR. DERRYBERRY: Okay.

2 THE WITNESS: I've reviewed it.

3 BY MR. HITCHCOCK:

4 Q All right, sir. Do you know who Mr.
5 Jenkins -- first of all, have you ever seen this document
6 before?

7 A Again, during the Bloomington deposition.

8 Q Okay. Do you know who Mr. Jenkins is?

9 A He was the pathologist at the Industrial
10 Biotest Laboratories.

11 Q As the pathologist, what was his
12 responsibility in connection with the Industrial Biotest
13 studies for Monsanto?

14 A I don't know what his managers assigned him,
15 but his normal role is to review tissue samples and
16 determine what cell changes are obvious.

17 Q Who is Jim Stephens?

18 A I don't know.

19 Q Would you please look at the second full
20 paragraph, next to the last paragraph, and read that
21 paragraph into the record?

22 A The one that starts with "I had hoped"?

23 Q Yes, sir.

24 A "I had hoped this snake wouldn't be exhumed,
25 but no such luck. The conduct of this project (J-7300)

1 finally lead to the demise of Jim Stephens. Accordingly,
2 I'm not happy with the way it was done."

3 Q Do you know what he's talking about? Do you
4 have any idea?

5 A No, I don't. I can only speculate.

6 Q He wasn't talking about snakes, was he?

7 MR. DERRYBERRY: That's what it says.

8 THE WITNESS: I suspect not.

9 BY MR. HITCHCOCK:

10 Q Were you aware of any problems concerning
11 this study that was brought to your attention by
12 Industrial Biotest?

13 A No, not until '84, '85.

14 Q Okay. Did you have problems in 1970 with
15 getting information from Industrial Biotest?

16 A I didn't have any.

17 Q You were regularly in contact with them on
18 various aspects of the multitude of studies they were
19 doing?

20 A Most of my contact was through Mr. Wheeler.

21 Q Who was?

22 A He was Monsanto's medical department
23 representative who managed these projects with the
24 Industrial Biotest Laboratory.

25 Q But you did have direct contact with Mr.

1 Keplinger and Mr. Calandra?

2 A Yes, on a spasmodic need situation.

3 (Whereupon, the letter was marked for
4 identification as Exhibit 487.)

5 BY MR. HITCHCOCK:

6 Q Take a moment to read that please.

7 MR. DERRYBERRY: Do you have an original,
8 Rick, that shows the signature? It's sort of obliterated
9 on this copy.

10 MR. HITCHCOCK: I don't have it with me. We
11 may have one at the office that shows more than "Otis."

12 MR. DERRYBERRY: I don't even see "Otis."
13 Do you see "Otis"?

14 THE WITNESS: You can make out a T.

15 BY MR. HITCHCOCK:

16 Q Okay.

17 A I've reviewed it.

18 Q All right, sir. Have you seen this document
19 before?

20 A As with the others, I was first aware of
21 this during my depositions for the
22 Bloomington-Westinghouse case.

23 Q Read the final paragraph into the record,
24 please.

25 A "I am ashamed to publish the work done in

1 these studies. One must report the data, but
2 interpretation without conviction of reality. This is
3 perhaps the most significant of the Aroclor studies, and
4 some of my conclusions are not in agreement with those of
5 the reports (which I signed without detailed analysis) or
6 with statements which have been made by Kep and by
7 Monsanto in discussions with FDA and environmental
8 groups. There's nothing like writing for publication to
9 disclose defects."

10 Q Do you know what publication he was
11 referring to that he was writing for?

12 A There was at that time consideration being
13 given by Monsanto to have these studies published in the
14 proper type scientific journal.

15 Q Were they so reported or published?

16 A I recall only one article published, offered
17 by the Industrial Biotest researchers. The study
18 referred to in this Exhibit 487 was not published.

19 Q Isn't it true that they were not published
20 because Monsanto was made aware of the problems that are
21 discussed in Mr. Fancher's letter and other related
22 problems?

23 A That, I don't know.

24 Q You don't know?

25 A I don't know.

1 Q Have you ever heard that?

2 A No.

3 Q Why weren't they published? Do you know?

4 A The last understanding I had is that Mr.
5 Wheeler wanted his name as a co-author, along with
6 Industrial Biotest people. Once Mr. Wheeler wanted to be
7 co-author, those documents had to, by Monsanto procedure,
8 be reviewed by Monsanto's legal department. And there
9 were some parts of the report, which parts I personally
10 don't know, that the legal department wanted modified.
11 The attempts to publish sort of collapsed at that point.
12 No agreement could be reached.

13 Q Do you know anything about the types of
14 modifications that the attorneys wished?

15 A The only thing I vaguely remember, it had
16 something to do with the introduction, not the study
17 part, the introductory part up front where an attempt was
18 made to discuss PCB's in some depth. And parts of that
19 discussion the attorneys didn't feel were relevant or
20 appropriate. I don't know the details.

21 Q So, there were drafts of these reports
22 prepared that were reviewed within Monsanto, reports to
23 be published?

24 A Yes. I didn't see them, but there were
25 drafts circulating.

1 Q And this chicken report was one of them?

2 A Correct.

3 Q Who would have had those drafts of the
4 reports that were prepared for publication?

5 A Mr. Wheeler, for sure.

6 Q Where is Mr. Wheeler now?

7 A He is retired. I think he's living in South
8 Carolina.

9 Q Do you know where in South Carolina?

10 A No, I don't.

11 Q Do you know what his full name is?

12 A Elmer P. Wheeler.

13 Q Was he a medical doctor?

14 A No. No. He had, I think, a Masters in
15 public health or some such training.

16 MR. HITCHCOCK: Okay. George, we would like
17 to request copies of all draft reports of studies
18 denominated by Industrial Biotest as J-7300, titled by
19 Industrial Biotest as "Toxicity Reproduction and Residue"
20 on Aroclor 1242, 1254 and 1260, White Leghorn Chickens."
21 I believe the date of the version you gave to us earlier
22 was June 4th, 1970. We are interested in copies of all
23 drafts of that report and documents relating to it and
24 copies of any draft publications, draft reports for
25 publication.

1 MR. DERRYBERRY: What you're saying is any
2 draft reports for whatever purpose?

3 BY MR. HITCHCOCK:

4 Q Well, apparently, as I understand it --
5 correct me if I'm wrong, Mr. Papageorge -- apparently,
6 given the date of this letter, two years after the study
7 was prepared and Mr. Fancher's references in there and
8 your testimony, apparently the study that was done by IBT
9 was being prepared for publication in another format. Is
10 that correct?

11 A That's correct.

12 MR. HITCHCOCK: We're interested in drafts
13 of that study. It was prepared in another format as
14 well.

15 MR. DERRYBERRY: Okay.

16 MR. HITCHCOCK: Its derivative drafts as
17 well as drafts that existed before the IBT study was
18 prepared.

19 MR. DERRYBERRY: You're talking about the
20 same study, aren't you, J-7300?

21 MR. HITCHCOCK: The publications that were
22 prepared in draft form based upon J-7300.

23 MR. DERRYBERRY: Okay. You're saying you
24 have the report of June 4, '70 in the other case?

25 MR. HITCHCOCK: Yes. You gave us that.

1 MR. DERRYBERRY: What you think happened is
2 there were drafts about publishing that thing, but there
3 were some drafts circulated and dealt with?

4 MR. HITCHCOCK: That's what I want.

5 MR. DERRYBERRY: Okay. You'll put that in a
6 letter, too?

7 MR. HITCHCOCK: I'll put that in a letter.
8 (Whereupon, the memo was marked for
9 identification as Exhibit 488.)

10 MR. DERRYBERRY: Have you got any idea who
11 this is to? Is it the same --

12 MR. HITCHCOCK: I can't read it.

13 THE WITNESS: I have reviewed it.

14 BY MR. HITCHCOCK:

15 Q Have you ever seen this document before,
16 sir?

17 A I don't recall this document.

18 Q All right. According to the information
19 provided to us by your counsel, IBT Study B-7298 was the
20 number for the three two-year chronic oral toxicity
21 studies with the rats, the one that was referred to in
22 the '70 letter to the Food and Drug Administration.
23 You're familiar with those studies, the two-year oral
24 toxicity studies?

25 A Yes.

1 Q Were you aware of problems with the two-year
2 chronic oral toxicity studies?

3 A No, I wasn't.

4 Q Were you aware of Mr. Fancher's conclusion?
5 Why don't you just read the last paragraph into the
6 record?

7 A "Unless survival can be improved, I'm
8 convinced that all of your rat carcinogenic studies will
9 be judged to be inadequate. You had best make a special
10 point of catching terminal and deceased animals for
11 autopsy and histo."

12 MR. GODBOLD: Excuse me, Mr. Papageorge. I
13 read that word to be "I'm concerned" instead of "I'm
14 convinced."

15 THE WITNESS: Oh, "concerned." You're
16 right.

17 MR. HITCHCOCK: What did you say?

18 MR. GODBOLD: "Convinced." He said, "I'm
19 convinced."

20 THE WITNESS: I don't recall what I said
21 now.

22 MR. DERRYBERRY: Second line of the
23 paragraph.

24 BY MR. HITCHCOCK:

25 Q You believe it reads, "I'm concerned all

1 your rat carcinogenic studies will be judged to be
2 inadequate." Is that what you believe it reads?

3 A I do.

4 Q Were you aware of Mr. Fancher's advice that
5 these studies were inadequate?

6 A I was not aware.

7 Q Were these studies among those that were
8 considered for publication?

9 A Yes, sir.

10 Q Were these published?

11 A No.

12 Q Why were these not published?

13 A For the reasons I gave you earlier.

14 Q Same reason as the studies that were
15 referred to in 487?

16 A That's correct.

17 Q What is the "histo" reference at the end of
18 that paragraph?

19 A I understand it has to do with the blood
20 analyses.

21 Q Do you know what it is analyzed for?

22 A No, I don't. It's a battery of
23 characteristics.

24 Q Did the final studies or the final copies of
25 these studies, the rat two-year chronic oral toxicity

1 studies, indicate that liver cancer was found?

2 A No.

3 Q What did they indicate?

4 A As I remember, they did indicate that at
5 higher levels of the higher chlorinated PCB's there were
6 effects on the liver. As I remember, there were some
7 cells that were considered to be tumor type, but the
8 pathologist did not describe them as being carcinogenic.

9 Q Did Monsanto report that some of the -- that
10 the test had effects on the liver which produced tumors?

11 A In the report to whom?

12 Q To anybody.

13 MR. DERRYBERRY: Are you asking about a
14 specific test now?

15 BY MR. HITCHCOCK:

16 Q I'm asking whether Monsanto ever reported
17 that the two-year rat-feeding studies that were referred
18 to in the earlier exhibit as having been summarized and
19 forwarded to the Food and Drug Administration, did
20 Monsanto ever advise the Food and Drug Administration or
21 anybody else when those studies were finished that the
22 rats were found to have tumors?

23 A Eventually, yes.

24 Q Eventually was when?

25 A In 1975.

1 Q Were the studies completed in 1971?

2 A Yes, they were.

3 Q Why were the reports not made then?

4 A Let me correct that.

5 Q Excuse me?

6 A In my presence. I first heard a Monsanto
7 spokesman tell regulatory people of this finding. I do
8 not know if other opportunities existed between Monsanto
9 medical people and regulatory people. I was not present,
10 so I cannot speak to that.

11 Q All right. Did the 1971 reports of these
12 studies disclose that the PCB's had been found to cause
13 tumors in the livers of the rats?

14 MR. DERRYBERRY: Are you asking about any
15 specific part of the studies?

16 BY MR. HITCHCOCK:

17 Q Any word in there, any combination of
18 letters in the final 1971 report of the study.

19 A Not the -- no.

20 Q All right. Will you please tell us what
21 were the circumstances in 1975 when this information was
22 first disclosed?

23 A As I recall, in 19 -- I think it was in
24 fairly late 1974, Dr. Renata Kimbrough contacted
25 Monsanto's medical department and informed them that she

1 had been conducting a study with rats using one of
2 Monsanto's Aroclors, Aroclor 1260, and her pathologist
3 identified some cancerous cells in the livers of her test
4 animals.

5 Following that telephone call, arrangements
6 were made for Monsanto representatives and Renata
7 Kimbrough and her pathologist and Industrial Biotest
8 people to exchange information and samples and do a
9 re-evaluation. Monsanto asked the Industrial Biotest
10 labs to go back to their reserve tissue samples and slice
11 some more segments to see if this effect was noticed in
12 the remaining pieces of tissue.

13 Also a Dr. -- I think it was Dr. Poor,
14 P-o-o-r, from the Epley Institute in Omaha, was asked to
15 review both Dr. Kimbrough's findings and Industrial
16 Biotest Laboratories' findings and give his professional
17 opinion.

18 Armed with the Industrial Biotest
19 Laboratories' review, which said, "We still don't see
20 cancer," and with Dr. Poor's review in which he says,
21 "The Industrial Biotest report seems to be accurate and
22 Dr. Kimbrough's report is accurate and there's a
23 difference," we made arrangements then with the
24 regulatory agencies in Washington and held discussions in
25 various offices. I was there. My successor, Mr. Webber,

1 was there. Dr. Calandra and the Monsanto medical
2 director, Dr. Roush, attended.

3 Q Where were these meetings held?

4 A I think it was November, early November 1975
5 and Dr. Kimbrough was present. And as I remember the
6 first meeting of the day, it was during those discussions
7 that I personally heard the reference to the presence of
8 benign tumors.

9 Q Please tell me what was said.

10 A I'm sorry?

11 Q Please tell me what was said as you recall.

12 A The essence -- these are not the exact
13 words. The essence of the discussion was, "We've made a
14 review of the Industrial Biotest tissues, we have
15 consulted and conferred with Dr. Kimbrough and -- I've
16 forgotten the pathologist's name. It starts with an S --
17 and we have Dr. Poor's opinion and we all agree that Dr.
18 Kimbrough's tissue samples appear to be carcinogenic as
19 defined by the new rules that were then applied. The
20 same results are not visible in the Industrial Biotest
21 samples. We are at a loss to explain the difference."
22 That was the essence of the discussion.

23 Q All right, sir. And you believe this
24 occurred in November of '75?

25 A As I remember, yes, sir, November 1975.

1 MR. HITCHCOCK: Mark this as the next
2 exhibit.

3 BY MR. HITCHCOCK:

4 Q Let me be clear. It is your recollection
5 that you told the Federal agencies in November of '75
6 that the IBT test showed that there were tumors produced
7 in the livers of those rats?

8 A Yes.

9 MR. HITCHCOCK: Let's mark this as the next
10 exhibit.

11 (Whereupon, the letter was marked for
12 identification as Exhibit 489.)

13 (Whereupon, a brief off-the-record
14 discussion was had.)

15 BY MR. HITCHCOCK:

16 Q Have you had a chance to review Exhibit 489?

17 A Yes, I have.

18 Q All right. Have you ever seen this before?

19 A Yes, I have.

20 Q Where have you seen it and when have you
21 seen it?

22 A I first became aware of it during the
23 Bloomington-Westinghouse deposition.

24 MR. HITCHCOCK: Is this 489?

25 MR. DERRYBERRY: Yes, it is.

1 BY MR. HITCHCOCK:

2 Q You were not aware of this when you went
3 three months later, four months later to Federal
4 Government agencies and talked to them?

5 A I was not aware of this memo.

6 Q Would you please read the second paragraph
7 into the record?

8 MR. DERRYBERRY: Is that necessary? You
9 have made it an exhibit.

10 MR. HITCHCOCK: Well, I'd like to ask him
11 questions.

12 MR. DERRYBERRY: Go ahead and ask him
13 questions about it. He's read it.

14 BY MR. HITCHCOCK:

15 Q Have you read the second paragraph?

16 A Yes, I have.

17 Q What is requested in the second paragraph as
18 you understand it?

19 A Dr. Levinskas, who authored this letter, is
20 suggesting or requesting that the conclusions in the
21 three reports be identical. Since two of the reports
22 used one expression, he thought the third one should also
23 be the same.

24 Q All right. The effect of this change would
25 be to remove the reference in all three reports to the

1 conclusion that PCB's had produced tumors in the livers
2 of the rats involved in the studies?

3 A That would be the effect, yes.

4 Q All right, sir. Do you know if that change
5 was made to the studies?

6 A I understand it was, yes.

7 MR. HITCHCOCK: Mark this as the next
8 exhibit.

9 (Whereupon, the letter was marked for
10 identification as Exhibit 490.)

11 THE WITNESS: I've read it.

12 BY MR. HITCHCOCK:

13 Q All right, sir. Does Exhibit 490 indicate
14 that the change requested in Exhibit 489 was made?

15 A Yes.

16 Q Any reason to believe that the change was
17 not made in the report?

18 A I don't know of any.

19 Q Was this report one of those that was slated
20 for publication, the report that is referred to in
21 Exhibit 490?

22 A Yes. But this was three years later after
23 the decision not to publish had apparently been made.

24 Q So, the original version of this report was
25 one of those that was to be published? The original

1 version didn't have any reference to tumors being created
2 by PCB's, did it?

3 A That's correct.

4 Q It did not have such a reference?

5 A That's correct.

6 Q Okay. And then after the change that was
7 agreed to in Exhibit 490, none of these three reports in
8 1975 had any reference to PCB's causing tumors in the
9 livers of rats, did they?

10 A That's correct.

11 Q I want to be sure the record is clear. You
12 are saying -- you are agreeing with what I have stated.
13 Is that your response?

14 A As I understand it, I agree. None of the
15 reports ended up referring to the presence of tumors in
16 the test animals.

17 Q All right, sir. You described a series of
18 events leading up to a re-analysis of certain tissue
19 samples that had been retained from the 1971 reports on
20 those rats. Were you involved in any meeting in which
21 the follow-up was discussed, the follow-up strategy was
22 discussed?

23 A Follow-up to what?

24 Q All right, sir. You described earlier --
25 correct me if I'm wrong -- Dr. Renata Kimbrough contacted

1 Monsanto and said she found cancer in the livers of
2 certain rats and that Monsanto then decided to involve
3 IBT in a re-analysis of certain tissue samples that had
4 been retained from the 1971 studies. Is that correct?

5 A That's correct.

6 Q All right. And the studies that are
7 referred to in Exhibits 489 and 490 were the reports that
8 IBT created or modified after they had reviewed or
9 re-analyzed the tissue samples from the 1971 study. Is
10 that correct?

11 A That's correct.

12 Q What I'm asking you is to go back to the
13 early stages before IBT prepared the re-analysis, going
14 back to the decision made after Dr. Kimbrough contacted
15 Monsanto and Monsanto learned of her study. Please tell
16 me if you were involved in any meetings in which Monsanto
17 discussed its strategy for discussing its new revelations
18 from Dr. Kimbrough.

19 A Yes, I was.

20 Q Please describe for me any meetings that you
21 had of that nature.

22 A I recall a meeting in which Dr. Kimbrough
23 came to St. Louis and had discussions with Monsanto
24 representatives, including the medical director, Mr.
25 Wheeler. I was present. As I remember, she had someone

1 with her. I believe it was her pathologist, but I am not
2 certain today.

3 Following that meeting the medical director
4 outlined the next steps that Monsanto should take as he
5 saw them, and I supported them. One was, of course, to
6 go directly to the top man at Industrial Biotech
7 Laboratories and ask for a thorough, professional review.
8 There was discussion about getting a third party,
9 impartial party, to serve as oversight, and that was
10 approved. It was later that Dr. Poor from the Epley
11 Institute was selected to do this.

12 The next strategy meeting -- I'll call it a
13 strategy meeting -- was the one that resulted in a
14 decision to take whatever data we had and be open and
15 aboveboard and go straight to Washington with it and talk
16 to the regulatory agencies that we thought would be
17 interested. So, there were two meetings in which
18 strategy was discussed.

19 Q Was IBT involved in the second of those two
20 meetings?

21 A Yes. Dr. Calandra personally was involved.

22 Q Tell me again what happened in that second
23 meeting. What did Dr. Calandra say? What did Monsanto
24 say to IBT?

25 A Again, these aren't the exact words. Dr.

1 Calandra said, "We've exhausted all avenues of further
2 study. We still don't see it, and we're willing to share
3 slides with anybody." In fact, the slides they had sent
4 to FDA for their own perusal were returned. FDA did not
5 look at them. They were willing -- we were willing the
6 send them out again. So, he said the next best thing to
7 do, his suggestion was, "Let's go talk to the right
8 people." And the group concurred.

9 Q Was there not a meeting with Biotest before
10 the original liver slides were re-examined in which the
11 strategy for dealing with the new Kimbrough revelations
12 was discussed?

13 A Yes. There was the meeting following
14 Kimbrough's meeting at which we decided to go back to
15 Biotest and get a third party. Then we contacted Biotest
16 and said, "Come to St. Louis. We want to talk to you.
17 Here is what we think we ought to do." I don't know if
18 that was so much strategy-setting for Monsanto as it
19 might have been strategy-setting for how Biotest was
20 going to handle this new task. But as far as Monsanto
21 was concerned, the pressure was on Industrial Biotest
22 Laboratories to demonstrate that their data was good data
23 to Monsanto. I remember that specifically.

24 Q Why was the pressure on IBT to demonstrate
25 their data?

1 A Monsanto as a company was challenged by the
2 chemical work and we had purchased what we thought was
3 good professional work and we wanted Industrial Biotech
4 to prove that it was good work.

5 Q So, Monsanto considered Biotech to be its
6 advocate in a dispute with Dr. Kimbrough. Is that
7 correct?

8 MR. DERRYBERRY: Object to the phrase
9 "advocate."

10 A No. No. That's not it at all. Monsanto's
11 medical director was upset with this turn of events and
12 was putting pressure on Dr. Calandra to go back to his
13 people and demonstrate once and for all that the data
14 that Industrial Biotech sold to Monsanto was good data.
15 That was the gist of that discussion.

16 BY MR. HITCHCOCK:

17 Q All right. So, Monsanto wanted IBT to
18 disprove what Dr. Kimbrough had stated. Is that correct?

19 MR. DERRYBERRY: Objection to form.

20 THE WITNESS: If that's where the data led.
21 No, we were not to use the data, the results. The data
22 should lead to a conclusion. Whether it concurred or did
23 not concur with Dr. Kimbrough's work, that was not the
24 point.

25 BY MR. HITCHCOCK:

1 Q Where would you think Mr. Calandra got the
2 idea that Monsanto wanted Industrial Biotech to assist in
3 any adversary situation in or out of the Government?

4 A Well, he was asked to come with us and speak
5 for his laboratory. He probably thought that was helping
6 us. I don't know what went on in his mind.

7 Q Your attorney objected when I characterized
8 him as an advocate for you. Wouldn't you consider an
9 advocate being someone who assists you?

10 MR. DERRYBERRY: Objection to the form of
11 the question as being argumentative over the meaning of
12 the word. I don't think the Judge would let you do that.
13 I don't think it's proper.

14 MR. HITCHCOCK: Are you instructing him not
15 to answer?

16 MR. DERRYBERRY: No. Just go on, please.

17 BY MR. HITCHCOCK:

18 Q Answer the question.

19 A Rephrase it if you will. I'm confused with
20 the legal definitions.

21 MR. DERRYBERRY: Mr. Papageorge, the lawyers
22 often confer between themselves because we're hired to
23 represent the people in litigation and other disputes.
24 He's using that word in the context of all this colloquy
25 about Dr. Kimbrough and IBT and so on, so I object to the

1 form of the question. That's what it means.

2 THE WITNESS: I'm not familiar with that
3 approach in the scientific circles.

4 BY MR. HITCHCOCK:

5 Q Was Mr. Calandra told that Monsanto, after
6 Dr. Kimbrough's findings were published, was involved in
7 an adversary situation?

8 MR. DERRYBERRY: If you know.

9 THE WITNESS: That word did not come up in
10 my presence. The word "adversary" did not come up in my
11 presence. I personally never felt that being the
12 situation.

13 MR. HITCHCOCK: Mark this the next exhibit.
14 (Whereupon, the review of PCB meeting was
15 marked for identification as Exhibit 491.)

16 THE WITNESS: I've read it.

17 BY MR. HITCHCOCK:

18 Q All right, sir. Exhibit 491 is a document
19 dated April '75, which was prior to the dates on Exhibit
20 489 and 490. Do you recall participating in the meeting
21 that is described or that resulted in the preparation of
22 this memo?

23 A I don't believe I attended this particular
24 meeting. This was the medical department personnel at
25 Monsanto and the Industrial Biotest people.

1 Q You think this is a different meeting than
2 the one you recall having attended with IBT?

3 A Yes, which I earlier called strategy kinds
4 of meetings. This is an information feedback to our
5 medical department.

6 Q All right. Would you please read the last
7 sentence of the first paragraph -- I'm sorry -- of the
8 second paragraph on the first page of the exhibit.

9 A The last sentence of the second paragraph?

10 Q Yes, sir.

11 A "It should be noted that the earlier
12 allegation by Kimbrough that bladder cancers developed in
13 female rats fed PCB's was successfully counteracted by
14 Biotest and Monsanto personnel."

15 Q All right, sir. How did Monsanto and
16 Biotest personnel successfully counteract Dr. Kimbrough's
17 earlier findings?

18 A I don't know.

19 Q You don't know? You have no idea what he's
20 referring to?

21 A I know that Dr. Kimbrough had an early
22 suspicion that bladder cancer occurred in female rats
23 exposed to PCB's. I later heard that that was disproven.
24 How that was accomplished, I don't know.

25 Q You were never involved in any discussions

1 concerning Monsanto and Biotest efforts to prove Dr.
2 Kimbrough wrong?

3 A Wrong on which matter?

4 Q That bladder cancer developed in female
5 rats?

6 A That's correct.

7 Q You were never involved in any such meetings
8 or discussions?

9 A That's correct.

10 Q You have no knowledge of them?

11 A I have no knowledge of what happened at
12 those meetings. That's true.

13 Q Do you have any knowledge of what Biotest
14 did to successfully counteract Dr. Kimbrough?

15 A I do not.

16 Q You have no knowledge, firsthand,
17 secondhand, thirdhand or otherwise?

18 A That's right.

19 Q Do you have any knowledge of what Monsanto
20 personnel did to successfully counteract it?

21 A I do not.

22 Q Firsthand, secondhand or otherwise?

23 A I do not.

24 Q Never heard of it?

25 A I heard about the allegation of bladder

1 cancer formation, and I later heard it was disproven.
2 How it was accomplished, I don't know.

3 Q Have you ever seen Exhibit 491 before?

4 A It looks familiar. I believe I have.

5 Q Do you know where?

6 A I can't place it. I believe I saw a copy at
7 or about the time it was prepared.

8 Q What was the context in which you saw it?

9 A This was prior to our meeting in Washington
10 with the regulatory agencies. And prior to that I
11 believe I was shown a copy of this by Elmer Wheeler.

12 Q What did Mr. Wheeler tell you about that
13 memorandum or about the context in which he was showing
14 it to you?

15 A I don't know that he said anything other
16 than, "Here is Calandra's summary. You might be
17 interested in reading it." And I read it.

18 Q Did you ask any questions about it?

19 A I probably did, but I don't remember just
20 what they were.

21 Q Do you remember any discussion with Mr.
22 Wheeler or anybody else at Monsanto about it?

23 A No, I just don't.

24 Q Was Mr. Keplinger a Monsanto employee at
25 this time?

1 A Keplinger was never a Monsanto employee.

2 Q He was always a Biotest employee?

3 A Yes, sir.

4 Q Please read the last sentence of the
5 memorandum.

6 MR. DERRYBERRY: Read the adversarial part?

7 THE WITNESS: The last sentence?

8 MR. DERRYBERRY: Make his day.

15 9 THE WITNESS: "Biotest studies on PCB's meet
10 the scientific standards of toxicology and pathology, and
11 we are prepared to assist Monsanto in any adversary
12 situation in or out of Government."

13 BY MR. HITCHCOCK:

14 Q Now, do you understand what is meant, what
15 he is talking about in terms of an adversary situation?

16 A I think I do.

17 Q All right, sir. Tell me.

18 A I suspect --

19 MR. DERRYBERRY: Are you asking him what his
20 understanding is?

21 MR. HITCHCOCK: That's exactly what I'm
22 asking.

23 MR. DERRYBERRY: No objection. Go ahead.

24 A Dr. Calandra sensed there was some sort of a
25 scientific argument underway and he was willing to take

1 his position and he perceived it as an adversary kind of
2 situation. That's the way I understood it.

3 Q In 1970 was Monsanto making money off of
4 PCB's?

5 A Yes.

6 Q In fact, it was profitable until Monsanto
7 decided to stop the production of it, wasn't it?

8 A It was always profitable, yes.

9 Q So, it wasn't just Dr. Calandra with his
10 reputation at stake in this situation? It was also
11 Monsanto with its profits at stake?

12 MR. DERRYBERRY: Objection to the form of
13 the question.

14 A Well, profits were a consideration, but it
15 was not that profitable a product. It would not be the
16 primary reason for Monsanto taking an adversary-type
17 position.

18 Q Does reading Exhibit 491 refresh your
19 recollection of the circumstances surrounding the request
20 made by Monsanto to change the reports that resulted from
21 Biotest's additional work?

22 A Yes. Let me think. Yeah, those were going
23 along almost concurrently. Yes. That was the result of
24 these studies.

25 Q Exhibit 491 describes the studies and the

1 results of which were asked to be modified by Monsanto in
2 the letter that's been marked as Exhibit 489. Is that
3 correct?

4 A That's correct.

5 Q You testified a few moments ago that after
6 the results were back from the tests, as modified
7 pursuant to Monsanto's request in Exhibit 489, that those
8 people involved in that, like yourself and Mr. Calandra
9 Mr. Roush and others went to Washington to brief
10 government officials on the results of Monsanto's
11 re-investigation. Is that correct?

12 A That's correct.

13 Q Please tell me again whether Monsanto told
14 those Government representatives that its studies, the
15 studies done for it by Biotest, showed that PCB's caused
16 tumors in the livers of rats?

17 A Yes. I thought I answered that.

18 Q I'm asking whether after reviewing these
19 documents you wish to change your answer. Do you have
20 any reason or recollection that causes you to change your
21 answer?

22 A No. This was done verbally in my presence.
23 Mention was made that, "Yes, there are some benign
24 tumors, but they are not cancerous. We also agree that
25 Renata Kimbrough's work under the new rules for defining

1 carcinogenicity do show those effects. We are at a loss
2 to explain the difference." That was the essence of the
3 message.

4 Q Is it your recollection that the word
5 "tumor" was used in your conversations with the Federal
6 agencies?

7 A (Nodding head up and down.)

8 (Whereupon, the summary of discussions was
9 marked for identification as Exhibit 492.)

10 BY MR. HITCHCOCK:

11 Q Did you make any notes concerning the
12 discussions you had with governmental agencies?

13 A No.

14 Q All right. Please look at Exhibit 492.
15 What I would appreciate you doing is reading it through
16 carefully and see if you can find the word "tumor" in
17 that document.

18 A I recall this document.

19 Q Where have you seen it, sir?

20 A I'm sorry?

21 Q Where have you seen it?

22 A I received a copy shortly after it was
23 typed.

24 Q To the best of your knowledge, is it a
25 correct and accurate reflection of the discussions that

1 took place with the Governmental agencies?

2 MR. DERRYBERRY: Objection to the form
3 unless you want to give him a week to look at it.

4 BY MR. HITCHCOCK:

5 Q I don't want to rush you, please, Mr.
6 Papageorge. Take as much time as you want.

7 A I understand. This is an accurate report as
8 seen by a non-medical person who was just being exposed
9 to the PCB issue. It's well done.

10 Q All right.

11 A It's not intended to be a medical summary.

12 Q Who is Mr. Webber?

13 A Mr. Webber is the individual who was
14 assigned my job after I was removed from the PCB issue.
15 He was a manager of product acceptability.

16 Q At this time?

17 A Yes.

18 Q All right. Do you see the word "tumor" more
19 than one place in this document?

20 A I don't see it anywhere. I see the word
21 "lesions."

22 Q I'll direct your attention to Paragraph 1
23 under the heading "Purpose of Discussions."

24 A Oh, yes, I do see "malignant tumor," yes.

25 Q So, the only place the word "tumor" appears

1 in this document is in the description of what Dr.
2 Kimbrough found, not in the discussion of what IBT or
3 Monsanto found?

4 A That is true.

5 MR. DERRYBERRY: We called them lesions.

6 MR. HITCHCOCK: Well, he testified a minute
7 ago that they called them tumors.

8 MR. DERRYBERRY: He also testified about
9 verbal discussions, the recollection of verbal
10 discussions?

11 THE WITNESS: That's right.

12 BY MR. HITCHCOCK:

13 Q Mr. Papageorge, is it not true that Monsanto
14 was very sensitive about the use of the word "tumor" in
15 1975 and was trying its best not to use the word "tumor"?

16 MR. DERRYBERRY: I object to the form of the
17 question.

18 THE WITNESS: I wouldn't say that, no. The
19 emphasis in 1975 was on the word "cancer."

20 BY MR. HITCHCOCK:

21 Q How do you explain then, sir, the request
22 that Mr. Levinskas made that the reports that were taken
23 to Washington be changed to get rid of the word "tumor"
24 out of it?

25 A No, wait a minute. Those reports were not

1 taken to Washington.

2 Q Weren't they the basis for your discussions
3 with these Government officials?

4 A True. True. What was taken to Washington
5 were summaries. They were not the full, thick reports.

6 Q So, the Federal Government employees were
7 not even given copies of these reports?

8 A They were available to them. I don't know
9 that the medical department -- let's take Dr. Blumenthal
10 as an example.

11 Q Is it not true the change was, in fact, made
12 in a summary of the report?

13 A Yes.

14 Q That's what you said was taken to
15 Washington, correct?

16 A I don't have the packet with me. The intent
17 was to make a distinction between Dr. Kimbrough's
18 reference to cancer sells and the non-cancer cell
19 observation of the Biotest studies. So, the emphasis was
20 on the word "cancer."

21 Q Do you know at all why Monsanto insisted the
22 phrase "slightly tumorigenic" be removed from the written
23 report?

24 MR. DERRYBERRY: Objection to form. It was
25 suggested, not requested.

1 A I believe I know, yes, sir.

2 Q All right, sir.

3 A Both statements are accurate. They are not
4 contradictory, but the emphasis at that time or, yes, the
5 emphasis on everyone's mind was "Is it or is it not
6 cancerous?" This is what the summary tried to project,
7 "We don't see cancer cells as the end result of our IBT
8 studies."

9 Q Did the report say, "We don't see cancer
10 cells, but they are slightly tumorigenic."

11 A It didn't say that.

12 Q Instead it took the words "slightly
13 tumorigenic" out. Is that correct?

14 A They did.

15 Q Isn't it true that part of the assistance
16 that Monsanto sought from Dr. Calandra in this adversary
17 situation was to go out and present a paper to the
18 industry, repeating once again the findings of these 1975
19 reviews to rebut Dr. Kimbrough?

20 A I don't know that that was the initial
21 intent. Later, after the Government agencies were
22 visited, that same information was shared with the
23 industry. But I don't recall at any time that this was a
24 prime consideration at the beginning.

25 Q Isn't it true that Dr. Kimbrough was sent to

1 the national conference on polychlorinated biphenyls
2 November 19th through the 21st, '75 by Monsanto to rebut
3 Dr. Kimbrough's findings?

4 MR. DERRYBERRY: Who was sent?

5 BY MR. HITCHCOCK:

6 Q Dr. Calandra.

7 A No, that's not the way it happened.
8 Monsanto -- I was contacted by the organizers of the
9 meeting. They asked me if I could provide some speakers.
10 I said, "We'll try. Are there any subjects you're
11 interested in?" And he said, "Well, we'd like to hear
12 about your animal and biodegradation studies and anything
13 else you think is of interest."

14 So, based on that call, I went over to the
15 medical department and the decision was made, "Why don't
16 we get Dr. Calandra himself to speak instead of having
17 Monsanto speak for IBT?" This is how Dr. Calandra got on
18 the agenda.

19 Q All right. Who called you asking for a
20 speaker on the national conference on polychlorinated
21 biphenyls?

22 A Tom Kopp, K-o-p-p, who was with the office
23 of toxic substances at EPA.

24 Q When was that contact made?

25 A It was several weeks before the meeting.

1 So, it had to be September, October '75.

2 Q Who did you go to to decide who to send?

3 A I went to Mr. Roush, the medical director of
4 Monsanto.

5 Q Please tell me what was the nature of your
6 discussion with Dr. Roush concerning the decision to send
7 Dr. Calandra.

8 A I said, "We received this call and we're
9 invited to participate. Is there any interest? They
10 asked about the IBT studies." At this point he said,
11 "Well, it's obvious who we ought to ask. Let's get Dr.
12 Calandra himself." He offered to call Dr. Calandra, and
13 he made the arrangements.

14 Q The call from Mr. Kopp was certainly after
15 the April date of Exhibit 491, wasn't it?

16 A Yes, sir. Yes.

17 Q In which Dr. Calandra offered to assist them
18 in adversary situations in and out of Government?

19 A Yes.

20 Q And one of the assignments given to him was
21 to go with you to Washington. Were his expenses paid by
22 Monsanto when he went to Washington?

23 A No.

24 Q They were not? Was he paid for these
25 retesting activities that were done in '75?

1 A That, I don't know.

2 Q How do you know that his expenses were not
3 paid by Monsanto?

4 A It's just not done. If he has expenses, it
5 goes into the price of doing business with us.

6 Q So, you don't have specific knowledge of
7 whether his expenses were paid or not? You assume or
8 guess they weren't?

9 A It's very unlikely that we paid for his
10 expenses.

11 Q Are you the person who contracted with Dr.
12 Calandra for his work after April '75 to re-examine the
13 rat studies?

14 A No.

15 Q Who did contract with him?

16 A The medical department. I don't know which
17 individual.

18 Q So, you don't know what the terms of his
19 contract were?

20 A No.

21 Q As far as you know, his expenses could have
22 been paid by Monsanto to go to Washington in November?

23 A Yeah, it could be.

24 Q All right. Were his expenses paid by
25 Monsanto to go to the national conference on

1 polychlorinated biphenyls?

2 A Not to my knowledge.

3 Q All right. Who contacted Dr. Calandra on
4 behalf of Monsanto and asked him to appear at the
5 national conference on polychlorinated biphenyls?

6 A I just mentioned Dr. Roush.

7 Q Dr. Roush did it himself? You did not have
8 any discussion with Mr. Calandra?

9 A That's right.

10 Q Do you know where Dr. Roush is now?

11 A He retired a month ago. I guess he's still
12 in the St. Louis area.

13 Q Do you know what his full name is?

14 A George Roush, Jr.

15 Q Do you know his middle initial?

16 A I don't think he has one.

17 Q You believe he still lives in the St. Louis
18 area?

19 A I believe so, yes.

20 Q And he is a physician?

21 A Yes.

22 Q Okay. Medical doctor?

23 A Yes.

24 Q Is it not true that Dr. Calandra, in fact,
25 did go to the national conference on polychlorinated

1 biphenyls and present information that indicated that his
2 studies disagreed with the results of Dr. Kimbrough's
3 studies?

4 A I don't remember that specifically. I don't
5 remember. It could have been.

6 MR. HITCHCOCK: Mark that as the next
7 exhibit, please.

8 (Whereupon, the summary of national
9 conference was marked for
10 identification as Exhibit 493.)

11 BY MR. HITCHCOCK:

12 Q The court reporter has handed to you a
13 document that has been supplied by your counsel. Can you
14 identify that document?

15 A This document appears to be the title sheet
16 of a report, and the title on it is "National Conference
17 on Polychlorinated biphenyls, November 19th through 21st,
18 '75, Chicago, Illinois" and attached to it is a two-page
19 abstract numbered Pages 35 and 36.

20 Q What is the subject of the two pages?

21 A The subject of the two pages is "Summary of
22 Toxicological Studies on Commercial PCB's,
23 J. C. Calandra, M.D., PhD."

24 Q Have you had a chance to review Exhibit 493?

25 A Yes, I have read the two-page abstract.

1 Q All right, sir. Is it not true Dr. Calandra
2 was reporting not only on the two-year studies that were
3 the subjects of the discussion in Exhibit 489, 490 and
4 491 but also reported results from the white leghorn
5 chicken study?

6 A Yes.

7 Q And did he report as to the rat studies that
8 PCB's caused tumors in the livers of those rats?

9 A He did not use that word.

10 Q Did he report that PCB's were slightly
11 tumorigenic?

12 A No.

13 Q In fact, what he reported was a position
14 consistent with that seen in the earlier exhibits, that
15 information to rebut Dr. Kimbrough's conclusion that
16 PCB's cause cancer. Is that not correct?

17 MR. DERRYBERRY: Objection to the form of
18 the question. What he reported speaks for itself. This
19 is only a partial copy, by the way.

20 MR. HITCHCOCK: Sir, if it's a partial copy,
21 that's because you provided me a partial copy.

22 MR. GODBOLD: It's an abstract.

23 MR. DERRYBERRY: Whatever it is, it speaks
24 for itself. I don't see the reason to ask the witness
25 what it reports. I object to the form of the question.

1 THE WITNESS: I don't think I understand it.

2 BY MR. HITCHCOCK:

3 Q Okay. Let me rephrase it. I'll be happy
4 to. Let me do it this way: Did you attend the
5 conference?

6 A I did.

7 Q Did you hear Dr. Calandra speak?

8 A Yes.

9 Q Is it true that Dr. Kimbrough also spoke?

10 A Yes.

11 Q And where was Dr. Calandra on the program in
12 relation to Dr. Kimbrough?

13 A I don't remember.

14 Q Do you remember what he said? Can you tell
15 me whether Exhibit 493 is an accurate reproduction of
16 what he said at the conference?

17 A It appears to be an accurate summary.

18 Q Is this a copy -- is it a summary or is it a
19 copy of the paper he presented at the conference?

20 A No, this is an abstract prepared prior to
21 the presentation. Dr. Calandra read from another
22 document.

23 Q Is the whole thing an abstract or is that
24 which is in italics the abstract?

25 A I am under the impression that this is a

1 brief version of what was presented.

2 Q All right, sir. Did he refer to Dr.
3 Kimbrough in his presentation?

4 A Yes, he did.

5 Q He did? What did he say about Dr. Kimbrough
6 at the PCB conference?

7 A He referred to Dr. Kimbrough's findings as
8 being -- well, there's a reference there that you may
9 have noticed, second paragraph, top right-hand side.

10 Q Okay. I see the reference. What did he say
11 in the meeting about Dr. Kimbrough's findings?

12 A As I remember, he referred to her conclusion
13 that they were carcinogenic and that his findings, as
14 quoted in this article, were no evidence of pathocellular
15 carcinogenicity was found in this study.

16 Q You testified a little while ago that Dr.
17 Poor, who was separately retained by Monsanto, has
18 reviewed Dr. Kimbrough's slides and agreed with her
19 report. Is that not your testimony?

20 A That was my understanding, yes, sir.

21 Q Would you please refer to the last sentence
22 of the fourth paragraph, the second column of Page 35?

23 A It says, "Poor re-evaluated the Kimbrough
24 slides and does not agree with the reported findings."
25 That was not my understanding.

1 Q There's a reference in Note 8, Reference 8
2 on Page 36 to a report. Have you ever seen that report
3 by Dr. Poor?

4 A I believe I have, yes.

5 Q What does it say?

6 A As I remember, a copy of this was given to
7 the Government. It was part of a hand-out packet that we
8 gave to the Government representatives.

9 Q What did he say?

10 A As I remember he agreed with the findings of
11 the two laboratories. As I remember -- this occurred at
12 that time when the definition of carcinogenic cells was
13 being changed and he agreed that under the new ground
14 rules for defining carcinogenic cells, the findings in
15 the Kimbrough work met that new definition.

16 At the same time that new definition, if
17 applied to the Industrial Biotest work, would not find
18 the carcinogenic cells.

19 Q So, it's your recollection that Dr. Poor
20 looked at Dr. Kimbrough's slides -- is he a doctor?

21 A Yes, he is.

22 Q Dr. Poor looked at Dr. Kimbrough's slides
23 and disagreed with her evaluation?

24 A That's my understanding.

25 Q Why does Dr. -- you heard the presentation.

1 Can you shed any light on why Dr. Calandra would stand up
2 there and say that Dr. Poor agreed with Dr. Kimbrough."

3 A I don't remember that statement at the
4 meeting. I just cannot shed any light.

5 Q Okay. Have you ever seen these proceedings
6 before?

7 A I saw the full book, yes, sir.

8 Q You have? And you've reviewed those?

9 A At that time, yes, sir.

10 Q Did you undertake any communication with Dr.
11 Calandra to try to correct the statement that you believe
12 is incorrect in this Exhibit 493?

13 A No, because by the time we got this copy, I
14 was no longer involved. So, I saw the full book about
15 mid-1976 when others were pursuing PCB's.

16 Q Okay. Do you know if anyone at Monsanto
17 contacted Dr. Calandra and instructed him to correct the
18 written record of his representation at the national
19 conference?

20 A I do not know.

21 Q Wasn't Dr. Calandra introduced as a
22 representative of Monsanto at this conference?

23 A Not to my knowledge.

24 Q Wasn't it made known -- excuse me.

25 A It was made known at the conference that the

1 studies were conducted for Monsanto. Monsanto's name was
2 mentioned, but I don't recall anybody introducing him as
3 a representative of Monsanto.

4 Q But, in fact, the request for participation
5 came to Monsanto and Monsanto sent Dr. Calandra in
6 Monsanto's stead?

7 A That was not --

8 MR. DERRYBERRY: Objection. That was not
9 stated that way.

10 BY MR. HITCHCOCK:

11 Q Tell me again. That was exactly what I
12 understood you to have testified to. Mr. Kopp called you
13 and said, "Would you like to appear or send somebody to
14 appear at the national conference on polychlorinated
15 biphenyls?" You went and talked to Dr. Roush and Dr.
16 Roush asked Dr. Calandra to go.

17 A That's it.

18 MR. DERRYBERRY: I thought you said he said
19 they were interested in speakers.

20 THE WITNESS: Correct. Dr. Calandra was
21 proposed. I called Dr. Roush back and said, "Why don't
22 the two of you talk to each other and arrange it?" He
23 was not introduced at the meeting as being a Monsanto
24 representative.

25 BY MR. HITCHCOCK:

1 Q We talked here about some problems that were
2 discussed by Mr. Fancher with two different studies. We
3 talked about Exhibits 489 and 490 where Monsanto asked
4 that the results of a third report be modified. Let me
5 ask you first, do you know of any other studies other
6 than the two-year rat study and the white leghorn chicken
7 study that there were technical problems with in terms of
8 diseased animals or methodology?

9 A I'm not aware of any technical flaws in any
10 of the other studies. But I wasn't aware of it in these
11 studies either.

12 Q Do you know of any -- strike that. Is it
13 correct that it was Monsanto's practice to require
14 Biotest to submit a draft of each report that it prepared
15 and that Monsanto would suggest changes or modifications
16 to that draft?

17 A That was the practice, yes.

18 Q Is it also correct that a number of studies,
19 not just the two-year rat study that is referred to in
20 Exhibit 489 and 490, were changed at Monsanto's request?

21 A Yes.

22 Q Okay. Do you recall what the substance of
23 other changes that were made at Monsanto's request were?

24 A I wasn't made privy to all the
25 correspondence that took place between the medical

1 department at Monsanto and the testing laboratory.

2 That's an ongoing dialogue.

3 Q Do you know of any other changes, the
4 substance of any other changes that were made to any
5 other reports by Industrial Biotest?

6 A I do not.

7 MR. HITCHCOCK: Mark this as the next
8 exhibit.

9 (Whereupon, the letter was marked for
10 identification as Exhibit 494.)

11 BY MR. HITCHCOCK:

12 Q Can you tell me what this study involved?

13 A This refers to a 90-day -- as it says --
14 subacute oral toxicity of an Aroclor 5460, which is a
15 non-PCB Aroclor.

16 Q Monsanto manufactured some things it called
17 Aroclor that did not have PCB's in it?

18 A That's true.

19 MR. DERRYBERRY: Did you say presently?

20 MR. HITCHCOCK: I should have used the past
21 tense. If I didn't, that's what I meant.

22 THE WITNESS: I thought he said past.

23 BY MR. HITCHCOCK:

24 Q I thought I did, too. Aroclor 5460 did not
25 contain PCB's?

1 A That's correct.

2 Q All right, sir.

3 MR. HITCHCOCK: George, we'd like to request
4 copies of any drafts and correspondence relating to
5 drafts of any studies undertaken by Industrial Biotest
6 Laboratories.

7 MR. DERRYBERRY: Of Aroclors?

8 MR. HITCHCOCK: Polychlorinated biphenyls.
9 Apparently "Aroclors" is not the proper term to use.

10 MR. DERRYBERRY: All drafts of --

11 MR. HITCHCOCK: Reports of any studies,
12 preliminary or final, and all correspondence relating to
13 those studies.

14 MR. DERRYBERRY: This is getting to be a
15 heck of a request. Of course, you're going to write it
16 out. Correspondence of all IBT animal studies.

17 MR. HITCHCOCK: IBT studies of human or
18 animal health.

19 MR. DERRYBERRY: They just did animal
20 studies, didn't they? We'll find out.

21 THE WITNESS: It was a fish study.

22 MR. HITCHCOCK: Whatever they did.

23 THE WITNESS: Animal study and chicken
24 study.

25 MR. HITCHCOCK: Okay. We'll take a break

1 now.

2 MR. DERRYBERRY: Yeah. If they are
3 voluminous and bear no relationship at all, we'll object
4 to some of that. But obviously --

5 MR. HITCHCOCK: Our interest is PCB's.
6 Okay? Whether it's dielectric or not, if it's an Aroclor
7 that has PCB's in it, we think it's relevant.

8 MR. DERRYBERRY: We may cross swords over
9 that, but I'm not sure.

10 MR. HITCHCOCK: Okay. Let's do take about
11 five minutes.

12 (Whereupon, a brief recess was taken.)

13 BY MR. HITCHCOCK:.

14 Q Mr. Papageorge, did you ever hear of Mr.
15 Levinskas? Well, first of all, what does the term
16 "adenocarcinomas" mean?

17 MR. DERRYBERRY: Adenocarcinomas?

18 MR. HITCHCOCK: Uh-huh.

19 MR. DERRYBERRY: If you know.

20 THE WITNESS: I don't know.

21 BY MR. HITCHCOCK:

22 Q Is it a type of cancer cell?

23 A I don't know.

24 Q You don't know?

25 A No.

1 MR. DERRYBERRY: The word "carcinoma"
2 suggests that it is, but he's not a medical man.

3 BY MR. HITCHCOCK:

4 Q Have you ever heard that term before?

5 A Yes, I have.

6 Q What have you heard it in the context of?

7 A Being exposed to toxicological reports, and
8 when I'm in the presence of the medical people and
9 toxicologists, they use that term. That's where I've
10 heard it. It doesn't have any real meaning to me other
11 than there's something unusual there that is not normal.

12 Q Do you know if it's a type of cancer?

13 A I do not.

14 Q Do you know if Mr. Levinskas ever actually
15 looked at, himself, any of the slides that IBT prepared
16 in the 1975 re-analysis report?

17 A No, I do not.

18 Q Was he involved in that analysis?

19 A Yes, he was.

20 Q Okay. By 1972 Monsanto had received reports
21 from a large number of the IBT studies, hadn't it, on
22 toxicity and health effects of PCB's?

23 A I don't know what you mean by "a large
24 number of reports." We received final or draft final
25 reports on the major studies that were completing at that

1 time. This involved rat studies, reproduction studies,
2 the leghorn chicken studies.

3 Q On a number of reports concerning health
4 effects of PCB's?

5 A Yes.

6 Q And these studies dealt with toxicity,
7 toxicity of PCB's, not just the residual build-up of
8 PCB's in the organisms that were tested. Is that not
9 correct?

10 MR. DERRYBERRY: Every study reported or...

11 MR. HITCHCOCK: Studies he's just rattled
12 off.

13 A The IBT studies reported health effects to
14 the test animals. The residual studies were sort of an
15 adjunct study done over at a chemical analytical lab, not
16 a health lab. That was to help us understand what
17 happens chemically to tissue in these PCB's.

18 Q Who did the residual studies?

19 A This was done in the analytical services
20 laboratory headed by Dr. Robert Keller.

21 Q Done in-house at Monsanto?

22 A At Monsanto, yes.

23 Q I'm curious. I don't understand one thing.
24 Did Dr. Keller replicate some of the studies that IBT
25 did, say, on leghorn chickens?

1 MR. DERRYBERRY: Is there a meaning in the
2 word "replicate" that we should know about?

3 MR. HITCHCOCK: It means repeat or do the
4 same study.

5 BY MR. HITCHCOCK:

6 Q Did Dr. Keller's people do a residual study
7 on leghorn chickens, the same kind of leghorn chickens
8 that IBT was doing a health effect study on?

9 A They were the same animals. The same birds
10 were used. When they were examined visually and
11 microscopically, some of the tissues were taken, frozen
12 and sent to Monsanto's chemical laboratory to be looked
13 at chemically. So, they were the same source. The
14 animals were the same, but the objectives were different.

15 Q Okay. Did you ever appear before a thing
16 called the interdepartmental task force on PCB's?

17 A Yes.

18 Q Please describe what that was.

19 A You want me to describe the task force or my
20 appearance?

21 Q The task force.

22 A The task force was organized by a member of
23 the office of the chief executive, science and technology
24 division. These are not the proper terms, but that's as
25 I understood them. It included representatives of

1 Federal regulatory agencies. Represented on it were
2 members from the Food and Drug Administration, which is
3 the Department of Health, Welfare -- they've changed
4 since then.

5 Then the Department of Commerce people were
6 represented because they were involved with commercial
7 fisheries and with the National Toxicographic and
8 Aeronautic Agency.

9 EPA was represented and OSHA, Occupational
10 Safety and Health, the Department of Agriculture, the
11 Department of Interior because of fish and wildlife
12 interests, the Department of Defense. I believe I have
13 them all.

14 Q All right, sir. In what period of time did
15 the interdepartmental task force on PCB's operate, as you
16 recall?

17 A That group had been meeting unofficially for
18 many months during 1969, early 1970. Their initial
19 interest was in pesticides, DDT and the like.

20 In about the early summer of 1970, they
21 picked up on an interest in PCB's and they continued to
22 meet. And by this time they were referring to themselves
23 as the PCB interagency or interdepartmental task force,
24 and they continued to meet up until they issued their
25 report, which was in May or so of 1972, early summer '72.

1 Q How many times did you appear before that
2 group on behalf of Monsanto?

3 A I recall two meetings. One occurred in
4 either late 1970 or early 1971, which I was invited to
5 attend and at which I conducted sort of an informal
6 seminar on PCB's, what were they chemically, where were
7 they used, what were their physical and chemical
8 properties, who made them, what did we know about them
9 environmentally, health-wise and so on.

10 And then the second presentation was
11 somewhat more formal, and that occurred in early May
12 1972. I remember that because as we were talking to
13 them, their report was at the printers and we didn't know
14 about that. They didn't divulge this to us. But,
15 nevertheless, that more formal presentation was to share
16 with them our latest findings on where we stood in
17 toxicology testing, what we understood of biodegradation
18 and what our tests were showing, a little bit on our
19 attempts to find alternative materials and then some
20 sharing of thoughts that we had regarding the types of
21 PCB's found in the environment and comparing that to the
22 types and quantities that were sold and pointing out the
23 discrepancies.

24 We sold more of the lower chlorinated and
25 yet the higher chlorinated were being found. We were

1 sharing with them our speculation as to what might be
2 happening.

1
3 Q Prior to the 1972 meeting had you shared
4 with this task force at the previous meeting or in
5 writing or through some other mechanism, information on
6 the various tests that Industrial Biotech was completing
7 for Monsanto health effects?

8 A At the first meeting Elmer Wheeler brought
9 them up to date as to where the study stood. Then that
10 would be, as indicated, either late 1970 or early 1971.
11 The studies were underway yet.

12 Q They had not been completed by that time?

13 A That is true. We had not received final
14 reports. It just wasn't finished.

15 Q And there was only one meeting after you
16 received the final reports on the major toxicity studies
17 with the interdepartmental task force. Is that correct?

18 A No. At no time was the toxicology data
19 presented to this task force as a group. It was
20 presented to members, individuals of this task force.

21 Q Why was it not presented to the task force?

22 A No real reason, just the opportunity never
23 came up that we were sharing that with the FDA, the EPA,
24 the fish laboratories. Everybody was being tuned in, so
25 I guess we never perceived an urgent need to call them

1 all in one room and do it at one time.

2 Q Why didn't you present it in the May 1972
3 meeting?

4 A Because by then it was old news really. The
5 first issue of the final reports, as I remember, were
6 already out.

7 Q Well, according to the information provided
8 by your counsel, the two-year chronic rat tests were
9 published in November 1971. It was five months earlier,
10 November 12th of 1971.

11 A Yeah.

12 Q You're saying that there had already been
13 individual meetings with every member of the task force
14 by then?

15 A Not every member. With FDA, EPA, Department
16 of Agriculture, those agencies that expressed a
17 more-than-normal interest in health effects.

18 Q Who was involved in the meetings with FDA,
19 EPA and the Department of Agriculture?

20 A That would be medical department personnel,
21 Elmer Wheeler primarily, but it could have been and was
22 on occasion Dr. Kelly, not often, but on occasion.

23 Q Were you involved in any of them?

24 A I personally, no.

25 Q Why did the May 1972 presentation to the

1 interdepartmental task force focus entirely as to
2 environmental tests and focus entirely upon the
3 environmental effects and not the health effects?

4 A Because the issue that the task force was
5 facing was environmental focus, not human health. That
6 was the primary focus was environmentally.

7 Q Isn't animal toxicology important to the
8 evaluation of those in the environment?

9 MR. DERRYBERRY: Objection to the form.

10 THE WITNESS: True. But as I said, we were
11 under the definite impression they had already received
12 that. That's old news to that group.

13 BY MR. HITCHCOCK:

14 Q Who gave you that impression?

15 A Well, the way they all talked. Everybody
16 knew that Biotest Laboratories were involved and the
17 studies were so and so and the results -- it was common
18 knowledge.

19 Q Were there formal letters submitting these
20 reports to EPA and FDA and so forth? I've got one
21 exhibit submitting the summary report in 1970.

22 A There were summary reports issued every six
23 to nine months as the final reports were sent out of the
24 medical department and there must have been a letter
25 accompanying that, transmitting the report.

1 MR. HITCHCOCK: George, we'd like to ask for
2 all correspondence to Federal agencies forwarding copies
3 of interim or final reports or information concerning any
4 of the toxicological tests.

5 MR. DERRYBERRY: Tell me now and tell me
6 later, too.

7 MR. HITCHCOCK: Sure.

8 BY MR. HITCHCOCK:

9 Q Okay. Was there great anxiety at Monsanto
10 in late 1969 or early 1970 about the Aroclor situation?

11 MR. DERRYBERRY: Objection to form.

12 THE WITNESS: Well, that's a subjective
13 term. There was concern. Some individuals exhibited
14 anxiety. It varied from person to person, his
15 understanding and perspective.

16 MR. HITCHCOCK: Let's mark this as the next
17 exhibit.

18 THE WITNESS: I would say --

19 MR. DERRYBERRY: He wasn't finished.

20 BY MR. HITCHCOCK:

21 Q Please complete your answer.

22 A I would say "concern" more adequately
23 describes the feeling.

24 MR. HITCHCOCK: Let's mark that as the next
25 exhibit.

1 (Whereupon, the memo was marked for
2 identification as Exhibit 495.)

3 BY MR. HITCHCOCK:

4 Q Have you ever seen the document that's been
5 marked as Exhibit 495 before, sir?

6 A I don't recall seeing it, no.

7 Q Could you read the last sentence?

8 A "Since there's great anxiety at Monsanto
9 about the whole Aroclor situation, I feel that we should
10 send brief status summaries at three-month intervals,
11 whether or not a sacrifice or more formal report is
12 scheduled."

13 Q And who is it signed by?

14 A Signed by Otis E. Fancher.

15 Q Who at Monsanto was exhibiting anxiety about
16 the PCB situation, the Aroclor situation?

17 MR. DERRYBERRY: Objection to the form.
18 This is a characterization made by Mr. Fancher.

19 MR. HITCHCOCK: Let me note for the record
20 he stated before that some persons expressed anxiety.
21 I'm trying to follow up on his characterization by asking
22 who expressed anxiety.

23 MR. DERRYBERRY: Also in the future if you
24 have some document that contains some specific
25 phraseology that you intend to work into your questions,

1 I'd appreciate your showing it to the witness before the
2 question as opposed to after.

3 MR. HITCHCOCK: I'll take your request into
4 consideration.

5 THE WITNESS: You asked me who at Monsanto
6 exhibited anxiety?

7 MR. DERRYBERRY: If anyone.

8 MR. HITCHCOCK: He's already testified that
9 some did.

10 THE WITNESS: Yeah. There were some that
11 were more disturbed than others. I would say Mr. Wheeler
12 exhibited some anxiety and Dr. Richard, the research
13 director.

14 BY MR. HITCHCOCK:

15 Q Anyone else?

16 A Those are the only two that I would classify
17 as showing anxiety as distinguished from concern.

18 MR. DERRYBERRY: I'm going to object to the
19 form of those "anxiety" questions for the record since
20 that's such a subjective term.

21 BY MR. HITCHCOCK:

22 Q About what was Dr. Wheeler anxious
23 concerning the Aroclors?

24 MR. DERRYBERRY: If he told you.

25 BY MR. HITCHCOCK:

1 Q If you knew from any basis, whether he told
2 you or you observed it or you knew it from some other
3 reason.

4 MR. DERRYBERRY: Objection to the form if
5 you're going to ask him to read any of these people's
6 minds.

7 MR. HITCHCOCK: I'm not asking him to read
8 anyone's mind. I'm asking him to testify as to what he
9 knew. It's very clear as to that, but he doesn't have to
10 know it because someone told him. He can observe things.

11 A Mr. Wheeler's interest in these was based on
12 his understanding of the chemistry as being related to
13 DDT and his understanding of what DDT could do to the
14 environment. And he, without having more data on PCB's,
15 felt this anxiety and was assuming that there was enough
16 similarity between those two chemicals that he should
17 feel the anxiety that he was feeling. I don't know how
18 else to express it.

19 Q All right, sir. Any other basis for Dr.
20 Wheeler's anxiety?

21 A Not that I know of.

22 Q What was the basis for Dr. Richard's
23 anxiety?

24 MR. DERRYBERRY: Same objection.

25 A I don't know that Dr. Richard ever confided

1 in me his basis. I can only speculate.

2 Q I don't want you to speculate. I'd like you
3 to testify as to what you observed or understood.

4 A I can't ascertain what he based his anxiety
5 on.

6 Q What is the basis of your observation that
7 he had anxiety?

8 A Oh, from the wording in some of his
9 memoranda.

10 Q Give me an example if you would so I can
11 understand it.

12 A His favorite expression was the use of the
13 word "Aroclor defense" as though he was being threatened.
14 That displayed to me some anxiety.

15 Q It's true that you used that term as well on
16 one occasion in a memorandum?

17 A I was reminded of that recently, yes.

18 Q What was the nature of that remark?

19 MR. DERRYBERRY: Why don't you show it to
20 him, Rick?

21 BY MR. HITCHCOCK:

22 Q Tell me what you remember about it.

23 MR. DERRYBERRY: I'll object to the form of
24 the question. If you're going to try to get him to tell
25 you what he remembers, lay it in front of him.

1 MR. HITCHCOCK: I'm not going to lay it in
2 front of him. I asked him what he remembered about it.

3 THE WITNESS: I was recently shown a letter
4 or memorandum that I composed in which I used the
5 expression. I, frankly, had forgotten I used it and was
6 surprised that I had used it. I must have been
7 influenced by Dr. Richard's constant use of that
8 expression.

9 BY MR. HITCHCOCK:

10 Q Did anyone else within Monsanto use that
11 expression?

12 A I don't recall anyone else. It was seldom
13 used.

14 Q All right, sir. What did you understand Dr.
15 Richard meant by "Aroclor defense"?

16 A By that he meant to get enough good data to
17 support the continued use of PCB's under the right
18 conditions.

19 Q What are the right conditions?

20 A Preventing escape into the environment being
21 a key one, proper handling so no medical problems result
22 with workers, that kind of approach.

23 Q Okay. What do you recall of some of the
24 memoranda in which he used that phrase?

25 MR. DERRYBERRY: What was the question?

1 MR. HITCHCOCK: What does he recall of some
2 of the memoranda in which Dr. Richard used the phrase
3 "Aroclor defense."

4 A There were some memorandum that Dr. Richard
5 authored in 1969 in which he was proposing a multi-point
6 program. And as I remember, he titled at least one of
7 those memorandum as "Aroclor Defense Strategy" or some
8 such title, but the words "Aroclor defense" appeared.

9 Q Was one of the strategies to hire somebody
10 to fill the position that you had filled the next year?

11 MR. DERRYBERRY: You asked him what he
12 remembers about the content of a memo.

13 MR. HITCHCOCK: That's exactly what I'm
14 asking him about, a memo.

15 MR. DERRYBERRY: I don't think that's a fair
16 and proper question. I object to it. You can answer it
17 if you can, Mr. Papageorge.

18 THE WITNESS: There was a document in which
19 the suggestion was made that that position be approved.
20 I am having difficulty remembering if that appeared in
21 Dr. Richard's memorandum or in any presentation made
22 before a top management committee by others, not Dr.
23 Richard.

24 BY MR. HITCHCOCK:

25 Q But it is in some written form?

1 A Yes, sir.

2 MR. HITCHCOCK: Mr. Derryberry, we would
3 like to request copies of any memoranda of Dr. Richard
4 discussing Aroclor defense strategies, including the one
5 referred to in 1969. And we'd like to request a copy of
6 the memorandum in which Mr. Papageorge used that phrase.

7 MR. DERRYBERRY: I don't think it's a proper
8 request, Rick, to sort of -- let's go off the record.

9 (Whereupon, a brief off-the-record
10 discussion was had.)

11 MR. HITCHCOCK: Let's mark this as the next
12 exhibit.

13 (Whereupon, the letter was marked for
14 identification as Exhibit 496.)

15 BY MR. HITCHCOCK:

16 Q Can you identify the document that's been
17 marked as Exhibit 496, please, sir?

18 A It's a copy of a letter on Monsanto
19 letterhead dated March 18, 1975, addressed to Mr. Dan A.
20 Albert, Westinghouse Electric Corporation, and signed by
21 me.

22 Q Sir, did you author this letter?

23 A I'm sorry. Attached to it are three pages
24 of answers to questions submitted to Monsanto by Mr.
25 Albert.

1 Q Okay. Is the attachment Bates numbered
2 1627, 1628 and 1629? Is that attachment a correct
3 attachment of the attachment that went into the original
4 letter?

5 A They appear to be, yes.

6 Q All right, sir. Who authored the answers to
7 the questions posed by Mr. Albert?

8 A Mr. Elmer Wheeler.

9 Q Mr. Wheeler authored the responses?

10 A Yes.

11 Q What was Mr. Wheeler's position in 1975 when
12 he authored the responses to Mr. Albert's questions?

13 A He was manager of environmental health in
14 Monsanto's corporate medical department.

15 Q He was the person, was he not, within
16 Monsanto who was responsible for knowing what the toxic
17 effects of PCB's were. Is that correct?

18 A He was one of the persons, yes.

19 Q Did you review these questions and answers
20 before you sent the letter to Mr. Albert?

21 A Yes, I did.

22 Q To the best of your knowledge, Mr. Wheeler's
23 statements in response to Mr. Albert's questions were
24 correct?

25 A Yes.

1 MR. HITCHCOCK: Give me a couple of minutes.
2 (Whereupon, a brief off-the-record
3 discussion was had.)

4 BY MR. HITCHCOCK:

5 Q Mr. Papageorge, what is the substance that
6 exists in light ballasts? Strike that. Let me withdraw
7 that question. Were PCB's manufactured by Monsanto sold
8 to manufacturers of fluorescent light ballasts for use in
9 fluorescent light ballasts?

10 A Yes.

11 Q Do you know what type of Aroclor was used in
12 that application?

13 A Aroclor 1242.

14 Q Do you know of any other manufacturer of
15 Aroclor 1242 that was supplied to manufacturers of light
16 ballasts other than Monsanto?

17 A In the United States I'm not aware of any
18 other.

19 Q Do you know of any foreign supplier that
20 supplied Aroclor 1242 to United States manufacturers of
21 light ballasts?

22 A Aroclor 1242 is a Monsanto product, so other
23 suppliers could not have used that term. I am not aware
24 of any similar chemical mixture entering this country for
25 that application.

1 Q There would be no other chemical
2 manufactured by another entity that would have a similar
3 gaschromatigraph signature. Is that right?

4 A Yes, there would be.

5 Q All right. What would have a similar
6 gas-chromatograph signature to Aroclor 1242?

7 A I have forgotten what the European and
8 Japanese producers call theirs, but they had equivalent
9 material.

10 Q Is it sold within the United States for use
11 in light ballasts?

12 A Not to my knowledge.

13 Q Based upon your experience of PCB's and
14 based upon your understanding of the regulatory
15 environment as of 1976, if you were faced with a
16 situation in which PCB's had leaked from a transformer
17 following or during the course of an explosion and there
18 was fire in adjacent electrical equipment, what would be
19 your response? Would you undertake testing to determine
20 the extent of contamination, PCB contamination?

21 MR. DERRYBERRY: I would object to the form
22 of the question because it's two questions in one because
23 you asked him following and in the course of the
24 explosion and fire.

25 BY MR. HITCHCOCK:

1 Q Does what your attorney objected to confuse
2 you?

3 A I am confused now.

4 MR. DERRYBERRY: Listen to his question.
5 Maybe it won't be objectionable.

6 THE WITNESS: Also establish a time frame.
7 You mentioned earlier '76.

8 BY MR. HITCHCOCK:

9 Q Well, I'm going to use 1985. If in
10 September of 1985 a piece of electrical equipment had
11 exploded in a transformer vault next to a transformer
12 containing polychlorinated biphenyls as a dielectric, the
13 bushing had broken, PCB's had leaked onto the floor
14 during the course of that fire incident, would you have
15 undertaken studies to determine whether there was
16 contamination within the vault and outside the vault from
17 PCB's?

18 A If I were to consider health effects, I
19 would not. If I were to consider other reasons, I would.

20 Q All right, sir. What would those other
21 reasons be?

22 A Well, it would be helpful to assure people
23 that these materials were not present or were present
24 because of the image they have associated with them and
25 because of regulatory interests in these materials. One

1 almost has to assure himself that they are or are not
2 present and to what degree.

3 Q "Because of regulatory interests," what do
4 you mean by that?

5 A Regulatory agencies would be involved
6 whether they like it or not, and it would be assuring to
7 them, in making their decisions, to have some data to
8 work from.

9 Q You're saying regulatory agencies would make
10 you undertake these tests?

11 A Yes, or else they themselves might do it.

12 Q Okay. What other reasons would be relevant
13 to your decision to undertake these tests?

14 A Because of our litigious society, you better
15 get some data. It may help you. It may not.

16 Q All right. Do you know whether Federal
17 environmental regulations would have required any
18 notification?

19 MR. DERRYBERRY: At what time?

20 BY MR. HITCHCOCK:

21 Q Using the hypothetical I posed a moment ago,
22 September 1985 time frame, do you know whether
23 environmental regulations would have required
24 notification of the Environmental Protection Agency or
25 others concerning the release of PCB's I've described?

1 A Yes, they would.

2 Q They would have? Do you know whether those
3 environmental regulations would have authorized the
4 Environmental Protection Agency and Centers for Disease
5 Control or others to require testing of the type that you
6 have said would be appropriate?

7 A Yes.

8 Q It would have required it?

9 A Yes, sir.

10 Q All right, sir. What is the basis for your
11 statement that if you were to consider health effects,
12 you would not undertake such tests?

13 A My personal experience. I have lived with
14 them. I don't have that anxiety that others may have.

15 Q Okay. You don't have any studies or tests
16 that you have done to support that conclusion, though?

17 A I have 40 years of information.

18 Q All right, sir. Please tell me what
19 information is relative to your judgment that if you were
20 to consider the health effects, you would not undertake
21 such tests.

22 MR. DERRYBERRY: I object. I think you need
23 to review your hypothetical with him.

24 MR. HITCHCOCK: I'll let the court reporter
25 read it back.

1 MR. DERRYBERRY: She'll never find it now.
2 If you could state it again, it would be appreciated.

3 BY MR. HITCHCOCK:

4 Q Are you fuzzy about the hypothetical and
5 what --

6 A Are you talking about the presence of PCB's
7 in an environment following a fire and explosion?

8 MR. DERRYBERRY: No. That's not what he
9 said. He said there was a fire and explosion in some
10 adjacent PCB transformers, period, I believe. Is that
11 correct?

12 MR. HITCHCOCK: No, it was a broken bushing.

13 MR. DERRYBERRY: I thought a question
14 intervened between that one.

15 MR. HITCHCOCK: Well, Mr. Derryberry, the
16 record will show the witness thinks you're incorrect and
17 I think you're incorrect and it's 4:30.

18 MR. DERRYBERRY: Let's read it when it comes
19 out.

20 BY MR. HITCHCOCK:

21 Q I'm quite willing to go forward as long as
22 you're not confused.

23 A I don't think I'm confused.

24 MR. DERRYBERRY: Go ahead.

25 BY MR. HITCHCOCK:

1 Q Okay. In spite of his effort...

2 A The presence of --

3 MR. DERRYBERRY: Dirty pool. I'll stack my
4 number of objections against yours anytime. I bet mine's
5 smaller, five bucks.

6 A I have seen situations where PCB's were
7 visibly present in a working environment, and I have seen
8 workers in that environment put in their eight hours or
9 more per shift for almost a lifetime of working.

10 I am aware of the medical records of all
11 those employees, and there's no evidence that anyone can
12 find that that population of people suffered any health
13 effects that could be attributed to PCB's. I have
14 personally scraped it off my own shoes where it builds up
15 between the heel and the instep. I have gotten it in my
16 car. My family has been in it. I don't mean to say that
17 this is proper, but to me that is evidence that's so
18 strong that I intellectually cannot accept other
19 information that seems to be bantied about regarding
20 these materials.

21 BY MR. HITCHCOCK:

22 Q All right, sir. But in spite of those
23 impressions, you would do the testing in the hypothetical
24 situation that I have posed for you?

25 A For reasons that we talked about.

1 Q Okay. All right, sir. Was Monsanto working
2 on alternative fluids during the time you served as the
3 head of the PCB response for Monsanto, 1970 to '76?

4 A Certainly.

5 Q Were they working on alternative fluids,
6 dielectric fluids prior to that time?

7 A On and off.

8 Q On and off? When did they start first
9 considering, exploring alternative dielectric fluids?

10 A That goes way back from the very beginning.
11 It was always an interest, is there a better fluid out
12 there that the researcher might develop, better in terms
13 of cost as well as performance. So, that was always in
14 the background. I don't know what else to say except the
15 search for alternative fluids existed always, but it's
16 only when the PCB's became an environmental issue that
17 Monsanto concentrated on it with the many researchers
18 full time.

19 Q Until then Monsanto had no economic
20 incentive to concentrate on the research for alternative
21 fluids, did they?

22 A Well, it was an economic incentive to be
23 sure that someone else didn't come up with something to
24 replace the PCB's and offer competition that didn't
25 exist.

1 Q Were there fluids that had been developed in
2 1967 by Monsanto that could have been used as
3 alternatives to PCB's as dielectric fluids in
4 transformers?

5 A Not to my knowledge.

6 Q Who would have knowledge of that?

7 A Well, we mentioned Dr. William Richard. It
8 was his department that would do that research.

9 Q Okay. Has Monsanto developed since 1970 an
10 alternative transformer dielectric?

11 MR. DERRYBERRY: Objection to form.

12 A No.

13 Q Do you understand the question?

14 A Yes.

15 Q You do understand the question?

16 A Yes.

17 MR. DERRYBERRY: I didn't object because he
18 didn't understand.

19 MR. HITCHCOCK: There must be something
20 wrong with my question. I want to at least get rid of
21 that alternative.

22 MR. DERRYBERRY: Yeah.

23 MR. HITCHCOCK: George, I'm willing to go
24 ahead and let's stop at this point, 4:30.

25 MR. DERRYBERRY: We can go on for another

1 hour if you want to go down the hall.

2 MR. HITCHCOCK: I understand, but we've got
3 to all get to Michigan for tomorrow. I have much more
4 than another hour. What I'd like to do is stop at this
5 point and reschedule it for another day.

6 MR. DERRYBERRY: I don't know when that will
7 be. He's got a substantial trip he's going to make
8 pretty soon. But we'll just adjourn now if that's what
9 you want to do.

10 MR. HITCHCOCK: Well, we'll adjourn subject
11 to our right to recall the witness.

12 MR. DERRYBERRY: Do you have more than an
13 hour?

14 MR. HITCHCOCK: I have much more than an
15 hour. Does this look like more than an hour
16 (indicating)?

17 MR. DERRYBERRY: Not if you don't ask him
18 about all of them.

19 FURTHER THIS DEPONENT SAITH NOT

20

21

22

WILLIAM B. PAPAGEORGE

23

24 Sworn to and subscribed before me
this _____ day of _____, 1988.
25 My commission expires:

REPORTER'S CERTIFICATE

STATE OF TENNESSEE:

: ss.

COUNTY OF HAMILTON:

I, Elizabeth B. Coffey, Registered Professional Reporter and Notary Public at Large, do hereby certify that I reported in machine shorthand the deposition of WILLIAM B. PAPAGEORGE, P. E., called as a witness in the above-entitled cause; that the said witness was duly sworn by me; that the foregoing pages, numbered from 1 to 214, inclusive, were typed under my personal supervision and constitute a true record of said deposition.

I further certify that I am not an attorney or counsel of any of the parties, nor a relative or employee of any attorney or counsel connected with the action, nor financially interested in the outcome of the action.

Witness my hand in the City of Chattanooga, County of Hamilton, State of Tennessee, this 14th day of August, 1988.


Elizabeth B. Coffey, Registered
Professional Reporter and
Notary Public.
My commission expires:
March 11, 1990