

Wm. Papageorge - Glenn Brown Trial Testimony 10/29/91

1 THE COURT: Counsel, you may continue.

2 MR. KOTOSKE: I recall William Papageorge.

3 CONTINUED DIRECT EXAMINATION OF WILLIAM PAPAGEORGE

4 QUESTIONS BY MR. KOTOSKE:

5 Q. Mr. Papageorge, is it a fair statement that
6 the Anniston plant in Alabama was the plant that supplied
7 the PCBs to Monsanto, (inaudible) PCBs to the Westinghouse
8 plant in Bloomington, Indiana?

9 A. It is one of the two plants, yes.

10 Q. I want to focus your attention on the
11 conditions of the Westinghouse plant in Bloomington, and
12 in order to differentiate between Monsanto plant which is
13 making the PCBs and Westinghouse plant, I'm going to refer
14 to it as the Bloomington plant so we keep an orderly
15 differentiation in our discussions. Did it come to your
16 attention in the 1960's that the working conditions of the
17 workers in the Bloomington plant -- I'm going to have to
18 strike that.

19 Did it come to your attention in the '60's the
20 conditions under which workers were working with the PCBs
21 in the Bloomington plant?

22 A. No. I was never told the conditions in the
23 plant.

24 Q. Let me show you a memorandum dated September
25 21, 1967, and I'll see if that refreshes your

1 recollection.

2 MR. CARNEY: Could we approach the bench,
3 Your Honor?

4 THE COURT: All right.

5 (A bench conference was held.)

6 MR. KOTOSKE: Judge, can I have that copy
7 back?

8 THE COURT: Oh, sure. Ladies and gentlemen,
9 now that I've got you down here, we're going to have to
10 take a very short five-minute break. I apologize for the
11 disruption, but we have to discuss something, so a
12 five-minute break. Stretch your legs a little bit. Don't
13 discuss the case among yourselves or with others.
14 Felicia, bring them back at quarter to 10:00.

15 (Brief recess.)

16 THE COURT: Proceed.

17 Q. Have you had chance to look at the
18 memorandum?

19 A. Yes. Yes.

20 Q. p And you were copied on that memorandum; were
21 you not?

22 A. I was.

23 Q. Does that memorandum refresh your
24 recollections as to the working conditions at the
25 Bloomington plant?

1 A. Your question, sir, is -- When you asked me,
2 as I understood it, was I told about plant conditions, my
3 mind immediately went to the arrangement of the equipment,
4 the absence or presence of ventilation.

5 REPORTER: Presence of what?

6 A. Absence or presence of ventilation in the
7 working area, these kinds of things. The memo reminded me
8 of the presence of liquid and oil on the workers and their
9 shoes and the fact that they didn't change their clothing.
10 I would associate that more with the workers' practices
11 rather than condition of the plant.

12 Q. Thank you for your explanation. Now, let's
13 cut right to it. What did you know about these workers at
14 the Bloomington plant handling PCBs in a sloppy fashion?

15 A. The author of that memorandum did use that
16 word, and he was relaying in that memorandum information
17 he received from someone at the Bloomington plant.

18 Q. Who was the author of the memorandum?

19 A. Paul Benignus.

20 Q. Who is Paul Benignus?

21 REPORTER: (p Inaudible.)

22 MR. PAPAGEORGE: B-e-n-i-g-n-u-s.

23 A. Mr. Benignus at that time was the manager of
24 marketing of the dielectric fluids that contained PCBs.

25 Q. He was a Monsanto employee; was he not?

1 A. Yes.

2 Q. He was a seller of PCBs. He was in the sales
3 department; wasn't he?

4 A. Well, yes.

5 Q. And he was reporting to you in this
6 memorandum on which you received a copy back in '67 that
7 the conditions out at that plant in Bloomington were
8 unacceptable?

9 A. Were sloppy is the word he used.

10 Q. Would Mr. Benignus be in a position to know
11 that type of information?

12 A. If he personally saw it, yes.

13 Q. Did Mr. Benignus in his memorandum refer to
14 spilling of PCBs, workers getting their clothes soaked,
15 p their shoes full of PCBs?

16 A. He did.

17 Q. Those were conditions that Monsanto would not
18 tolerate in its plants; would it?

19 A. That is correct.

20 Q. Those conditions could be very harmful to the
21 Bloomington plant workers; would they not?

22 A. Not on a one-time condition or exposure, but
23 repeated, eventually, yes.

24 Q. The conditions were so bad that if they
25 p continued those workers could have died from that

1 exposure?

2 A. That would be the extreme case, yes, sir.

3 Q. But certainly those workers at the
4 Bloomington plant, considering the conditions that you
5 knew, were quite likely to have chloracne from that
6 exposure?

7 A. No. I had no information to tell me that
8 they would have chloracne.

9 Q. Did you have any information that those
10 workers were likely to incur liver damage from that
11 exposure?

12 A. I had no information of that kind.

13 Q. You knew that their exposure consisted of
14 clothes drenched in PCBs, shoes soaked in PCBs; did you
15 not?

16 A. I did.

17 Q. You knew that as early as the 1960's?

18 A. By that memorandum, yes, sir.

19 Q. You also knew at that time that repeated
20 exposure to PCBs in conditions described in that
21 Bloomington plant could result, could result, in those
22 workers contracting chloracne?

23 A. Could under the right conditions, yes.

24 Q. You also knew at that time that those
25 workers, if that exposure and those conditions at that

1 plant continued, they could incur liver damage?

2 A. If they continued long enough, yes.

3 p Q. How long is long enough?

4 A. I do not know.

5 Q. Did Monsanto, knowing the conditions in which
6 the PCBs were used at the Bloomington plant, ever conduct
7 a seminar or a session with the workers themselves -- I'm
8 talking about the men and women who worked in that
9 plant -- to explain to them the dangerous conditions from
10 exposure to PCBs?

11 A. Did Monsanto do that?

12 Q. Yes.

13 p A. No, sir. We cannot speak to our customers'
14 workers.

15 Q. I'm going to change the subject. Did you
16 ever visit the Bloomington plant?

17 A. Yes, sir.

18 Q. How many times?

19 A. Once.

20 Q. When?

21 A. July 1970.

22 Q. What were the conditions of the plant when
23 you visited there?

24 A. Well, I saw a fairly clean plant.

25 p Q. Anybody tell you that the plant had been

1 spruced up just for your visit?

2 A. No, sir.

3 Q. Did you ask?

4 A. No. It wouldn't occur to me to ask.

5 Q. I wonder if this question occurred to you.

6 Did you ask anybody at the Bloomington plant, "Listen, how
7 did these workers work on a day-to-day basis with this
8 stuff, the PCBs that we manufacture and sell them? How do
9 they work on a day-to-day basis?"

10 A. We had such a discussion.

11 Q. Who did you have the discussion with?

12 A. Oh, a room full I would say of about a dozen
13 people, including the top managers, the plant manager
14 himself, and his engineering people, his manufacturing
15 people.

16 Q. And you were told that these workers handle
17 this stuff in perfect order, in perfect condition,
18p according to all rules and regulations issued by Monsanto?

19 A. I don't recall the word "perfect" being used,
20 but I was assured that all the precautions that were
21 well-known to the Westinghouse managers were being
22 emphasized and the foremen were observing the activities
23 and that the proper kinds of equipment were available,
24 that they were following good practices.

25 Q. Let me ask you something. By now you know

1 the chemical can be dangerous if it's misused. We've
2 agreed on that?

3 A. Oh, I knew it even then, sir.

4 Q. Did the thought ever occur to you to make a
5 surprise, unannounced visit?

6 A. The thought did occur, sir, but that just
7 isn't done. I can't walk into a plant -- That would be a
8 form of trespassing the way I see it.

9 Q. That's your explanation?

10 p A. Yes.

11 Q. Now, I want to talk a little bit about Renate
12 Kimbrough. Renate Kimbrough conducted some toxicity
13 studies on animals in the early '70's; did she not?

14 A. Yes, she did.

15 Q. And she came to the conclusion, did she not,
16 that the PCBs you were producing were toxic to (inaudible)
17 animals; did she not?

18 A. One of the PCB mixtures that Monsanto was
19 producing used in hþ er tests showed an effect on the test
20 animals, yes.

21 Q. It was an adverse health effect; was it not?

22 A. Yes. That's her interpretation.

23 Q. You knew that in the early '70's; did you
24 not?

25 A. Yes.

1 Q. And you were not pleased -- Monsanto was not
2 pleased with the results and the conclusions she reached
3 about the toxicity of her animal studies on your p PCBs?

4 A. I think a more accurate word would be we were
5 surprised rather than not pleased.

6 Q. Were you concerned?

7 A. Certainly.

8 Q. Now, the last of those studies is published
9 by Renate Kimbrough in 1974. I ask you to accept that
10 date as true. Studies, (four of them, three of them),
11 were in '72 and '74 when she found your PCB to be very
12 toxic. Did you change the warning label p the workers would
13 see, if they ever saw it, to include the data and warning
14 about the toxicity that she found in her laboratory
15 animals?

16 A. No, sir. You don't change wording based on
17 one isolated study that has not been confirmed.

18 Q. And you didn't consider her at that time to
19 be world renowned in the area of PCB toxicology?

20 A. She was world renowned, certainly, but that
21 doesn't mean thp at the one test could go unchallenged.
22 This is done in the scientific community all the time.

23 Q. Now, the results she reached were directly
24 opposed to the results reached by IBT; were they not?

25 A. I don't know what you mean by the word

1 "opposed". They --

2 Q. Scientifically they reached different
3 conclusions?

4 A. Correct.

5 Q. On the one hand you had the IBT studies
6 showing no toxicity, and on the other hand you had the
7 Renate Kimbrough studies showing toxicity?

8 MR. CARNEY: I'm going to object. I think
9 it's mischaracterizing the studies.

10 THE COURT: I'm going to let the witness
11 explain if he doesn't agree. You may answer, sir.

12 A. Sir, both studies showed toxicity of that
13 particular PCB, the Aroclor 1260. It was the
14 interpretation of what the pathologists were seeing
15 through their microscopes that was in dispute.

16 Q. Nevertheless, both studies finding toxicity
17 in test animals, you did not change your warning label
18 after you had your studies and the Kimbrough studies; is
19 that true?

20 A. That is true. The warnings already there
21 would have prevented workers from reaching a condition
22 described by either of these sets of pathologists.

23 Q. Now, for the balance of this examination, I
24 want you to have before you, which you probably
25 (inaudible), Exhibit 11. Let me show you how

1 (inaudible). Refer to those pages from Exhibit 11. The
2 first thing I'd like to talk about, and if you could stay
3 with me, I want to look at the material safety data tests
4 or sheets for Monsanto for the manufacturing of its own
5 Aroclors, and they start p on page one, and I'm sure you are
6 familiar with these data sheets. Start on page one, and
7 they go through page, I believe, 23 or so, page 20. I
8 want to -- Let's look at page one. This material safety
9 data sheet is dated May of '71. I asked this question of
10 Dr. Kelly, and he (inaudible). Where are the material
11 safety data sheets for the '50's and the '60's?

12 A. There were no such documents by the
13 Department of Labp or, the new OSHA organization.

14 Q. Aside from the federal requirements now
15 requiring safety data sheets, did Monsanto nevertheless
16 have material safety data sheets for the manufacture of
17 PCBs prior to the 1970's?

18 A. There were data sheets that addressed the
19 safe handling of material, but they were not in a format
20 such as we're looking at now.

21 Q. I don't care about the format. Where are
22 those documents? Does Monsanto still have those
23 documents?

24 A. That I can't answer, but I do know that
25 safety data was included in Monsanto's manufacturing

1 procedure manuals and in their operating instructions
2 which the operators used.

3 Q. Let me just interrupt you, please. I'm
4 talking about the material safety data sheets. Did
5 Monsanto have material safety data sheets prior to 1970?

p 6 A. You're referring to a piece of paper with
7 that title on it?

8 Q. Yes.

9 A. No, sir.

10 Q. Something like that?

11 A. No such documents existed in industry at that
12 time.

13 Q. Look at -- You're familiar with these kinds
14 of documents; are you not?

15 A. Certainly.

16 Q. I want you to turn to section four of this
17 document. Justp use the first part, it's easier to read,
18 where it says fire and explosion hazard data.

19 A. I see it.

20 Q. It says the flash point of PCB is 180 degrees
21 centigrade; does it not?

22 A. That's what it says, yes.

23 Q. I'm going to read some of these to the jury,
24 and you tell me if I read it correct. It says, "Special
25 precaution, special fire fighting procedures," and it says

1 "Respiratory protection when fighting fires or exposure to
2 vapor or gases is possible." Does it not?

3 A. It does.

4 Q. That means you've got to wear a mask of some
5 kind?

6 A. During a fire.

7 Q. I understand. Some type of respiratory
8 equipment. Is that what it says?

9 A. Yes. Against the smoke and whatever else
10 develops during the fire.

11 Q. Andp then it talks about exploding hazards;
12 does it not? Do you read that?

13 A. I do.

14 Q. And it says this: "Highly toxic gases,
15 chlorides and chlorine, can be involved in fires of this
16 product." Does it not?

17 A. It does.

18 Q. When a person -- If you look at section five,
19 health hazard data, do you see that?

20 A. I see it.

21 Q. And it talks about the effects p of over-
22 exposure to PCBs; does it not?

23 A. It does.

24 Q. And it says this is what happens when you're
25 overexposed. Skin irritation in a form of chloracne.

1 Systemic intoxication leads to nausea, vomiting, loss of
2 weight, edema, and abdominal pain. Does it not?

3 A. It does.

4 Q. Let's just stop. On any warning, on any
5 warning label that you've ever seen at Monsanto that was
6 on these drums or on these tankers or however you
7 delivered your PCBs, did you ever include this language,
8 "Exposure can result in skin irritation in the form of
9 chloracne. Systemic intoxication leads to nausea,
10 vomiting, loss of weight, edema and abdominal pain"?

11 A. No.

12 Q. Spills or leaks -- This is Section 7.

13 A. I see it.

14 Q. When there's a spill of PCBs, you're supposed
15 to (inaudible) clay, sawdust or other absorbing material,
16 place it in a drum, bury it in an approved chemical
17 landfill in accordance with local and state regulations.
18 Did I read that correctly?

19 A. Yes, I did.

20 Q. I just want to ask you something. In all the
21 time you worked at Monsanto, in the '50's, in the '60's,
22 in the '70's -- And there's an exception. You changed
23 your warning in the '70's about environmental (inaudible);
24 did you not?

25 A. We did change that warning.

1 Q. Did you ever have in the '50's, '60's and
2 '70's a warning to workers on the labels of these drums or
3 tanker cars or whatever that when a spill occurred it
4 would have this language included on it? Did the label
5 have that language?

6 A. The language you just read out of Section 7?

7 p Q. Yes.

8 A. No.

9 Q. Section 8, special precautions, ventilation.
10 You're supposed to have ventilation for the vapors; is
11 that right? I'm down in Section 8.

12 A. Are you -- Under which part of that?

13 Q. Local exhaust.

14 A. Local, yes.

15 Q. It says, "Protective clothing, rubber gloves,
16 chemical (buffers)." Does it not?

17 A. Yes.

18 p Q. Now, down at the bottom Monsanto writes on
19 this material safety data sheet, quote "While the
20 information and recommendations set forth herein are
21 believed to be accurate as of the date hereof, Monsanto
22 Company makes no warranty with respect thereto and
23 disclaims all liability from reliance thereon." Did I
24 read that correctly?

25 A. You did.

1 Q. Will you please turn to page 22?

p 2 A. May I -- Earlier you mentioned a May date.
3 Would you repeat that for me? I can't find that.

4 Q. It's May '71.

5 A. That's the date that OSHA designed this form.

6 Q. All right. Is that when you first started
7 using it?

8 A. No.

9 Q. When did you first start using it?

10 A. We started using it in late '71. This one is
11 dated, as you can see at the p bottom of page two, January
12 26th, '72.

13 Q. Thank you. Would you turn to page 22? I'm
14 not going to spend a lot of time on these medical studies,
15 but I had asked you before whether or not you had read
16 these medical studies, these toxicity studies from the
17 Harvard School of Public Health carried out by
18 (inaudible). They start on page 22.

19 A. Page 22. I have it.

20 Q. When I asked you before p whether -- These were
21 the studies I was referring to. Were we talking about the
22 same studies?

23 A. Yes.

24 Q. Turn to page 46. Can you tell me what this
25 document is?

1 A. The document starting on page 46 appears to
2 be part of a manufacturing process manual.

3 Q. For PCBs?

4 A. For PCBs at Monsanto.

5 Q. That's a Monsanto document; is it p not?

6 A. Yes.

7 Q. I'm interested to know whether or not you
8 ever read it.

9 A. Certainly.

10 Q. Turn to page 51, and I'm going to read
11 something.

12 A. I have it.

13 Q. Did you read this document at or about the
14 time it was published or shortly thereafter, or when did
15 you read it?

16 A. I read this document when I was assigned to
17 the p Anniston plant in 1964 or so.

18 Q. This document is dated in 1955, but,
19 nevertheless, you read it when you got to the Anniston
20 plant?

21 A. Yes, sir.

22 Q. This document states on page 51, talking
23 about your PCBs, "There is need, therefore, to give
24 warning for the toxicity of these compounds has been
25 repeatedly demonstrated both from a standpoint of the

1 absorption from the p inspired air as well as from their
2 effects in producing serious and disfiguring dermatitis
3 when allowed to remain in contact with the skin." I want
4 to ask you something. On any warning on any label that
5 Monsanto ever had on any of these drums or tankers or on
6 anything, did that warning include the language that I
7 just read?

8 A. You mean word for word?

9 Q. Yes.

10 A. No.

11 Q. p Would you please turn to page 57, please? I
12 don't know if you've seen this letter. Do you need a
13 minute to look at it?

14 A. It's been a while since I've seen it.

15 MR. CARNEY: What page are we on now?

16 MR. KOTOSKE: 57.

17 Q. I'm interested, Mr. Papageorge, in the last
18 paragraph of this document.

19 THE COURT: On page 57?

20 MR. KOTOSKE: Yes, sir.

21 p A. I have read the last paragraph.

22 Q. This document is authored by Dr. Emmet Kelly?

23 A. It is.

24 Q. Did you ever discuss the contents of this
25 document with him?

1 A. I did back in early 1970, yes, sir.

2 Q. This document says -- And we already know
3 that MCC stands for Monsanto Chemical Company. This
4 document is referring to the toxicity of your Pb CBs; is it
5 not?

6 A. It does.

7 Q. And it says, "Monsanto's position can be
8 summarized in this fashion. We know Aroclors are toxic,
9 but the actual limit has not been precisely defined. It
10 does not make too much difference it seems to me because
11 our main worry is what will happen if an individual
12 develops any type of liver disease and gives a history of
13 Aroclor exposure. I'm sure the juries would not pay a
14 great deal of attention to MAC." Did I read that
15 correctly?

16 A. You did.

17 Q. At any time in the '50's, in the '60's, in
18 the '70's, did the warnings on the labels of the drums and
19 the tankers, or however you sold this stuff, ever contain
20 the language that I just cited --

21 A. No, sir.

22 Q. -- in this document?

23 A. No, sir.

24 Q. The fact of the matter is in the 1950's you
25 didn't even know how toxic PCBs were; did you?

1 A. Well, I hesitate, Mr. Kotoske, because I need
2 some help from you. Will you describe for me what you
3 mean when you use the word "toxic"?

4 Q. I'm going to rely on Dr. Emmet Kelly, the
5 medical director for Monsanto, who indicates he doesn't
6 know how toxic this stuff is.

7 MR. CARNEY: I'm going to object. That
8 mischaracterizes what he said in (inaudible).

9 THE COURT: The letter will speak for itself.
10 Let's proceed.

11 A. What's your question, sir?

12 Q. I'll move on. I want you to turn to page 64.

13 MR. CARNEY: Your Honor, I don't think he
14 gave the witness a chance to --

15 THE COURT: There was a question. You want
16 to withdraw it?

17 MR. CARNEY: I would object to his giving
18 speeches (inaudible).

19 THE COURT: Just drop it. Let's proceed.

20 Q. Turn to page 64. Is this a Monsanto
21 document?

22 A. This is a collection of portions of a
23 Monsanto document.

24 Q. When was it published?

25 A. Well, the date of the document is July 1964.

1 Q. It's a Monsanto in-house document?

2 b A. Yes.

3 Q. Turn to page 66. Before I ask you this
4 question, was chlorine gas used in the manufacture of
5 PCBs?

6 A. Yes.

7 Q. Read to the jury what it says about chlorine
8 gas on page 66.

9 A. The entire section?

10 Q. No. Just right across from number one, the
11 chlorine gas.

12 A. "Chlorine gas is a very toxic, corrosive gas.
13 Leaks or high pressure can occur to liberate it."

14 Q. Thank you. Would you please turn to page 70?

15 A. I have it.

16 Q. Biphenyls were used in the manufacture of
17 PCBs?

18 A. Biphenyls, yes.

19 Q. Read what it says there about biphenyl.

20 A. "Biphenyl is a flammable material which will
21 burn. Burning should not be done in the presence of
22 biphenyl or biphenyl vapors. The melting point is 68.7
23 degrees C, flash point 106 degrees C, the fire point is
24 124 degrees C, and the auto ignition temperature is 258
25 degrees C. Inhalation of biphenyl fumes is not

1 recommended since it can cause a drugged effect on the
2 person." What does that mean, "drugged effect"? That's
3 what I'm interested in (inaudible).

4 A. Similar to a light alcohol drug,
5 lightheadedness, unsure movements, so on.

p 6 Q. Would that include dizziness?

7 A. To some people, yes.

8 Q. Now, I want you to turn to page 75, if you
9 will, and it has a list --

10 A. I have it.

11 Q. And that's your drum weights when you shipped
12 these PCBs out, is that right, 55 or five-gallon drums?

13 A. Yes.

14 Q. Now, I'm going to -- Mr. Papageorge, I'm
15 going to ask you a series of questions. p They're going to
16 sound kind of inane, but a foundation. Everybody knows
17 the answer. I want to make the record. In the '50's,
18 '60's, '70's, was Monsanto in the business of selling
19 PCBs?

20 A. Yes.

21 Q. It's not difficult. I've got to ask it. Did
22 you place your PCB products in the stream of commerce?

23 A. Yes.

24 Q. Did you sell them interstate?

25 A. Yes.

1 Q. All right. And I might have asked you. You
2 were engaged in the business of selling PCBs?

3 A. Yes.

4 Q. All right. And when the PCB products that
5 you manufactured left your plant, they left your plant
6 without any substantial change in the specification of
7 PCBs that you (inaudible)? You weren't telling your
8 customer, "Here's one," and then sell them another?

9 A. Oh, ~~p~~ certainly not.

10 Q. The product, the PCB products, were expected
11 to reach and did reach a consumer, Westinghouse, without
12 any change in their conditions as far as you know?

13 A. Not necessarily.

14 Q. How did they change? I'm talking about the
15 time you ship them from your plant until they arrive at
16 the plant at Westinghouse. That's all we're talking
17 about.

18 A. I understand. The Wes~~p~~ tinghouse Corporation
19 gave Monsanto a specification of the product they expected
20 when it arrived at their plant. Monsanto shipped --

21 Q. And did it arrive according to those
22 specifications?

23 A. Yes. But Monsanto shipped a product with a
24 tighter specification to make certain that if there was a
25 change enroute it would still arrive and meet the

1 specification called for by Westinghouse. p So there were
2 slight changes.

3 Q. They were not substantial changes in the
4 chemical structure?

5 A. Oh, no. No.

6 Q. Those specifications were designed to insure
7 the product arrived without a substantial change in
8 specifications?

9 A. That is correct.

10 Q. I think I'm almost done in this series of
11 questions. You had told us -- Excuse me. Page 78, moving
12 p right through.

13 A. Page 70?

14 Q. 78.

15 MR. CARNEY: Did you say 78?

16 MR. KOTOSKE: Yes. 78.

17 A. I have it.

18 Q. These are the corporate minutes of Monsanto
19 with respect to the Corporate Development Committee, dated
20 April 22, 1968. I don't know what the Corporate
21 Development Committee is. What is it I guess is the
22 question?

23 A. Thp is committee consists of the highest
24 officials in Monsanto Company, and it's chaired by the
25 chairman of the Monsanto board and the chief executive

1 officer. The other members include the executive vice
2 presidents who were responsible for the different areas of
3 activity going on at Monsanto, such as marketing,
4 manufacturing, and so on. And they met on a scheduled
5 basis to discuss the important matters facing the
p 6 corporation each month.

7 Q. Fine. And then there's some notes on page 79
8 of what they concluded, and one of those notes has to do
9 with PCBs. Do you see the last paragraph there?

10 A. I see it.

11 Q. And it says --

12 MR. CARNEY: Your Honor, I'd like to object
13 just on relevancy grounds. This paragraph has to do with
14 transformers and Therminol. It's a heat transfer.
15 Doesn't have anything to do with capacitors and PCB.

16 THE COURT: Is it a PCB?

17 MR. KOTOSKE: Yes.

18 MR. CARNEY: Yes, it is.

19 THE COURT: I'm going to allow it with the
20 objection. Let's keep it moving.

21 Q. The Corporate Development Committee decided
22 on April '68, quote, "In the case of Aroclor, the key
23 issue becomes how to significantly increase the sales
24 quotas while maintaining the domestic supply position and
25 profitability. It is believed transformers and heating

1 systems provide the major opportunities." Have I read
2 that correctly?

3 A. You have.

4 Q. Now, if you'll turn to page 80, this is a
5 Monsanto letter.

6 A. Yes.

7 Q. It was sent to all your customers that used
8 PCBs?

9 A. No. This was sent to thp e --

10 THE COURT: Did you say 80?

11 MR. KOTOSKE: Page 80.

12 THE COURT: 80. You said eight. Proceed.

13 Q. Page 80. Are you with me?

14 A. I'm with you.

15 Q. All right. What is this document?

16 A. This is a Monsanto letter mailed on March the
17 3rd of 1969 to Monsanto customers who purchased PCBs for
18 use in electrical equipment.

19 Q. p And it is authored by Elmer P. Wheeler?

20 A. It is.

21 Q. Who worked with Dr. Kelly?

22 A. Yes.

23 Q. The substance of this letter is reporting on
24 what Swedish scientists had found with respect to PCBs and
25 their persistence in the environment; is it not? I was

1 unfair. You may take a minute and look at it.

2 A. It does refer to the Swedish work. It also
3 rep fers to other work known as of March '69.

4 Q. Now, Mr. Wheeler says in this letter, "The
5 Swedish and American scientists also imply that
6 polychlorinated biphenyls are highly toxic chemicals.
7 This simply (inaudible). This is simply not true." He
8 goes on. "PCBs are not toxic unless they are mishandled
9 or misused." Mr. Papageorge, that's a bald
10 misrepresentation what you knew to be the toxicity of
11 PCBs?

12 p A. Sir, that's why I asked earlier for your
13 definition of the word "toxic". The word "toxic" is used
14 by so many people in so many different ways that it's
15 become difficult to communicate using that word unless
16 someone describes it in detail.

17 Q. Turn to the next page of this letter. We're
18 on page 82 at the bottom.

19 A. I see it.

20 Q. Mr. Wheeler goes on, "It is, therefore, not
21 only pp uzzling, but extremely difficult to conceive how
22 commercially-produced PCB can show up in wildlife as DDT
23 and other pesticides appear to be. This raises the
24 question whether the substance identified in the Swedish
25 work and now in California is actually PCB." Mr.

1 Wheeler's position at the time he wrote this letter was
2 whatever these people found, it wasn't PCB?

3 A. No. Mr. Wheeler was just raising the
p 4 question is it in truth PCBs, which reflected the thinking
5 of scientists working on this PCB/DDT problem.

6 Q. Is that your answer?

7 A. Yes.

8 Q. Shortly after, in fact, a month later, a memo
9 was issued by Monsanto, and it appears on page 83.

10 A. I see it.

11 Q. And it's dated April 14th, 1969; is it not?

12 A. It is.

13 Q. And it's --

14 p MR. CARNEY: Your Honor, I'm going to object
15 to this memo on relevancy grounds. This is a memo with
16 regard to disposal of Aroclors.

17 THE COURT: We're not to get into disposal,
18 but is there another area in here that's relevant to the
19 issues?

20 MR. KOTOSKE: Paragraph two is very relevant.

21 THE COURT: I'll allow that, but --

22 MR. CARNEY: Paragraph two has to do with

23 p Pydrauls, Your Honor, the hydraulic fluid.

24 THE COURT: Are Pydrauls PCBs?

25 MR. KOTOSKE: They are.

1 THE COURT: I'll allow (inaudible).

2 Q. The letter states quote, "At present we are
3 putting reclaim Aroclor into new Pydraul hydraulic fluid.
4 We can't really satisfy pollution people with this
5 explanation. This will just bring the focal point to
6 hydraulic flup ids that much sooner." Who were the
7 pollution people that were referred to in this memo?

8 A. Well, Dr. Richard is referring to people --

9 MR. CARNEY: Let me object here. I think
10 this might call for the witness to speculate inside Mr.
11 Richard head.

12 THE COURT: Well, let him answer as best he
13 can. Overruled. You may answer, sir.

14 (Ms. Olliges was replaced by Ms. Carter.)
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1 A. Dr. Richard was referring to those
2 individuals who looked upon PCB as a serious environmental
3 problem, and that included people, private citizens,
4 government people, as well as industrial people.

5 Q. That's who he was referring to as the
6 pollution people?

7 A. That was my understanding, yes, sir.

8 Q. Who wrote this memo?

9 p A. Dr. Richard.

10 Q. Who was he?

11 A. He was the director of research or manager of
12 research for products that included PCBs in their makeup.

13 Q. Was he a Monsanto employee?

14 A. Yes.

15 Q. If you will please go ahead now and turn to
16 April 28th, '69. There are more corporate minutes. And
17 they are on pages 85 and 86.

18 A. I have found it, yes.

19 Q.p As of April 28, 1966, you were still seeking
20 to expand the production of PCBs, that is, Monsanto?

21 MR. CARNEY: Your Honor, I'm going to object
22 here. This (inaudible) on relevance grounds. What we are
23 talking about here is a solid Aroclor in a solid form, not
24 in a fluid form. None of this material was sent to
25 (inaudible).

1 MR. KOTOSKE: (inaudible) PCBs, Your Honor.

2 It expreß sses the attitude of the (inaudible).

3 THE COURT: I'm going to allow it on that
4 basis. Overruled. Let's keep it limited.

5 Q. (By Mr. Kotoske) Now, despite what you know
6 and have learned about the persistence of PCB, the Swedish
7 scientists, the problems began to develop in the late
8 '60s, on April 28, 1969, you were seeking to expand PCB
9 production by expansion of the Anniston plant, were you
10 not?

11 p A. No, sir.

12 Q. What does that mean? And I'll read it.

13 THE COURT: What page are you on again?

14 MR. KOTOSKE: Oh, 86.

15 Q. (By Mr. Kotoske) Are you on page 86?

16 A. Yes, sir.

17 Q. "The president advised that he would
18 recommend to the board of directors for approval --
19 Organic Division Appropriation Request," and then its has
20 its number abbreviaþ ted "for \$1,100,000 for solid Aroclor
21 expansion-Anniston." What does that mean?

22 A. That refers to a project to expand the
23 facilities for making another line of products that had
24 the trademark Aroclor, but they were not PCBs. These are
25 different chemicals.

1 Q. The chemicals called Aroclors didn't have
2 PCBs in them?

3 A. Yes, sir.

4 Q. Turn to the corporate minutes on November 17,
5 1969, that appear on page 87.

6 A. I have it.

7 Q. Mr. Wheeler now discussed the environmental
8 aspects of PCBs, does he not?

9 A. That's reported here, yes, sir.

10 Q. And you now know for sure that "5 and 6
11 chlorinated biphenyls (Aroclor 1254 and 1260) have been
12 found at limited locations in water, in birds and some
13 forms of aquatic life. Recent indications are that at such
14 biphenyls may affect reproduction of fowl life and may be
15 toxic to shrimp." And he says, "These products are not
16 toxic from the acute standpoint to man or fish." Do you
17 see that?

18 A. I do.

19 Q. Do you know that to be true?

20 A. That's my understanding, yes, sir.

21 Q. Despite what you told us?

22 A. I'm sorry?

23 Q. Despite what you have told us yesterday and
24 today?

25 A. I don't know that I mentioned anything about

1 acute toxicity.

2 Q. The memo goes on on page 89 where the company
3 reached some conclusions. Do you see that at the bottom
4 of page 89?

5 A. I believe I do, yes.

6 Q. And the company concludes, "In light of the
7 recent and developing evidence of a possible threat to
8 certain species of birds, b aquatic life, we should plan to
9 discontinue the manufacture of Aroclors 1254 and 1260.
10 The division is instructed to develop a program to
11 discontinue these products" and report back. That was in
12 1969, was it not?

13 A. Yes, sir.

14 Q. But, nevertheless, you continued to
15 manufacture those things, did you not?

16 A. No.

17 Q. 1254?

18 A. Yes.

19 Q. 1242?

20 b 20 A. Yes.

21 Q. Why didn't you just stop the whole problem
22 right there? Why didn't Monsanto just stop it?

23 A. That would have been an irresponsible act on
24 Monsanto's part because these materials, we kept getting
25 assurance from our customers, were very critical in the

1 manufacture of electrical equipment, and we believe that
2 sincerely.

3 Q. You believe that the electrical equipment was
4 more important than the environment?

5 A. No, I didn't say that.

6 Q. I know you didn't say that, but isn't that
7 the conclusion you've drawn? Monsanto took the position
8 in 1969 you could have stopped the production of PCBs
9 altogether. You took the position that the electrical
10 industry, Westinghouse, General Electric, McGraw-Edison
11 and the rest of them, your customers who reaped profits
1p 2 for your coffers were more important than the environment
13 and human health?

14 A. That is not true.

15 Q. You continued to make PCBs even after 1969?

16 A. That is correct.

17 Q. Would you please turn to page 90. I wonder
18 if you've seen this letter before. I've discussed it with
19 Dr. Kelly. And we referred to it the other day, I
20 believe.

21 A. Have I seen this particular letter?

22 Q. Yes.

23 A. It was addressed to me, yes, sir.

24 Q. This letter is dated March 30, 1970. And
25 he's discussing a PCB product, and you knew it by the name

1 'Krumar,' did you not?

2 A. 'Krumar' was a -- Yes, that was the term used
3 to describe this particular mixture.

4 Q. It contained PCBs, did it not?

5 A. Yes.

6 Q. And you p painted -- people used it to paint
7 the inside of silos, did they not?

8 A. Yes.

9 Q. And it leached the PCB into the food that was
10 to be fed animals, in this particular case cows?

11 A. Yes.

12 Q. And the dairy milk became polluted with PCBs,
13 did it not?

14 A. Some of it.

15 Q. And the people drank the milk?

16 A. Some of it, yes.

17 Q. Andp people became polluted with PCBs, did
18 they not?

19 A. That I don't know. I don't have any evidence
20 to show me that.

21 Q. And Dr. Kelly was warning you in early 1970
22 that "We've got to tell the people or we are going to have
23 serious legal problems and publicity concerns," didn't he?

24 A. That's what he says.

25 Q. What did you do in response to that study

1 because now you're in charge of the environmental program
2 we discussed yesterday; isn't that right?

3 A. I don't know that I would use the word "in
4 charge."

5 Q. Well, (inaudible) but --

6 A. There were others who were heading it up. I
7 was helping them.

8 Q. What did you do?

9 A. In response to this letter?

10 Q. Yes.

11 A. I got in touch with Dr. Kelly and informed
12 him that he hadn't caught up with this yet. We had
13 already embarked on a program to phase out of that
14 particular application that he was talking about here.

15 Q. How long did that take (inaudible)?

16 A. Well, we finally -- we started this
17 particular activity in about December of '69, and we
18 totally stopped all sales to the paint applications in
19 August 30, 1970.

20 Q. Let's go to April 20, 1970, and we'll look at
21 some more corporate minutes on page 92.

22 A. I have it.

23 Q. The corporate minutes indicate, "Publicity
24 about PCBs has been limited to a few articles in
25 scientific publications and newspapers until Congressman

1 Ryan's press conference" -- Oh, my. Let me repeat that
2 again. "Publicity about PCBs has been limited to a few
3 articles in scientific publications and newspb apers until
4 Congressman Ryan's press conference, implicating Monsanto
5 and the products." What were the products that the
6 corporate officers were talking about?

7 A. The PCB products.

8 Q. And what did you -- Do you know what -- They
9 use the word "implicate" Monsanto. At this particular
10 point in time nobody in Congress knew to what extent you
11 had distributed and manufactured PCBs, had they?

12 A.p As of 1970, yes, many -- Did you say
13 Congress? I'm sorry.

14 Q. Congress did not know the scope of your
15 production. You hadn't given them sales figures, had you?

16 A. That is true.

17 Q. At this point in time they didn't even know
18 who all your customers were, did they?

19 A. That is true.

20 Q. And whereas Congress was trying to deal with
21 the scope of the PCB problem, they cap me to you and asked
22 you for a customer list, didn't they?

23 A. Congress never asked me for a customer list.

24 Q. You're quite correct. EPA. Tell me what
25 federal agency asked you for a customer list?

1 A. Representatives from the EPA did, yes, sir.

2 Q. And (inaudible)

3 MR. CARNEY: Your Honor, may we approach the
4 bench, please?

5 (A benchp conference was held.)

6 THE COURT: Why don't we go for about another
7 15 minutes, Mr. Kotoske? You may proceed.

8 Q. (By Mr. Kotoske) I want you to turn to page
9 94. By this time, Mr. Papageorge, Monsanto knew that
10 Congress was coming after Monsanto as a manufacturer of
11 PCBs?

12 MR. CARNEY: Your Honor, I object to that as
13 a foul mischaracterization of the record of what Congress
14 (inaup dible). I think he's mischaracterizing the record.

15 MR. KOTOSKE: I'll rephrase.

16 THE COURT: All right. Rephrase.

17 Q. (By Mr. Kotoske) Who was Congressman Ryan?

18 A. Congressman Ryan was the Congressman from
19 Manhattan, New York, who in 1969 -- Let me think -- '70
20 and '71 became interested in PCBs and attempted to enact
21 legislation regarding PCBs.

22 Q. He was a federal Congrep ssman?

23 A. Yes, sir.

24 Q. And he was trying to enact legislation to
25 totally ban the production, manufacturing of PCBs; isn't

1 that right?

2 A. He tried to do that at his second attempt.

3 Q. In fact, he submitted legislation to Congress
4 to make it a criminal act to even manufacture this stuff?

5 A. As I remember, that is correct.

6 Q. On page 94, have you seen this letter before?

7 A. I don't believe I've seen the letter, no,
8 sir.

9 Q. It's from NEMA, National Electrical
10 Manufacturers Association?

11 A. It is.

12 Q. And you were selected to be the chairman of
13 that committee we discussed yesterday to coordinate a
14 response to Congress' effort to control PCBs both in the
15 water, in the ground. Do you remember that?

16 Ap . First of all, I was not chairman of the NEMA
17 committee.

18 Q. I understand. It's ANSI?

19 A. It's the ANSI committee. And the committee
20 met to draw up a standard on the proper way to handle PCBs
21 which had no relationship to what Congress was or was not
22 thinking about PCBs.

23 Q. You wanted to have a coordinated position,
24 did you not?

25 A. Well, certainly for a common effort, for a

1 common good.

2 Q. And that included Monsanto, Westinghouse,
3 General Electric, McGraw-Edison, Saginaw Weston and all
4 the (inaudible) and transformer manufacturers, not all of
5 them, but most of them?

6 A. And the EPA, the Department of Defense,
7 Department of Interior, the TVA Authority and many other
8 groups, yes.

9 MR. KOTOSKE: Your Honor, this is a
10 convenient place, and I will pick up with Mr. Papageorge's
11 speech. If you'd like me to go into it now, I can.

12 THE COURT: Yes. Let's get into it.

13 Q. (By Mr. Kotoske) You gave a speech, if
14 you'll turn to page 100. Is that a speech you gave?

15 A. I didn't think of it as a speech. I
16 personally looked upon it as a status report on what I
17 knew of what Monsanto knew about PCBs and was sharing it
18 with this cp ommittee that we just talked about, the ANSI
19 committee.

20 Q. For the record, that committee has a number,
21 it's ANSI, A-N-S-I, right?

22 A. Correct.

23 Q. And it was number 107, I believe, wasn't it?

24 A. It was C-107.

25 Q. I stand corrected. You're absolutely right,

1 C-107. So when we talk about ANSI 107, that is the
2 committee that you chaired; is that true?

3 A. True.

4 Q. And that contained a membership of
5 Westinghouse, General Electric and so forth?

6 A. The group we described earlier, yes.

7 Q. These were the electrical equipment
8 manufacturing people in part?

9 A. In part, yes.

10 Q. All right. And this speech was given to the
11 ANSI committee; is that right?

12 A. Yes.

13 Q. All right. Before you gave these remarks,
14 did you think about what you were writing down here? Did
15 you intend to be careful and accurate?

16 A. As much as I could be, yes.

17 Q. Did you go back to the company records and
18 try to reconstruct as best you could what you knew about
19 PCBs at the time?

20 A. Yes.

21 Q. All right. You said on the first page, the
22 second paragraph, "We at Monsanto first heard of PCBs as a
23 potential environmental contaminant in early 1967 when we
24 received copies of a talk given in Sweden by Professors
25 Widmark and Jensen of the University Stockholm." Is that

1 statement correct?

2 A. It's correct in terms of copies of the talk.
3 It is incorrect in that we first heard of it in late '66
4 initially.

5 Q. You first were aware in 1966?

6 A. November p or so of '66. And then this copy of
7 a talk confirmed that initial report.

8 Q. Now, I'm going to go down to the last
9 paragraph on this page, and you say, "During this period
10 Monsanto mounted an extensive program aimed at acquiring
11 more knowledge about PCBs and their effects on the
12 environment. We provided our analytical methods, and we
13 started animal toxicity studies," and so forth. Those
14 animal toxicity studies werp e the IBT studies?

15 A. Yes.

16 Q. Page 2, "Our animal toxicity work was similar
17 to the type we would have undertaken if we had wished to
18 have FDA approval for food use." Is that what you told
19 the people?

20 A. Yes.

21 Q. These were the IBT studies?

22 A. Yes.

23 Q. Still on the same page. "To summarize what I
24 have said about Monsanto's sponsored animal toxicity p work,
25 a highly chlorinated, polychlorinated biphenyls at 100,"

1 you go on to describe that they are toxic to some animals;
2 is that right?

3 A. Well, I prefer that you read what I have.
4 "Does have some effect on animals."

5 Q. Were you relying on the IBT studies?

6 A. Yes, sir.

7 Q. Now, if the studies weren't published until
8 November 12, 1974, and this speech was given in September
9 of '74, how did you know about those IBT studies?

10 A. This particular talk was dated '71.

11 Q. Pardon me?

12 A. By September '71 I had information regarding
13 the results of the studies. It took from September to
14 November of that year for the typing to be completed and
15 the printing process to be completed and the copies to be
16 distributed.

17 Q. Let me understand what you're saying. You
18 knew prior to the time the actual studies were finally
19 concluded what the results of the studies were?

20 A. What the principal, overall results, yes,
21 sir. I was getting reports every six to eight months on
22 the progress of the study.

23 Q. Now, you told us about three people that went
24 down to IBT and actually looked at the raw data. One of
25 them was Mr. Wheeler. The other was, I believe, a

1 Dr. Hunt, and the third guy was Levinskas, all Monsanto
2 employees, right?

3 A. They were Monsanto employees. I didn't know
4 that I said they looked at raw data. They visited the
5 laboratory and discussed in a professional way whatever
6 toxicologists do.

7 Q. You told us yesterday that they reported on
8 the raw data to you, and you testified yesterday that they
9 told you that those studies would be conducted according
10 to protocol?

11 MR. CARNEY: I don't think he's exactly
12 summarizing, as I heard it, what the testimony was. I
13 think he's mischaracterizing.

14 THE COURT: I'll let the witness disagree if
15 he wants to disagree. It's overruled. You may answer,
16 sir.

17 A. I was kept informed that they were following
18 the protocol. I know nothing about raw data. That's two
p 19 different areas, as I see it.

20 Q. (By Mr. Kotoske) What kind of information
21 were you receiving on a periodic basis from IBT?

22 A. I was receiving nothing from IBT.

23 Q. Well, you just told us you were receiving
24 reports.

25 A. From Mr. Wheeler. He would give me a two- or

1 three-page summary about a paragraph or two on each of the
2 studies as to the findings to date.p

3 Q. And did Mr. Wheeler ever tell you what he
4 based his conclusions on? Did he say, "Bill, I went down
5 and looked at the raw data. It looks good to me. Here's
6 my summary of what I found"?

7 A. That's roughly what he did, yes, sir.

8 Q. Did Mr. Levinskas do the same thing? Did he
9 go down there, come back and say, "Hey, Bill, I've been
10 down to IBT. I looked at the raw data. This is according
11 p to protocol." Is that roughly what happened?

12 A. Mr. Levinskas, if he did that, would have
13 told Mr. Wheeler. Mr. Wheeler would have communicated to
14 me.

15 Q. How about Bill -- Is Mr. Hunt's first name
16 William?

17 A. William Hunt, yes, sir.

18 Q. Did he tell you, "Papageorge, I went down to
19 IBT. I looked at the raw data. It's according to
20 protocol"? Did he come back and tell youp that?

21 A. Not to me directly, no.

22 Q. He would have told that to --

23 A. Mr. Wheeler, his boss.

24 Q. Then told you?

25 A. Mr. Wheeler was my contact, yes.

1 Q. That's how it worked?

2 A. Yes.

3 MR. KOTOSKE: This is a convenient place,
4 Your Honor.

5 THE COURT: All right. We'll stop for ten
6 minutp es. We'll take a ten-minute break. Do not discuss
7 the case among yourselves or with others. Let's keep it
8 to ten minutes, please.

9 (A recess was taken.)

10 Q. (By Mr. Kotoske) We are on page 103 of
11 Exhibit 11, to your remarks to the ANSI committee.

12 A. I have it.

13 Q. And you told the committee, last paragraph on
14 that page, "There is a growing concern that we should be
15 conp sidering to a greater degree chronic effects of all
16 these materials rather than relying on old acute studies
17 that used to serve as a screening for many, many
18 chemicals." Have I read that correctly?

19 A. You did.

20 Q. When you refer to all these materials, were
21 you referring to PCBs?

22 A. Yes.

23 Q. And in this vein you were conducting the IBT
24 studies to get more current toxicity informp ation, were you
25 not?

1 A. Yes.

2 Q. Going on, page 6, that would be 105. You
3 told the committee, "We have questions raised, 'Is it in
4 my shower curtains at home? Is it in my draperies, in my
5 carpet?' The answer to those is 'Not very likely,' and I
6 use those words because we really don't know." At this
7 point in time you had no -- Monsanto had no knowledge of
8 how far and how wide the PCB problem was?

9 A. I wouldn't say we had no knowledge. We had
10 considerable knowledge. We lacked some detailed knowledge
11 on those sales that were made by distributors. That's the
12 only area where we didn't know what the final use would
13 be.

14 Q. Let me ask you the question point blank. You
15 did not know how toxic, you did not know the outer limits
16 of the toxicity of PCBs at this time?

17 p A. I need help with that word "toxic" because
18 the extreme can be death, as we all know, but the word
19 "toxic" is used in my understanding to describe any
20 unwanted effect by a material on a living creature.

21 Q. Thank you. You did not know how far and how
22 wide PCB pollution was? You did not know to what extent
23 it had contaminated the milk supply in 1971?

24 A. No one knew. That's true.

25 Q. You did not know how far the water systems

1 had been contaminated?

2 A. That is true.

3 Q. You did not know how far and wide the fish
4 stocks in this country were contaminated?

5 A. That is true.

6 Q. You did not know and you still do not know to
7 what extent the human population is contaminated?

8 A. That is true. No one knows.

9 Q. Would you agree with me p that to produce a
10 chemical like this without knowing these outer parameters
11 is reckless and done with conscious disregard for the
12 rights of the human citizens in this country?

13 A. No, I don't agree with you at all on that.

14 Q. Thank you. Page 111, second paragraph,
15 "Because of this incident, Congressman Ryan withdrew the
16 first bill that was submitted and now has placed before
17 the same committee a bill which p would totally ban PCB and
18 does not provide for any use whatsoever." By 1971 you
19 knew there was a Congressional effort to ban this stuff?

20 A. There was one Congressman's effort, yes.

21 Q. And you objected to what he was doing?

22 A. Certainly.

23 Q. It would have a tremendous impact on the
24 profitability of Monsanto and the sales from PCBs?

25 A. No. At that time the profitability was

1 inconsequential to Monsanto.

2 Q. How much was it?

3 A. I don't recall a number, sir, but it was not
4 a star, if I use that word, product for Monsanto.

5 Q. Why didn't Monsanto just quit (inaudible)?

6 A. Because there was no fire-resistant
7 alternative available to use in this electrical equipment,
8 and it would be irresponsible to put products out there
9 that would resup lt in explosions and fires. I don't
10 believe I would like to stay in a Holiday Inn with a
11 transformer outside my door that might explode and burn on
12 me. That's the kind of situation that existed.

13 Q. There are thousands of transformers out there
14 today with PCBs in them?

15 A. Yes, there are.

16 Q. There are thousands of capacitors out there
17 today with PCBs in them?

18 A. Yes, there are.p

19 Q. PCBs which you manufactured?

20 A. Right.

21 Q. Page 111, "We feel we have good technical
22 data to justify our staying in the business for limited
23 applications, but we cannot overlook the emotions that
24 have set in. And believe me, there are many and they are
25 deep." Continuing, "This is a real problem. In my

1 opinion it is a difficult problem." Is that what you told
2 p the committee?

3 A. Well, you've skipped several sentences.

4 Q. I understand that I did. Is there anything
5 else that you would like to read?

6 A. Let me read and see what -- because that last
7 statement may refer to what you didn't read.

8 Q. Go right ahead.

9 A. Now, I've forgotten your question.

10 Q. Did you make those statements to the
11 committee?

12 A.p Yes, I did.

13 Q. And then you tell the committee on page 113,
14 "A thought we must all keep in mind, too, is that we've
15 got to live with the PCBs we introduced into the
16 environment for the past 40 years. They have not
17 disappeared overnight. They will not disappear overnight.
18 We do not have any tests that tell us how long it will
19 take." Did you make that statement?

20 A. I did.

21 Q. Page 11p 4, you told the committee, "I will
22 attempt to summarize. I think we can conclude that PCBs
23 are in the environment. There is no question about it.
24 Many of these PCBs are man-made and were introduced into
25 the environment because of our lack of understanding of

1 what these materials can do to the environment. In this
2 country Monsanto as the sole producer has attempted to
3 improve the situation by limiting the applica~~p~~ tions of
4 these materials to which these materials are used." Why
5 didn't you just stop right there? Why didn't you stop
6 making PCBs if you didn't have the understanding? If
7 Monsanto didn't have the understanding, why didn't you
8 just stop?

9 A. Not having understanding, sir, of how a
10 chemical is going to behave in the environment doesn't
11 mean that that chemical cannot be used for its benefits as
12 long as it's~~sp~~ not allowed to get into the environment. And
13 this was the intent that Monsanto had in mind. Let's
14 benefit from the safety features, keep it out of the
15 environment so you don't introduce these unknown questions
16 as to what's happening in the environment.

17 Q. Page 115, "In my personal opinion the emotion
18 that is now prevailing regarding PCBs is something that we
19 must contend with. Whether we believe in it or not, there
20 p are many people that sincerely believe PCBs should be
21 totally banned." Did you make that statement?

22 A. I did.

23 Q. And Congress did, in fact, ban them by
24 (inaudible)?

25 A. Yes, many years later.

1 Q. Fine. (inaudible) October 17, 1976. When
2 this speech was made was September 14, 1971?

3 A. Sir, as I understand it, in '76 Congress gave
4 the EPA authority to consider regulating PCBs.

5 Q. Would you please turn to 116?

6 A. I have it.

7 Q. This is a letter?

8 A. It is.

9 Q. Dr. Levinskas, Monsanto Company?

10 A. He is the addressee, recipient.

11 Q. And he is being told on June 14, 1973 --

12 MR. CARNEY: Your Honor, may I object before
13 we get into this? Why don't you take a look at the
14 letter, if you would.. I think you might object to the
15 obvious.

16 THE COURT: Yeah, it depends on how you're
17 going to use it.

18 MR. KOTOSKE: Exactly.

19 THE COURT: Be careful of the contents. Do
20 you want to come over or not?

21 MR. CARNEY: All I'm saying is the obvious we
22 all see.

23 THE COURT: Stay away from that.

24 MR. CARNEY: And, in addition, the letter
25 isn't concerned with PCBs, at least the first two

1 paragraphs.

2 THE COURT: I'm going to let Mr. Kotoske
3 proceed, pursuant to my earlier ruling and trust that he
4 will steer the questioning the right way.

5 MR. KOTOSKE: I understand.

6 Q. (By Mr. Kotoske) Renate Kimbrough on October
7 14, 1971, was advising Monsanto of other toxic problems
8 associatedp with PCBs.

9 MR. CARNEY: Objection, Your Honor. That's
10 not true, and it's, I think, in violation of the order.

11 THE COURT: Come on over.

12 (A bench conference was held.)

13 (Ms. Pape replaced Ms. Carter.)
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(A discussion was had at the Bench.)

Q. Doctor, page 116 of the letter from
p Kim--Renate Kimbrough of October 14, 1971. Attached to this
letter are two studies showing toxical effects from exposure
to PCBs?

A. There are--I see what I think are reports from
three different studies.

Q. Correct.

MR. KOTOSKE: Three reports is correct, Your Honor.

Q. Three reports. The toxic effects on animals
from exposure to PCBs--you can answer that yes or no bep cause
we have a ruling.

THE COURT: Just answer yes or no.

A. This first article is strange to me. I have
to read it over. This is the first I've seen it. I--

Q. How about the other two articles?

A. The other two, the answer is yes.

Q. Now, at this time in 1971, did Monsanto have a
screening program for its workers involving cell tissue--take
a biopsy ofp the skin to see if there was any problems?

A. No, sir.

Q. Turn to page 123. I want you to look at pages
123, 129. Tell us what it is, when it's dated. Then I'm
gonna ask you some questions about it.

A. The pages you refer to are parts of a Monsanto

1 document entitled, A Standard Manufacturing Process for
2 Aroclors (Take-over distilled).

3 Q. Dated?

4 p A. And it's dated January, 1972.

5 Q. I want you to turn to the section on toxicity,
6 page 125. We're talking in this section of toxicity of PCBs,
7 are we not?

8 A. I am looking for it.

9 Q. Page 125, Section 3, Toxicity.

10 A. I find that section, but there is no reference
11 to PCBs there.

12 Q. Back to page 123. I'll just (inaudible).
13 Monsanto Industrial Chemical Company, Functional Products
14 Group. Standard Manufacturing Process for Aroclors. See
15 that?

16 A. That's what I just read earlier, yes.

17 Q. Turn to toxicity on page 125.

18 A. I have it .

19 Q. It says, "The following toxic rating codes
20 will be used in describing the toxicity of these chemicals."

21 A. I see--

22 THE COURT: The materials.

23 p MR. KOTOSKE: The materials, right.

24 A. I see that.

25 Q. A zero means none. One means slight. Three

1 means high. And a U means unknown; is that correct?

2 A. I see that, yes.

3 Q. And then it talks about biphenyl, does it not?

4 A. It does.

5 Q. Skip down to paragraph 6 where it says
6 toxic--toxic hazard rating.

7 b MR. CARNEY: Your Honor, I'm gonna object on
8 relevancy grounds (inaudible).

9 THE COURT: (Inaudible)

10 (A discussion was had at the Bench.)

11 THE COURT: You may proceed.

12 Q. 'Barphenyl'--biphenyl is a component of PCB?

13 A. I wouldn't call it a component, sir. It's a
14 material you start with to make PCBs.

15 Q. Now, toxic hazard rating for biphenyl--an b
16 acute local--it's got a U next to it?

17 A. That is correct.

18 Q. Is unknown?

19 A. That is right.

20 Q. Acute systemic ingestion and inhalation are
21 all marked three?

22 A. Yes.

23 Q. As high?

24 A. Yes.

25 Q. 'Cronic'--and I think that means

1 chronic--should be chronic?

2 A. I agree.

3 Q. Chronic local toxicity rating is unknown?

4 A. Correct.

5 Q. Let's go to page 126. It states, "Biphenyl

6 vapors are irritating to the upper respiratory tract.

7 Workers should not be exposed to vapor levels throughout

8 their shift in excess of the threshold limit values of one

9 milligram per cubic meter of air"--or about two--pardon

10 me--.2 parts per million. "The compound, or organic

p 11 solutions of the compound can absorb through the intact skin;
12 therefore, repeated skin contact should be avoided." True?

13 Is that what it says?

14 A. That's what it says for biphenyl, not PCBs
15 now.

16 Q. Turn to page 130.

17 A. I have it.

18 Q. This document is dated January 25, 1972. And

19 I'm interested in paragraph 3. What we're looking at is a

20 report to the January meeting of the board of directors of

21 the status of PCB implementation program. Is that the board

22 of directors of the company?

23 A. Yes, sir.

24 Q. Now, on paragraph 2, it says, and I want you

25 to read along with me. "All original equipment capacitor and

1 transformer"--

2 MR. CARNEY: Your Honor, I--Your Honor--never mind.

3 THE COURT: Start over.

4 p MR. KOTOSKE: All right.

5 Q. "All original equipment capacitor and
6 transformer customers for our PCB dielectric fluids were
7 notified on December 21, 1971, that further sales after
8 January 15th, 1972, would be dependent on receipt of
9 financially meaningful and acceptable hold harmless
10 agreements. To date, six companies have complied, which
11 represents 63 percent of the domestic dielectric sales:
12 General Electric, Westinghouse, McGraw-Edison, ITE
13 Imperial"--and so forth. Every one of those customers of
14 yours, including Westinghouse, had to sign a hold harmless
15 agreement, did they not?

16 A. They did.

17 Q. That agreement provided in substance that if
18 anybody sued Monsanto for exposure to PCB, Westinghouse, as a
19 signer of that agreement, would indemnify and hold harmless--

20 MR. CARNEY: Your Honor--

21 Q. --Monsanto?

22 MR. CARNEY: Your Honor, may we approach the Bench?

23 THE COURT: Sure.

24 (A discussion was had at the Bench.)

25 Q. Mr. Papageorge, I want you to turn to page 135

1 and 136, and I'm going to ask you to read for the jury what
2 that document is--just read everything on those two pages to
3 the jury.

4 THE COURT: Not--without (inaudible) the areas we
5 talked about.

6 THE WITNESS: I understand.

7 A. This is on Monsanto letterhead and it's
8 entitled, Special Undertaking by Purchasers of
9 Polychlorinated Biphenyls. "Monsanto Company (Monsanto)
10 manufactures certain polychlorinated biphenyl products (PCBs)
11 which," blank blank, "buyer, desires to purchase. While
12 buyer desires to purchase PCBs because of certain desirable
13 flame resistant and insulator properties, buyer acknowledges
14 that it is aware and has been advised by Monsanto that PCBs
15 tend to persist in the environment, that care is required in
16 their handling, possession, use and disposition, that
17 tolerance limits have been and are being established for PCBs
18 in various food products. Monsanto has, therefore, adopted
19 certain restrictive policies with respect to its further
20 p production, sale and delivery of PCBs, including the receipt
21 of undertakings from its customers as set forth below. And
22 buyer is willing to agree to such undertakings with respect
23 to sales and/or deliveries of PCBs by Monsanto to buyer.
24 Accordingly, buyer herein covenants and agrees that with
25 respect to any and all PCBs sold or delivered by or on behalf

1 of Monsanto to buyer on or after the date hereof and in
2 consideration of any such sale or delivery, buyer shall
3 defend, indemnify and hold harmless Monsanto, its present,
4 past and future directors, officers, employees and agents,
5 from and against any and all liabilities, claims, damages,
6 penalties, actions, suits, losses, costs and expenses arising
7 out of or in connection with the receipt, purchase,
8 possession, handling, use, sale or disposition of such PCBs
9 by, through or under buyer, whether alone or in combination
10 with other substances including, without implied limitation,
11 any contamination of or adverse effect on humans, marine and
12 wildlife, food, animal feed or the environment by reason of
13 such PCBs. All existing contracts for the sale of PCBs by
14 Monsanto to buyer are herein amended to contain the
15 provisions set forth above. Nothing herein shall create or
16 imply any duty or obligation of Monsanto to sell or deliver
17 any PCBs to buyer. No conditions, understandings or
18 agreements purporting to modify or vary the terms hereof
19 shall be binding unless hereafter made in writing,
20 specifically referring to this agreement and signed by the
21 party to be bound, and no modification or variance of the
22 above undertaking shall be affected by the acknowledgment or
23 acceptance of any sales document, purchase order, shipping
24 instruction or other forms containing terms or conditions at
25 variance herewith." And there are--there's a line with a

1 buyer designation and a Monsanto Company line, dates and
2 titles.

3 Q. Turn to page 143.

4 MR. KOTOSKE: You know, Your Honor, I'm going to a
5 whole different section.

6 THE COURT: How much longer are you going to be?
7 I'm not rushing you. Your total directp --the rest of your
8 direct?

9 MR. KOTOSKE: I'm gonna (inaudible).

10 THE COURT: All right. It's up to you. If it's 20
11 more minutes or so, then we can keep going. If it's gonna be
12 longer than that, we'll stop now.

13 MR. KOTOSKE: It's gonna be longer than that.

14 THE COURT: Would you like to take a lunch break
15 now and start back at 1 o'clock? We'll take a one-hour lunch
16 break.p Ask everyone to return at 1 p.m. Again, do not
17 discuss this case among yourselves or with others. See you
18 back here at 1 o'clock.

19 (A recess was taken, after which the
20 following proceedings were had.)

21 THE COURT: Proceed, please.

22 Q. I direct your attention to page 143 of Exhibit
23 11.

24 A. I have it.

25 Q. That's a memo op n which you were copied?

1 A. Yes.

2 Q. Dated March 22, 1972?

3 A. Yes.

4 Q. Subject is PCBs in Japan?

5 A. Yes.

6 Q. Written on a letterhead, Mitsubishi Monsanto
7 Chemical Company?

8 A. Yes.

9 Q. Is that located in Japan?

10 A. Yes.

11 Q. Memo says, "No electrical machinery and p
12 equipment which contain PCB must be manufactured as of
13 September 1, 1972; is that right?

14 A. That's what it says, yes.

15 Q. Japan was going to outlaw--ban PCBs,
16 September, '72.

17 A. Is that a question?

18 Q. Yes.

19 A. They were, yes.

20 Q. And as the author of the memo rightly points
21 out on page 145, quote, "The grand funeral of PCB is close at p
22 hand." Is that right?

23 A. That's true.

24 Q. Monsanto, however, continued to manufacture
25 PCBs?

1 A. Yes, sir, because of the difference in
2 electrical systems in the two countries.

3 Q. I want you to turn your attention to page 148.
4 This is a document you authored; is it not?

5 A. Yes, it is.

6 Q. Who is it directed to?

p 7 A. Dr. Martha Sager, Chairman of Effluent
8 Standards and Water Quality Information--

9 THE REPORTER: What?

10 A. Effluent Standards and Water Quality
11 Information Advisory Committee to the Environmental
12 Protection Agency.

13 Q. And it's dated?

14 A. The date is July 13, 1973.

15 Q. Did you sign the document?

16 A. Yes, I did.

17 p MR. CARNEY: Your Honor, I'm gonna object on
18 relevance grounds. We made the objection in chambers.

19 THE COURT: I'll sustain unless there's some
20 particular part of it that relates to what we're talking
21 about.

22 MR. KOTOSKE: Look at background in your first
23 sentence on the background. See that?

24 A. I do.

25 MR. KOTOSKE: No, I'm talking to the judge.

1 b THE COURT: Still don't see it. You want to go
2 over or--

3 MR. KOTOSKE: Yeah, let's (inaudible).

4 (A discussion was had at the Bench.)

5 Q. I'm gonna read some sections from this--what
6 would you call this? A report or a letter or a standard
7 report or what of the EPA?

8 A. Well, it's a letter to Dr. Sager in an attempt
9 to quickly summarize Monsanto's position regarding water
10 standards.

11 Q. I understand. I'm gonna read a couple things
12 here from this letter that you wrote, and I'm going to ask
13 you whether that's correct. On page 148. "Monsanto has been
14 a major manufacturer of chemical products since 1901." Is
15 that true?

16 A. That's true.

17 Q. You go on, "The chemical structure of PCB has
18 been known for nearly 100 years. It was not until the late
19 1920s that a use for PCB was found--as a dielectric fluid in
20 transformers and capacitors." Is that true?

21 A. That's true.

22 Q. "Monsanto began the commercial production of
23 PCBs in 1929." Is that true?

24 A. Not technically. The company purchased by
25 Monsanto started in 1929.

1 Q. Well, is the statement that you gave the EPA
2 true or not? (p Inaudible)?

3 A. Well, I don't either, sir. To me, Swann
4 Chemical and Monsanto are the same thing.

5 Q. Thank you. "Today"--page 150--"PCB
6 manufactured by Monsanto Company is sold to the electrical
7 industry where it is used in closed systems as a dielectric
8 fluid in transformers and capacitors." Is that true?

9 A. I have lost the page, sir.

10 Q. Top sentence, page 150.

11 p A. 150? That's true.

12 Q. Same page starting with recognizing.
13 "Recognizing the need for proper controls in the handling and
14 use of PCBs, representatives of the transformer and capacitor
15 industries, utilities and government agencies under the
16 initial auspices of the National Electrical Manufacturers
17 Association formed American National Standards Institute
18 Committee C-107." Is that true?

19 p A. That is true.

20 Q. That's the committee you were talking about?

21 A. Correct.

22 Q. That's the committee you chair?

23 A. Yes.

24 Q. Page 151. Quote: "On the basis of available
25 evidence, it would appear that PCBs pose less of an acute

1 toxic health hazard than many substances not proposed for
2 your list and at the levels found in the total environmentp
3 are not a threat to public health." That was your position
4 on July 13th, 1973, with the EPA?

5 A. That is true. That is true today.

6 Q. You go on, "It is our considered opinion
7 that"--

8 A. What page?

9 Q. 152.

10 A. I have it.

11 Q. "It is our considered opinion that in the
12 absence of critical basic scientific data, any attempt to
13 p establish a PCB standard for water effluents at point sources
14 would be premature at this time."

15 MR. CARNEY: Your Honor, I didn't know that was
16 gonna be read. I thought that was--

17 THE COURT: I agree. That's--that's beyond what we
18 talked about. I'm--I'll entertain a motion and it will be
19 stricken.

20 MR. KOTOSKE: You don't have to. I'll withdraw the
21 question.

22 THE COURT:p Withdrawn.

23 BY MR. KOTOSKE:

24 Q. Now, I want you to turn to page 154. 154 and
25 the pages thereafter that summarize this meeting that was

1 held. Please go to 172.

2 A. 172.

3 Q. I want to talk to you about this meeting.

4 Yeah, 172. Now, I can't expect you to read that whole
5 memorandum. Have you ever seen it before?

6 A. Certainly.

7 p Q. All right. Are you familiar with it?

8 A. Yes, sir.

9 Q. All right.

10 MR. CARNEY: Your Honor, I would object here. This
11 is on the subject matter we just talked about.

12 THE COURT: I make the same ruling, and stick to
13 the issues.

14 MR. KOTOSKE: I am. Thank you. There's a reason
15 for this memorandum. It hasn't--it doesn't have to do with
16 the (inaudiblep) and so forth.

17 BY MR. KOTOSKE:

18 Q. Where did this meeting occur on February 28,
19 1974?

20 A. Where?

21 Q. Where.

22 A. In St. Louis. Monsanto's office.

23 Q. It was held in your offices?

24 A. Yes.

25 Q. Now, the purpose of this meeting is stated on

1 the next page, 155.

2 A. That is correct.

3 b Q. "The purpose of the meeting"--reading from the
4 document--"was to share information, experiences and
5 impressions"--

6 MR. CARNEY: Your Honor, I'm gonna object.

7 Q. --"to help each of the participating
8 companies"--

9 MR. CARNEY: Your Honor, I'm gonna object here. I
10 think this is something that's covered by your ruling you
11 just made.

12 THE COURT: I'm gonna overrule the objection. I do
13 admit it uses some of the language therein. I'm gonna let
14 him do it with cross examination--you have the right to bring
15 out the fact that it's--there is some irrelevancy in the
16 general purpose, but he can ask the question. Go ahead.

17 Q. Let me start over. First of all, you are the
18 chairman (inaudible)?

19 A. Yes, sir.

20 Q. And the purpose of the meeting is statp ed.
21 "The purpose of the meeting was to share information,
22 experiences and impressions to help each of the participating
23 companies in taking appropriate actions which are mutually
24 supportive and effective in persuading the administration of
25 EPA to modify the proposed PCB Effluent Standard." That was

1 the idea of it all, right?

2 A. Yes.

3 Q. Now, I want--I want to know the participants.
4 Turn to the next page. Because they're listed here, are they
5 not?

6 A. They are.

7 Q. General Electric well-attended by three
8 persons; is that true?

9 A. Well, this is the anticipated list of
10 attendees. I--

11 Q. You don't deny that Westinghouse had
12 representatives there?

13 A. Yes, but I don't know if they are these
14 specific individuals listed.

15 Q. I don't care about that. I want to know if
16 there were representatives there from General Electric.

17 A. There were.

18 Q. From Westinghouse?

19 A. Yes.

20 Q. Monsanto?

21 A. Yes.

22 Q. You had scheduled to be there yourself.
23 Benignus?

24 A. Yes.

25 Q. And Mr. Paul Wright?

'E
p 1 ô

A. Yes.

Q. Manager, Toxicology?

A. Yes.

Q. You had--you had an agenda prepared for this
meeting, did you not?

A. Yes, sir.

Q. And one of the sections in that agenda was
toxicity--acute and chronic. We're talking about human
beings here, are we not?

A. No, everything. All known toxicity. Fish,
birds--whatever was known.

Q. Including humans?

A. Yes.

Q. Now, as one reads through this memorandum,
each participant--General Electric had certain tasks to
perform, Westinghouse had certain tasks that they were gonna
perform, and you were gonna have a coordinated effort with
respect to the electrical industry's presentation to the EPA
in connection with its efforts to regulate PCBs; is that
p true?

A. That is true, yes, sir.

Q. Now, I want you to bear with me for a minute.
I want to look at the section that Paul Wright was
(inaudible). Do you see, for example, on page 164--I want to
read the--at the bottom. You on page 164?

1 A. I am.

2 Q. "Mr. Wright (Monsanto) went through the
3 rationale used by EPA in arriving at a PCB discharge
4 p maximum"--and then it's stated. "He also showed how the
5 standard could be changed"--

6 MR. CARNEY: Your Honor, I think we're talking
7 about--

8 Q. --"and yet be"--

9 MR. CARNEY: Objection, Mr. Kotoske. Here we're
10 talking about clearly the area of effluents. And I think
11 your ruling--

12 MR. KOTOSKE: That's not what--

13 MR. CARNEY: That is what this case is about.

14p THE COURT: I know that. I'm gonna let--I'm gonna
15 overrule the objection. I stand by my earlier ruling about
16 that other issue.

17 MR. KOTOSKE: You know what I'm doing, Judge. I'm
18 not interested in how much PCBs in (inaudible).

19 THE COURT: You're allowed to continue as long as
20 you remember what my rulings are and how (inaudible).

21 Q. Back on page 146--and I'm gonna read it again
22 p because I was interrupted--"Mr. Wright of Monsanto went
23 through the rationale used by EPA in arriving at a PCB
24 discharge maximum. . . He also showed how the standard could
25 be changed and yet be consistent with published data on

1 PCBs." Were you present when he gave those remarks?

2 A. Yes.

3 Q. Now, I want to do one other thing. You
4 decided amongst yourselves at this meeting that youp were
5 gonna make a presentation to the EPA. I'm on page 172.

6 A. I have it.

7 Q. You were definitely gonna show up--somebody
8 from Monsanto was gonna appear; is that right?

9 A. Yes.

10 Q. Were you gonna do yours by way of affidavit or
11 what? I will tell you that your vice-president, Fitzgerald,
12 showed up to testify in this (inaudible). Were you gonna put
13 in some technical data?

14 A. I am confused by your statement--
15 Mr. Fitzgerald showing up at a water effluent standards
16 meeting.

17 Q. No, I'm talking about the data. How were you
18 gonna carry out the role that you were given?

19 A. For the effluent standards?

20 Q. Yes.

21 A. Personally be present and read from a prepared
22 outline.

23 Q. And then GE was given certainp tasks on page
24 172?

25 A. Yes.

1 Q. And they were gonna explain why PCBs are
2 used--the consequence of a ban and so forth?

3 A. Yes.

4 Q. What was Westinghouse's role?

5 A. Supportive of GE.

6 Q. Now, were GE, Westinghouse and Monsanto the
7 three major players in this effort to persuade EPA to change
8 standards of--to regulate PCBs?

9 A. I don't know how to describe--they were, of
10 course, the bigger companies represented, but there were
11 others there that were just as interested and just as active.

12 Q. All right. Now, turn to page 174. That's a
13 letter from Monsanto to the EPA enclosing your affidavit?

14 A. It is.

15 Q. And there appears your affidavit to the EPA
16 under oath; isn't that true?

17 p A. True.

18 Q. Let's move through a little foundation so
19 (inaudible). If you'll turn to page 189.

20 A. I have it.

21 Q. That's your signature?

22 A. Yes, it is.

23 Q. You signed this affidavit?

24 A. Yes.

25 Q. Under oath?

1 A. Yes.

2 Q. Penalty of perjury if it's--if there were
3 anything false?

4 A. That's my understanding.

5 Q. Sent it to EPA?

6 A. Yes.

7 Q. Concerns PCBs?

8 A. Yes.

9 Q. Attempts by EPA to regulate PCBs?

10 A. In waterways, yes.

11 Q. You state on page 175, "I am a member and have
12 served as chairman of a committee of the National Electrical
13 Manufacturers Association which has reviewed the
14 environmental effects of PCBs and has recommended procedures
15 to users of PCBs which should minimize the possibility of
16 entry of PCBs into the environment." Did you make that
17 statement?

18 A. Yes, sir.

19 Q. Next page. You state, "The proposed effluent
20 standards for PCBs are unwarranted and practically and
21 economically unattainable." Did you make that statement?

22 A. I did.

23 b Q. Did you believe when you signed this document
24 that PCBs should not be regulated?

25 A. Yes, I did.

1 Q. You stated, "The definition of PCBs in section
2 129.09a, Subpart I, should be changed to read"--and then you
3 suggest a definition of PCBs?

4 A. Yes.

5 Q. Don't you?

6 A. Yes, I did.

7 Q. And then you go on, "The pp roposed PCB effluent
8 standard is based on inadequate toxicity information, on
9 nontypical fish species and on an unusually high and
10 artificial bioaccumulation factor." Did you make that
11 statement?

12 A. Yes, I did.

13 Q. Where did you get that information from?

14 A. Got that from our own Monsanto scientists.

15 Q. Who?

16 A. Well, it depended on the type of informatiop n.
17 The toxicity information came out of Mr. Wheeler's office.

18 Q. Thank you. That's all I need to know. The
19 upshot of this affidavit was your objection--Monsanto's
20 objections to the regulation of PCBs in water?

21 A. It's the objection to an unreasonable level in
22 water.

23 Q. What did you think was a reasonable amount of
24 PCBs in water? (Inaudible.) Was there--strike that
25 questip on. Was it Monsanto's position at the time you sent

1 that affidavit to the EPA that there was a reasonable amount
2 of PCBs that people should tolerate in their drinking water?

3 A. We're not talking drinking water, sir.

4 Q. What kind of water are we talking about?

5 A. Water in the natural streams in the
6 environment.

7 Q. People, of course, don't drink that?

8 p A. Well, I mean I can't say that. Some people
9 do.

10 Q. How much did you think was reasonable for us
11 to have in our waterways?

12 A. In our waterways? We were convinced that ten
13 parts per billion in the waterways was something that the
14 environment could cope with and tolerate and would cause no
15 harm.

16 Q. You figured in your collective wisdom over
17 here at corporate headquartp ers that this country could stand
18 to have ten parts per billion in the water?

19 A. As the maximum.

20 Q. Okay.

21 A. Yes, sir.

22 (Ms. Pape was replaced by Ms. Olliges.)
23
24
25

1 Q. Would you turn to page 184? It says there
2 the cumulative sales of PCBs in the United States since
3 1930 has been estimated to be about 500,000 tons. Is that
4 true?

p 5 A. As best as I could determine, yes.

6 Q. And that the total world production was
7 probably one million tons?

8 A. That was the number used by all the
9 authorities at that time, yes, sir.

10 Q. Monsanto produced half of all the PCBs on
11 this planet?

12 A. I haven't made a comparison of the two. We
13 did make quite a few of them. I don't know if it was a
14 half or not.

15 p Q. Another statement you make, page (181),
16 "Although many reports have been published on the subject
17 of polychlorinated biphenyls and living organisms, the
18 majority of these describe the presence of PCB in the
19 environment. Presence should not be assumed to imply
20 adverse effect." What did you mean by that?

21 A. I meant that the mere fact that the
22 analytical chemist with his sophisticated instrument was
23 p able to detect the chemical in an environmental sample did
24 not necessarily mean that that PCB had caused any harm or
25 was going to cause any harm. It depended on too many

1 other conditions regarding what kind of place it was in
2 and what creatures were near it and so on.

3 Q. Please go forward in the exhibit to page 191.
4 This is a letter addressed to you from Westinghouse dated
5 February 3, 1975; is it not?

p 6 A. It is.

7 Q. Did you receive it?

8 A. Yes.

9 Q. And in this letter, Westinghouse is asking
10 Monsanto about the toxic effects of this chemical, PCBs,
11 and they attach to it a list of questions. Did you read
12 those questions?

13 A. Certainly.

14 Q. I'd like to read a few of them. First, the
15 cover letter says, "Attached you'll find the list of
16 questionsp that have been asked by our employees regarding
17 the use of Inerteen. Mr. Garry Wilburn, our Engineering
18 Manager, felt if these questions could be answered you
19 would be the man to answer them." Is that what it says?

20 A. It does.

21 Q. Let's look at the questions that the
22 Westinghouse employees are asking in 1975.

23 MR. CARNEY: Let me object. He
24 mischaracterizes. This is a plant in South Boston,
25 Virginia. He's implying it's Bloomington.

1 THE COURT: That's correct.
 2 MR. KOTOSKE: It's a Westinghouse --
 3 THE COURT: Do you accept that correction?
 4 MR. KOTOSKE: Of course I do.
 5 THE COURT: Let's proceed.

6 Q. We all know that. These Westinghouse
 7 employees are asking questions. What do they make at that
 8 Westinghouse plant in Virginia?

9 A. Transformers. Electrical transformers.

10 Q. Here's one of the questions. "Question -
 11 Does Inerteen have permanent effects on the human body?
 12 If so, what type of permanent damage and how long a period
 13 of time does it take for this to develop? If not, explain
 14 why, if possible." You think that was an important
 15 question to ask?

16 A. Certainly.

17 Q. Here's another question (inaudible). "Since
 18 Inerteen effects birds and other animals, if there is no
 19 real effect on human beings, how do you explain it to the
 20 employees in such a way that they will understand why you
 21 can kill a bird and not a human?" Did you think that
 22 question was important?

23 A. Yes.

24 Q. "If an employee spills Inerteen on his
 25 clothing and later takes the clothing home to be washed

'O
 p 1 with other clothes, will this have any effect on he or his
 2 family and should he carry his clothes home to be washed?"
 3 Did you think that was an important question?

4 A. Certainly.

5 Q. Let me read one more. "Employees carry
 6 Inerteen home on soles of their shoes and complain quite a
 7 bit about the effect Inerteen has on wearing out their
 8 shoes. Is this a serious problem? Will Inerteen in the
 9 soles and leather of shoes, over a long period of time,
 10 have an effect on the feet and skin since the shoe is the
 11 only protective equipment we wear on our feet and the
 12 Inerteen penetrates through the leather?" Do you think
 13 that was an important question?

14 A. Certainly.

15 Q. These are the kind of questions you should be
 16 addressing in your labels, your warning labels to workers
 17 who use this PCB; isn't it?

18 p A. No, sir.

19 Q. These are the kind of questions that
 20 employees at Westinghouse need information on to be
 21 adequately warned about the dangers of Inerteen; isn't
 22 that true?

23 A. The employees at Westinghouse, at least
 24 through their management, had been informed of what to do
 25 to avoid ever reaching these conditions. They should

1 never have experienced these if they followed what was
2 p 2 already on the label.

3 Q. But if we believe you, Mr. Papageorge, why do
4 you think these employees were asking questions?

5 MR. CARNEY: Well, I'm going to object. It
6 calls for this witness to speculate about somebody in
7 South Boston, Virginia.

8 THE COURT: I'll sustain that. Proceed.

9 Q. Well, Mr. Papageorge, on page 193, you
10 acknowledge that you have received a letter from
11 p 1 Westinghouse and that you're going to have the medical
12 department answer the questions; right?

13 A. I do.

14 Q. Is that your signature on that document, 193?

15 A. It is.

16 Q. (Inaudible) you wrote another memo before
17 these answers were sent down to Westinghouse; didn't you?
18 It appears on 194.

19 A. I see that, yes.

20 Q. Let me read that memo. Does it bear your
21 p 1 signature?

22 A. No. That was signed by my secretary.

23 Q. Did you dictate it?

24 A. Yes. Over the telephone.

25 Q. And you dictated it -- Who did you dictate it

1 to?

2 A. Mr. H. R. Ford, a Monsanto employee in
3 Atlanta, Georgia.

4 Q. And why did you dictate this memo to him?

5 A. He was the district manager, the person of
6 hip ghest position in that area who was near this plant, and
7 I was asking him to personally deliver the message since I
8 couldn't personally deliver it.

9 Q. There's a copy of this memo that's sent to E.
10 P. Wheeler. We know who that is.

11 A. Yes.

12 Q. Who's D. Wood?

13 A. David Wood at that time was the marketing
14 manager for PCBs.

15 Q. Now, the memo says, "Attached is the original
p 16 letter addressed to Mr. Dan A. Albert of Westinghouse,
17 South Boston, Virginia. The contents of this letter have
18 been reviewed with David Wood, and it was agreed that the
19 letter be delivered by you personally to South Boston,
20 giving you an opportunity to discuss with the Westinghouse
21 representatives the proper approach that must be taken in
22 presenting this information to avoid undue concerns and
23 misunderstandings. Will you plep ase deliver this letter as
24 soon as practical." You wanted this fellow to go over and
25 hand-deliver this?

1 A. Yes, sir.

2 Q. You didn't want to raise undue concern?

3 A. That is correct.

4 Q. What were you concerned about?

5 A. Well, I've been experienced enough with
6 working people who upon hearing some information regarding
7 health misunderstand, and they b get so concerned and
8 worried, and I don't believe it's responsible to cause
9 people to worry needlessly.

10 Q. Did you think --

11 A. It's just not responsible to cause them to
12 worry without making sure they understand what was said.
13 That's why I was concerned that the message was conveyed
14 in a very responsible kind of way, not to whitewash it, at
15 the same time not to leave the wrong impression.

16 Qp . Do you think it's irresponsible to tell the
17 people the truth?

18 A. Absolutely not.

19 Q. Even if they find it concerning and have
20 problems with the truth, you've got to tell them?

21 A. That is true.

22 Q. Even if it upsets them, you've got to tell
23 them the truth?

24 A. True. But don't mislead them to worry
25 needlessly.

1 Q. You were worried that the employees at that
2 plant when they found out what I'm about to read, the
3 answers to those questions, they would be upset; weren't
4 you?

5 A. No, I wasn't, because I assumed that they
6 already heard most of these.

7 Q. Then you don't have any concern?

8 A. That is true. That's good --

9 Q. But you just told Mr. Wood you were
10 concerned?

11 A. You can take any sentence in here and create
12 unnecessary misunderstandings. So one must be very
13 careful how it's described.

14 Q. The first question, "Does Inerteen have
15 permanent effects on the human body? If so, what type of
16 permanent damage and how long a period of time does it
17 take for this to develop? If not, explain why," et
18 cetera. And here's your answer. "The polychlorinated
19 biphenyls in Inerteen have permanent effects on the human
20 body."

21 A. Can have.

22 THE COURT: Can have.

23 Q. "Polychlorinated biphenyls in Inerteen can
24 have permanent effects on the human body."

25 A. Correct.

1 Q. "The length of time or period of exposure
2 necessary to develop symptoms depends on the degree or
3 amount of exposure."

4 A. True.

5 Q. The problems are --p I'm skipping down. No.
6 I'm going to read them all. "In general, a single
7 exposure for a few minutes to atmospheric concentrations
8 that cause irritation to the eyes and/or respiratory tract
9 would not be expected to cause either skin eruptions or
10 demonstrable liver injury. The problem arises from
11 repeated and prolonged exposure to atmospheric
12 concentrations in excess of the accepted Threshold Limit
13 Levels or repeated and prop longed skin intact."

14 MR. CARNEY: Skin contact.

15 Q. Reading on, "The potential toxic effects in
16 humans from excessive exposure to polychlorinated
17 biphenyls include injury to the liver and chloracne. In
18 animals, the liver effect is demonstrated by increased
19 liver weights and injury to cellular tissue. Although
20 chloracne is difficult to evaluate in animals, in humans,
21 this takes the form of comedones (large blackheads with
22 typical acute pustules) and may be an external symptom of
23 overexposure preceding serious liver injury."

24 You go on to say to question number three,
25 "Since Inerteen effects birds and other animals, if there

1 is no really effect to human beings, how do you explain it
2 to employees in such a way that they will understand why
3 it can kill a bird and not a human?" And you answered,
4 p "There is a potential real effect to humans - including
5 death - as discussed in the answer to Question 1."

6 To the question about carrying Inerteen home on
7 their shoes and so forth, you people wrote, Monsanto
8 wrote, "There should not be polychlorinated biphenyl on
9 the floor for workmen to contaminate their shoes to carry
10 home. The plasticizer or solvent action will destroy or
11 shorten the life of the shoes. More importantly, wear ring
12 of contaminated shoes could lead to absorption of the
13 liquid through the soles of the feet as through any other
14 unbroken skin surface."

15 I'm going to ask you something, Mr. Papageorge.
16 You were still making polychlorinated biphenyls and
17 selling them when you wrote that, when Monsanto answered
18 those employees' questions?

19 A. Yes.

20 Q. Did you ever change your warning label on
21 drums or tankers or trucks, however you people sold this
22 stuff, to include the information that I just read to you
23 in the form I just read it to you?

24 A. No, sir. 40 years of experience showed us
25 that what we had on the label was working beautifully. It

1 worked so well that we were quite --

2 Q. You've answered the question.

3 MR. CARNEY: Let him finish.

4 THE COURT: p Let him finish the sentence.

5 Then move on. Finish the sentence.

6 A. I've forgotten what I started to say. But,
7 nevertheless, the message that existed on those labels for
8 decades worked so well that for 40-plus years we did not
9 have any reports from anywhere that employees working with
10 PCB liquids were being harmed in a permanent way, even to
11 the ultimate of death, which you've indicated here. There
12 just was no evidence to say, "Your labels are not
13 adequate. You better change them." It was working. Why
14 bother with something that was working?

15 Q. Was medicine changing during that 40 years?
16 Did science change?

17 MR. CARNEY: With regard to PCBs?

18 MR. KOTOSKE: Absolutely.

19 A. There was no new evidence that would say the
20 label as worded was not doing the job and was not proper.

21 Q.p Turn to page 203.

22 A. Okay.

23 Q. Were you still using IBT as late as 1975?

24 A. Yes, sir.

25 Q. Carrying out laboratory studies?

1 A. Yes, sir.

2 Q. Was Mr. Calandra still president of that
3 company in April of 1975 as far as you know?

4 A. Yes, sir.

5 Q. And you were CC'd on this letter dated April
6 17th, 1975, appearing as page 203 of Exhibit 11. Did you
7 receive a copy of this letter?

8 A. I did.

9 Q. Did you read it?

10 A. Yes, sir.

11 Q. It says, "I fully appreciate that the meeting
12 on PCBs today was not completely satisfactory and that
13 many nagging questions remain." What was Mr. Calandra
14 talking about?

15 MR. CARNEY: Your Honor, I think he may have
16 to -- You want to approach the bench?

17 THE COURT: Just a moment.

18 (A bench conference was held.)

19 THE COURT: You may rephrase your question or
20 restate it.

21 Q. (Inaudible.) Let me start over again. Are
22 you on page 203?

23 A. Yes, I am.

24 Q. All right. Who is George Roush at Monsanto
25 Company?

1 A. He is the Monsanto medical director who
2p replaced Dr. Emmet Kelly.

3 Q. You are the William Papageorge on the
4 distribution?

5 A. I am.

6 Q. And you received your copy?

7 A. I did.

8 Q. On or about the day indicated? I don't mean
9 the next day, but in a reasonable amount of time?

10 A. Yes, sir.

11 Q. You didn't have any problem getting your mail
12 out at Monsanto?

13 A. Nop . Normally no.

14 Q. George Levinskas is this fellow we've been
15 talking about in this trial; isn't it?

16 A. His name has come up.

17 Q. And Mr. Wheeler, his name has come up?

18 A. Yes, sir.

19 Q. They also received copies of this letter
20 according to the distribution (inaudible)?

21 A. Yes.

22 Q. Now, I want you to turn to page 209, to a
23 letter dated July 1p 8th, 1975.

24 MR. KOTOSKE: Your Honor, could I offer these
25 in evidence independently? The whole exhibit is in --

1 THE COURT: We've been calling it Exhibit 11
2 I think.

3 MR. CARNEY: We went through this page by
4 page

5 THE COURT: That's right. You did.

6 MR. CARNEY: So I think it will be on the
7 record.

8 THE COURT: b The record (inaudible).

9 MR. KOTOSKE: Thanks. That will save me a
10 whole lot of time.

11 MR. CARNEY: I don't think it's all been
12 received is what I'm saying, so there's no
13 misunderstanding.

14 THE COURT: Why don't we tie it up later on?
15 We can go through it and then (inaudible).

16 Q. You're on page 209, sir?

17 A. I am.

18 Q. This letter is written b p y George Levinskas.
19 Is that his signature?

20 A. This is a poor reproduction, sir. I really
21 can't tell.

22 Q. He was employed as the Manager, Environmental
23 Assessment and Toxicology, on or about July 18th, 1975?

24 A. He was.

25 Q. At Monsanto?

1 A. Yes.

2 Q. All right. Now, I want you to look at this
3 letter dated August 4, 1975 from Mr. Cap landra to Monsanto,
4 specifically to George Levinskas, Manager of Environmental
5 Assessment and Toxicology.

6 A. Can you give me a page number, sir?

7 Q. (Inaudible) 212.

8 A. I have it.

9 Q. Did you ever see a copy of that letter?

10 A. I have seen a copy of this letter as it
11 related to a case.

12 Q. A case involving Monsanto?

13 A. Yes, sir.

14 p Q. All right. In which you testified?

15 A. I either testified or was deposed. I don't
16 recall which.

17 Q. The letter is familiar to you?

18 A. Yes.

19 Q. Now, I want you to turn to page 213. I'm
20 going to start a different subject matter here. If the
21 jury can bear with me, I've got about a half an hour.

22 THE COURT: Fine.

23 MR. KOTOSKE: Maybe 20 minutes.

24 THE COURT: Then we'll take a break.

25 Q. Along about October 17th, 1975, the EPA had

1 now been seeking information from Monsanto; is that
2 correct?

3 A. Yes. This is one of -- an example of that
4 kind of request.

5 Q. They sent a list of questions to you to
6 answer; did they not?

7 A. They did.

8 Q. And those questions are contained onp pages 15
9 through -- 215 through 219; is that right?

10 A. That is correct.

11 Q. One of the questions that the EPA asked you
12 is No. 10, and here's what EPA asked you to provide them
13 with. A description --

14 THE COURT: Is that on page 218?

15 MR. KOTOSKE: Yes.

16 MR. CARNEY: Your Honor, can I record an
17 objection as to the relevancy of that? If you want to a
18 p take a look and read it (inaudible).

19 THE COURT: Well, as long as you stay away
20 from the effluents question (inaudible). I'll let you ask
21 the question as long as you stick to that area. Proceed.
22 Overruled.

23 Q. Question No. 10, "A description of any
24 adverse health or environmental effects which you know or
25 believe to have resulted from the introduction of PCB

1 compounds or mixtures ip nto the environment. Indicate any
2 specific occasions, including, dates, times, locations,
3 amounts, parties involved," and so forth. And you were
4 asked to answer that question?

5 A. I was.

6 Q. Now, turn to page 220.

7 A. I have it.

8 Q. This is Monsanto memo written by this David
9 Wood?

10 A. Yes, it is.

11 Q. And he, as I understand, is in marketing?

12 p A. Yes, sir.

13 Q. And it's his comments on these questions that
14 we're going to read; is that right?

15 A. They appear to be. Yes, they are. Uh-huh.

16 Q. And he says with respect to Question No. 10
17 on page 221, he states --

18 MR. CARNEY: Are you talking about Question
19 No. 10?

20 MR. KOTOSKE: That's right.

21 MR. CARNEY: I see it on page 220. Right?p

22 THE COURT: The answer is.

23 MR. CARNEY: You said 221.

24 MR. KOTOSKE: I'm looking at page 221 for the
25 answer to Question No. 10.

1 MR. CARNEY: Okay. Yeah.

2 THE COURT: Okay. Go ahead.

3 Q. And the answer by Mr. Wood to this particular
4 question about adverse health effects is -- We shouldn't
5 be saying none. He writes "none" p to the question.
6 "Yusho" with a question mark. "Chloracne years ago -
7 Dangerous question." Is that what Mr. Wood wrote?

8 A. He wrote that, but you described it as an
9 answer. These are Mr. Wood's reactions to the question.

10 Q. He thought that that question was a very
11 dangerous question?

12 A. He apparently did; otherwise, he wouldn't
13 have written it that way.

14 Q. Did you receive thp is back from Mr. Wood?

15 A. Yes, I did.

16 Q. When you received his response, which was
17 apparently a choice between none, Yusho, chloracne years
18 ago, or dangerous question, how did you choose to answer
19 that question to the EPA?

20 A. First, I don't interpret this as a choice.
21 The way I read it, Mr. Wood is saying are there any? In
22 other words, none? Is Yusho an environmental kind of
23 exposure? p And the chloracne that we experienced years
24 ago, does it fit the question which says due to
25 environmental? And he says "Dangerous question?" And

1 only he knows what led him to use the word "dangerous".

2 Q. Let me ask you something. Why in the world
3 does Monsanto have a guy from marketing even answer these
4 type of questions?

5 A. Well, sir, he's not answering. He's trying
6 to be helpful to me. He volunteered the sheet and sent it
7 to me.

8 Q. I don't mean to be flip, but why in the world
9 didn't you use the medical department to answer that kind
10 of question?

11 A. Well, I did.

12 Q. Let's see what they say. Their answer is on
13 page 241, Question No. 10. Of course, you're trying to be
14 helpful to the EPA, give them all the information that you
15 have available; isn't that right, Mr. Papageorge?

16 A. That was the intent, yes, sir.

17 Q. And here's what you tell them in answer to
18 Question No. 10. Quote, "Monsanto Company is not aware of
19 any health or environmental effects resulting from the
20 introduction of PCB compounds or mixtures into the
21 environment which has not been reported in the scientific
22 and popular press and already known to the representatives
23 of the EPA." That was your answer?

24 A. That is right, yes, sir.

25 Q. Did you authorize that answer?

1 A. Yes, sir. That's a truthful answer.

2 Q. Mr. Papageorge, would you turn to page 246 in
3 the exhibit?

4 A. (Inaudible.)

5 Q. I had mentioned to you earlier in your
6 testimony, in my examination of you, about Vice-President
7 Fitzgerald making a comment to the EPA at the hearings
8 early in '76?

9 A. You did mention it, yes.

10 Q. This is what I was talking about.

11 A. All right.

12 Q. This particular speech on 246 and 247. Were
13 you present when he gave his remarks?

14 A. I was.

15 Q. Is this a true and accurate copy of the
16 speech he said he used, his testimony put into the record?

17 A. It is.

18 Q. And he told EPA p at that time, quote, "Let me
19 emphasize that we have no desire to remain in the PCB
20 manufacturing business any longer than is necessary." Did
21 you believe that statement to be true in May of --

22 A. Yes.

23 Q. Where were these alternative dielectric
24 fluids? In what state of development?

25 A. There were -- As best Monsanto could

1 determine, there were some liquids under test at that
p 2 time, but as yet none had been proven satisfactory.
3 Q. Now, Mr. Papageorge, Congress banned PCBs by

4 name in the statute on October 16, '76, but the phasing
5 regulations prepared by EPA give different deadlines so
6 that you could stop making PCBs in '77; right? When did
7 you stop making PCBs?

8 MR. CARNEY: I'm going to object. He's
9 misled the jury to thinking Congress banned the PCBs, he's
10 done it p several times, in '76. It was done in '79, and I
11 think he's just deliberately trying to confuse the jury
12 with that kind of question.

13 MR. KOTOSKE: We don't have to --

14 THE COURT: Sustain.

15 MR. KOTOSKE: We'll bring the statute in and
16 I'll let everybody --

17 MR. CARNEY: I'd like to do that because I
18 think it's important for the jury to know.

19 THE COURT: Fp ine. We'll do that. I'll
20 sustain as to form of question. You may rephrase.

21 Q. Why did you raise the price of PCB in 1976?

22 A. The cost of producing the PCBs for the small
23 market that existed was increasing. We still had all that
24 equipment and all the costs that go into making chemicals
25 that were constant, but the volume had dropped so that the

'a ô

1 cost per pound to manufacture had gone up, and Monsanto
2 had to raise the price to meet that increased cost.

3 Q. Why did you ask all your customers who had
4 PCB manuals to destroy them in September of '77?

5 A. I'm not aware of that.

6 Q. Turn to page 249. Is this a Monsanto letter?

7 A. It is.

8 Q. Dated September 22, 1977?

9 A. It is.

10 Q. Signed by J. A. A-l-l-e-y, Industrial
11 Specialist in Dielectrics?

12 A. Yes, sir.

13 Q. Does it say, "I suggest that you destroy all
14 copies in your files and offices so we don't inadvertently
15 supply obsolete information to the industry"? And he's
16 talking about Monsanto bulletins for inspection and
17 maintenance of transformer askarel?

18 A. He is referring to that, but I don't recall
19 which year of publication that is. I don't know if it's
20 an obsolete one or the latest one.

21 Q. Finally, I'm going to show you one document
22 in Exhibit No. 12. We're through with Plaintiff's 11.
23 This exhibit has to do with Mr. Paul Wright who worked at
24 IBT, and you heard his testimony, the testimony of Mr.
25 Phil Smith. Mr. Paul Wright was given a cash award; was

'b ô

1 he not?

2 A. I think you're referring to the incentive
3 award from Monsanto.

4 Q. p I think that's what you call it.

5 A. I was made aware of that lately, yes, sir.

6 Q. Turn to page -- the last page in that
7 exhibit, page 522.

8 A. I have it.

9 Q. Do you recognize that sort of document?

10 A. I recognize the form, yes.

11 Q. Is that the form used for cash incentive
12 awards?

13 A. Yes, sir.

14 Q. Do you recognize Levinskas as you get t down
15 there next to the date July 16th, 1976?

16 A. I do.

17 Q. Did you sign the document?

18 A. He did.

19 Q. How about you? Did you sign it?

20 A. No, sir. I had nothing to do with this.

21 Q. This is a cash award to Paul Wright. I'd
22 like to read to the jury what Monsanto gave him this award
23 for. I'll read from the document. "His excellent
24 analysis and synthp esis and widely-scattered observations
25 played a prominent role in forestalling EPA's promulgation

'c ô

1 of unrealistic regulations to limit discharges of
2 polychlorinated biphenyls, EPA's proposed regulations that
3 precluded the use of these materials by Monsanto's
4 customers." So Monsanto gave him a cash award?

5 A. I still haven't found the line, sir.

6 Q. I can help you. In the middle of the page.

7 p MR. CARNEY: I'll agree that he read the
8 words correctly, at least part of the words.

9 Q. Do you see where it starts "Particularly
10 noteworthy"?

11 A. Yes. I found it.

12 Q. Let me read it again so (inaudible).

13 MR. CARNEY: Your Honor, I stipulated that he
14 read the words correctly the first time.

15 THE COURT: It's been read.

16 MR. KOTOSKE: p I have no further questions.

17 THE COURT: All right.

18 MR. KOTOSKE: I do.

19 Q. How much money did Monsanto pay Paul Wright
20 for his efforts in PCBs?

21 A. Sir, I don't know anything about this other
22 than I saw this document fairly recently.

23 Q. You don't know how much money?

24 A. No, I don't.

25 MR. KOTOSKE: No further questions.

'd ô

1 THE COURT: Let's take a ten-minute break,
2 folks. Again, do not discuss the case among yourselves or
3 with others.

4 (Brief recess.)

5 THE COURT: Mr. Carney, you may proceed.
6 (Ms. Olliges was replaced by Ms. Carter.)
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1 THE COURT: Mr. Carney, you may proceed.

2 Q.p (By Mr. Carney) You didn't think I was ever
3 going to get the chance to ask you questions,

4 Mr. Papageorge. Now it's my turn. You know who I am?

5 A. Certainly.

6 Q. I was going to call you in my case, but
7 Mr. Kotoske has called you in plaintiff's case. So I'm
8 going to go through the questions that I would have asked
9 you in my case, and I can just save time rather than just
10 recalling you, if that's okay?

11 A. Yes.

12 Q. And rather than trying to be repetitious, I
13 went over last night and tried eliminating any questions
14 Mr. Kotoske covered. I'm not sure if he asked you where
15 your residence was?

16 A. Well, I live in West County in St. Louis at
17 321 Pebble Valley Drive. 63141 is the zip code.

18 Q. How long have you lived in the St. Louis
19 area?

20 A. I'm a native that leftp three times for about
21 four years each. So the rest of the time I've been in the
22 St. Louis area.

23 Q. And how old a man are you, sir?

24 A. Sixty-nine.

25 Q. Are you married?

'f ô

1 A. Yes.

2 Q. Children?

3 A. Yes.

4 Q. Could you briefly give me your background,
5 where you grew up and what school you went to?

6 A. Certainl y. I grew up in St. Louis, what I
7 call the Near South Side, the area around Lafayette Park,
8 the Old City Hospital, Barr branch. I went to Seigel
9 School on Allen Avenue, actually, it was nine years. The
10 first year of high was held there because of overcrowding
11 at the McKinley High School, which was the next block over
12 on Russell Boulevard. That's my -- those are my early
13 years.

14 Q. Graduated from McKinley High?

15 A. Yes, sir.

16 Q. I think it was covered you went to Washington
17 University here in St. Louis?

18 A. Yes.

19 Q. Did you supplement -- Did you work your way
20 through to get through school?

21 A. Oh, I had to, yes, sir.

22 Q. Then you -- Were you in the military?

23 A. Yes, I was.

24 Q. What branch?

25 A. In the Army.

'g p ô

1 Q. And what ranks did you hold? What did you
2 start out as, and what did you end up as?

3 A. Started as a private and was discharged as a
4 captain.

5 Q. And you were -- What years were you in the
6 Army?

7 A. Let me think back. It was 1943 through '4 --
8 most of '46.

9 Q. Were you in the war, World War II?

10 A. The Pacific theater, yes, sir.

11 p Q. And just briefly what were your duties.
12 Don't go into detail.

13 A. Well, my duties changed with the way the war
14 was progressing. I started out in anti-aircraft and then
15 got into infantry, and then during the occupation of Japan
16 I was in the Corps of Engineers.

17 Q. And you're a chemical engineer. That's your
18 degree?

19 A. Yes.

20 Q. Just very briefly could you tell the jury
21 2p 1 what a chemical engineer does, what it is?

22 A. I will try. Chemical engineering involves
23 the use of, knowledge of mathematics, knowledge of
24 chemistry, knowledge of physical properties of things like
25 flowing of fluids or movement of gases and the like. And
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1 you put all this knowledge together to design the
2 necessary equipment, the pots and pans, if you will, of
3 making certain chemicals safely, of ab good quality and as
4 economically as you can.

5 Q. Are you a registered professional engineer in
6 the state of Missouri?

7 A. I am.

8 Q. How long have you had that registration?

9 A. Oh, since about 1963, if I remember
10 correctly.

11 Q. And I believe you indicated when you retired
12 from Monsanto, I believe that was '86?

13 A. Yes.

14 Q. When did yop u start with Monsanto? I'm not
15 sure that date was mentioned.

16 A. November 1951.

17 Q. And I think -- and I just want to briefly --
18 You covered a lot of your jobs when Mr. Kotoske was asking
19 questions. So I don't want to repeat that, but your very
20 first job was at the Queeny plant?

21 A. Yes.

22 Q. And what was your -- Were you in charge?
23 Were you a supervisor of anybody in that very fip rst job
24 from 1951 to 1953?

25 A. No. I worked as a lone engineer designing
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1 equipment.

2 Q. Were you working in the plant or were you in
3 an air conditioned office?

4 A. I was in an office, air conditioned office,
5 as you put it, yes.

6 Q. And the Queeny plant didn't manufacture PCBs,
7 did it?

8 A. That is correct.

9 Q. Did you havep anything to do with PCBs that
10 first two years, 1951 to 1953?

11 A. Absolutely nothing.

12 Q. And you didn't know anything about PCBs
13 during that two-year period?

14 A. That is correct.

15 Q. But you learned about these later?

16 A. Correct.

17 Q. Now, you had a couple jobs, and then I think
18 in 1956, '57 you were supervisor of maintenance at the
19 Queeny plant?

20 p A. I was.

21 Q. And you had a small group that you were
22 responsible for?

23 A. Yes.

24 Q. And then from '57 to '59 you had a work force
25 of about 400 people?

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1 A. Yes.

2 Q. And you were superintendent of the
3 maintenance department?

4 A. Correct.

5 Q. Now, I believe Mr. Kotoske asked you when you
6 were supervising g these 400 maintenance people if you saw
7 any written warnings to employees in the maintenance area,
8 any written warnings? Do you recall your answer to that?

9 A. I believe I do.

10 Q. Did you recall any written warnings?

11 A. I recall written sheets which described what
12 chemicals they might be exposed to and what kind of harm
13 might be expected under certain conditions of mishandling
14 or misuse.

15 p Q. Did you rely on those written documents when
16 you were in charge of the maintenance people to get across
17 how to safely handle PCBs in the work place?

18 A. I relied on them, of course, but I sort of
19 looked upon them as something to back up what the
20 employees heard at the safety meeting. I believe the
21 spoken word carries a better message than the written word
22 that's over on some desk somewhere.

23 Q. p And did you have regular safety meetings at
24 the Queeny plant during that time?

25 A. Certainly, every month a meeting.

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1 Q. And what -- Do you recall what was said in
2 these safety meetings with regard to the PCBs?

3 A. We covered the usual, the need to be careful.
4 Don't breathe too much. Don't get it on your skin. When
5 you get a chance, change your clothes. Don't panic.
6 There is no need to rush over right away, but when time
7 permits, go over there, change your clothes. Take a
8 shower if necessary or at least wash off the area that's
9 got the oil on it. We also emphasized to help control
10 PCBs to look for those two what I call early warning
11 symptoms. If any of you get red skin on your hands
12 because you didn't wear the right kind of gloves, go to
13 the dispensary, report to it to the medical doctor. If
14 you have a bad chest cold, don't assume it's just a chest
15 cold. Find out from the doctor. It may be related to you
16 breathing too many fumes. So once we controlled those
17 two, then we were comfortable that nothing more serious
18 would happen by working with PCBs.

19 Q. Did you see while you worked at the Queeny
20 plant, were there any employees that got chloracne because
21 of PCBs?

22 A. At the Queeny plant, no, sir, no.

23 Q. Did anybody get any type of liver effects or
24 liver damage that you saw at the Queeny plant because of
25 PCB exposure?

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1 MR. KOTOSKE: Judge, excuse me for not
2 standing. He is not a medical man. He can't diagnose
3 whether somebody's got chloracne. I'm sorry I didn't
4 object earlier. That I would like to object to have
5 (inaudible) medical documents.

6 THE COp URT: Well, I don't know if he can
7 (inaudible). When you say "saw," what do you mean by
8 "saw"?

9 Q. (By Mr. Carney) Well, did anybody to your
10 knowledge get chloracne at the Queeny plant from PCBs?

11 MR. KOTOSKE: See, that's the objection. He
12 can't diagnose, and he doesn't know, and he doesn't
13 have -- He's already told me he doesn't have that
14 expertise.

15 THE COURT: I agree there, buþ t I'm trying to
16 figure out from what source you're talking about.

17 Q. (By Mr. Carney) Let me ask. Have you seen
18 chloracne?

19 A. I have seen chloracne, yes, sir.

20 Q. And where did you see it?

21 A. When I was assigned to the Sauget, Illinois,
22 plant one of the departments that was my responsibility
23 making wood-treating chemicals had an accidental release
24 years before I arrived. The ep mployees at that time were
25 exposed to this wood-treating chemical.

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1 Q. Was this PCB?

2 A. No, no.

3 Q. Another?

4 A. Another chemical altogether, but,
5 nonetheless, because of that exposure they developed
6 chloracne. When I arrived there were 12 of those
7 individuals still under the medical program. And every so
8 often they would be given a pass to leave the plant and go
9 to the doctor to get treatment. And I was very much
10 involved because they would come by the office, and I
11 would sign the pass, and they would go to the doctor for
12 treatment.

13 Q. And you saw their chloracne?

14 A. Yes, I did.

15 Q. And what did it look like? Can you
16 describe --

17 A. To me it looked like, I'm going to use terms
18 that are probably not medical, blackheads on their cheek
19 bones, their hairline behind the ears, and some of them
20 even had it in their throat and the forehead, the hairline
21 of the forehead. And there were others that had not only
22 blackheads, but they had raised portions on their skin,
23 what I call whiteheads. That's what I saw, and that --
24 the medical doctor at the plant told me that was an
25 outward symptom of chloracne.

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1 Q. Did you ever p see any of the maintenance
2 people that worked for you at the Queeny plant that worked
3 with PCBs come down with chloracne?

4 A. I did not see anything like that.

5 Q. Did you ever hear of anybody at the Queeny
6 plant getting chloracne from PCBs?

7 A. I never heard that.

8 Q. Did you ever hear of anybody getting liver
9 effects at the Queeny plant from PCBs?

10 A. I did not.

11 p Q. Or liver damage?

12 A. I did not.

13 Q. Did you ever see among your maintenance
14 people that worked with PCBs at the Queeny plant -- I
15 believe all 400 didn't work with PCBs, but I think it was
16 60 or 70 or whatever it was you said?

17 A. That's close.

18 Q. Did you ever see them get the red skin, which
19 is the first symptom that they might have some exposure to
20 PCBs?

21 p A. I never saw that.

22 Q. Did you ever see -- Did you ever have any of
23 your maintenance people get the stuff on their throat like
24 a chest cold that they thought might be related to
25 breathing PCB fumes?

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1 A. I did not.
 2 Q. You next went to this plant called three
 3 things, the East St. Louis plant, it's called the
 4 Krummrich plant, and it's called the Sauget plant. What
 5p do you like to call it?
 6 A. Well, I think I'm using the word Sauget,
 7 Illinois, plant.
 8 Q. We'll use Sauget. In other words, it's right
 9 next to East St. Louis?
 10 A. Correct.
 11 Q. And they made PCBs at that plant?
 12 A. Yes, they did.
 13 Q. Now, you were involved as a superintendent at
 14 that plant of about one-sixth of the manufacturing area of
 15 that plant?
 16 A. Roughly that, yes.
 17 Q. Now, did your section of the plant that you
 18 supervised in the Sauget or East St. Louis plant, did that
 19 involve a PCB section where they made PCBs?
 20 A. No.
 21 Q. Well, while you worked there, I think you
 22 worked there from 1964 through 1965?
 23 A. Yes.
 24 Q. About two years, was it?
 25 A. Roughly, yes.

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 b 1 Q. Did any of the employees that worked with
 2 PCBs at the Sauget plant get chloracne to your knowledge?
 3 A. To my knowledge -- No, not to my knowledge.
 4 Q. Did any of the PCB workers in the Sauget
 5 plant near East St. Louis have liver damage at any time?
 6 A. Not that I know of.
 7 Q. Let me ask this because Mr. Kotoske asked you
 8 several times why Monsanto didn't put chloracne or liver
 b 9 disease on the labels that you could get those two
 10 problems by exposure to PCB. Did you, Bill Papageorge,
 11 know of any cases of chloracne in an American capacitor
 12 plant? Have you ever heard of it?
 13 A. I never heard of it or saw it, no.
 14 Q. Did you know of any cases of liver disease in
 15 an American capacitor plant, whether it was General
 16 Electric, whether it was Westinghouse, whether it was
 17 Bloomington, did you ever hear of any liver damage in any
 18 American capacitor plant because of PCB?
 19 A. I did not.
 20 Q. And that's true up to today?
 21 A. To this day, yes.
 22 Q. And have you heard it today? Have you
 23 heard -- Well, I'll leave that for the doctors who are
 24 going to testify as (inaudible). I won't have you get
 25 into that. Could you briefly describe your duties? I

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1 p think you told the jury that for five years from 1965
2 until toward the end of '69 you were plant manager in
3 Anniston, Alabama?

4 A. I was, yes.

5 Q. You just described that's where they made
6 PCBs?

7 A. Yes.

8 Q. In fact, that's the plant that Monsanto
9 bought that was owned by Swann Chemical, and Monsanto
10 bought the plant in 1935?

11 A. Yes.

12 Q. Sp tarted making PCBs from that time until
13 1977?

14 A. That is correct.

15 Q. Could you just describe your duties when you
16 were plant manager of the Anniston, Alabama, plant?

17 A. I suppose the best, simple statement I could
18 make is I guess I was responsible for everything that
19 happened there from the hiring of the worker, the training
20 of the worker, the getting the necessary equipment and
21 using thp at equipment to make chemicals at the proper
22 costs, that the cost didn't get out of hand, and to do all
23 of this safely. Don't hurt anybody. Package it properly
24 so it can withstand the trip to the customer. Be a good
25 neighbor in terms of don't send out obnoxious fumes into

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1 the neighborhood. Watch the water discharge so it doesn't
2 pollute the local sewage treatment plant. Participate in
3 the local communities like the United Way and the local
4 music club and the Boy Scouts and Girl Scouts and the
5 YMCA. These are just examples of the kind of
6 participation, not only with donation of money, but with
7 allowing the workers at the plant to take time off from
8 work to go help these organizations. It even went down to
9 instructing the truck drivers on how to behave on the
10 highways and roads of the cities so they did not create
11 problems and a bad reputation for Monsanto.

12 Q. Was this good-neighbor policy that you
13 described, was this the policy that Monsanto followed at
14 all of its plants?

15 A. Oh, yes, yes.

16 Q. It's true at the St. Louis plants as well?

17 A. Yes.

18 Q. What other products were manufactured at the
19 Anniston plant other than we already know about PCBs?
20 There were other products, weren't there, that were
21 manufactured there? Could you just give a few examples?

22 A. I'll try. Of course, we made muriatic acid.
23 We made an insecticide that's used in cotton fields called
24 parathion and its cousin chemical we called 'niran.' We
25 made potassium phosphorous -- I'm sorry -- phosphorous

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1 pentasulfide which was a chemical used to make other
2 materials. We made the biphenyl that we sold as biphenyl
3 to other chemical companies. We made other products that
4 started with biphenyl, like hydrogenated biphenyl. I
5 don't want to get too complicated, but there's a whole
6 family of chemicals that come from biphenyl. And, of
7 course, we made the chlorinated terphenyls which were also
8 called Aroclors.

9 Q. And they are not PCBs?

10 A. They are not PCBs.

11 Q. Let me ask you this because you just hit upon
12 something I'm going to ask you later on, but I'll ask it
13 right now. Mr. Kotoske I think during his examination
14 today was asking you about the toxic properties of I think
15 it was biphenyls, wasn't it?

16 A. Yes.

17 Q. Do you recall that?

18 A. Yes.

19 Q. And that's a raw material for PCB?

20 A. That's what we called it, yes.

21 Q. Now, can you have, say, two raw materials
22 that are toxic, for example, very toxic, and they make
23 something that either is less toxic or maybe not very
24 toxic at all? Is that something that happens?

25 A. Well, that happens fairly often.

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1 Q. Can you give me any examples, give the jury
2 an example?

3 A. I'll try. I don't know how many of the jury
4 recognize an acid like muriatic acid or battery acid.
5 Muriatic acid is one that's used to clean brickwork after
6 bricklayers are finished putting the wall up.

7 Q. It's toxic?

8 A. Oh, yes, definitely. And if you couple that
9 with lye that many of us are familiar with, that's pretty
10 corrosive, that's pretty toxic. You combine muriatic acid
11 and lye in the right mixture so you don't have too much of
12 one or the other, you end up with salt water. Sodium from
13 the lye combined with the chlorine from the acid makes
14 sodium chloride, which is salt water. That final product,
15 as we all know, is innocuous. It doesn't hurt anything,
16 but the two starting materials must be carefully handled.

17 Q. Let's get back to the Anniston plant for a
18 minute. Did you have written information that was
19 available to the workers at Anniston that made PCBs about
20 how to handle PCBs?

21 A. Yes, we did.

22 Q. Can you describe what that information was?

23 A. Well, it's a -- it's a sheet of paper in
24 which the information is typed, of course, and is
25 available for the worker to read. In addition to that,

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1 they had copies of the pamphlet put out by the American
2 Industrial Hygiene Association describing how much PCBs is
3 permissible in the air that the worker breathes throughout
4 the eight-hour shift. That kind of document was
5 available. That pretty well covers it.

6 Q. And did you rely on this written material as
7 the only source of information to the employee about how
8 to handle PCBs at the Anniston, Alabama, plant?

9 A. No. I personally didn't rely on that written
10 material as the only source. I relied on that written
11 material as sort of backup information. The better way to
12 communicate to the worker is to tell them facep -to-face
13 what to look out for, and what the material can do to you,
14 and what's the best way to protect yourself, what kinds of
15 equipment are available, where do you get this equipment
16 and where do you keep it so it's handy, under what
17 conditions do you use it. That is the most effective way,
18 and this is reviewed at the safety meetings.

19 Q. How often are these safety meetings held or
20 how often were they held in the '6p 0s while you were at
21 Anniston?

22 A. Safety meetings are held once a month, but
23 the subject changes each time so that the exposure to
24 chemicals might be covered every third meeting or so.

25 Q. What about a new employee, if he came and

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1 didn't have a safety meeting, say, for two months, how was
2 he to know how to handle PCBs safely?

3 A. Before a new employee is sent to work in the
4p plant, he has one or more meetings, and it depends how
5 many are hired at a time, but generally it's a few at a
6 time. And they meet with the safety supervisor of the
7 plant. They meet with the medical doctor. They meet with
8 their future foreman and supervisor to discuss many
9 things, amongst which is the safety and health aspects.

10 Q. And what was told to the Anniston, Alabama,
11 workers that worked with PCBs?

12 p A. Don't get it on your skin and leave it on
13 there too long. There is really no need to panic, you
14 know, drop everything and run to the wash room. But first
15 chance you get, wash it off. Same thing goes with your
16 clothes. If they are badly drenched, certainly, go get
17 another pair of trousers or what have you. If not, you
18 can wait till the end of the shift, and there won't be any
19 harm. If there are some fumes that you must work in, use
20 your judgment as to whether you can turn off the source of
21 the fumes quickly or whether you should go get your
22 respirator which has been assigned to you, by the way.
23 It's not -- Everybody doesn't use it. Get your
24 respirator, put it on and go out there and do what it
25 takes to stop the fumes. So the whole program is really

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1 based on training that employee and relying on his
2 judgment, rather than have the boss breathing down his
3 back all the time because, keep in mind, there is 21
4 shifts to the week, and the boss is only there about 5.

5 Q. By "the boss," you mean the foreman?

6 A. The foreman is the immediate boss. So the
7 other 17 -- My arithmetic's wrong -- the other 16 shifts
8 we have to rely on each worker taking care of himself.

9 Q. And you described the protective equipment
10 that was available to the workers at Anniston, and I won't
11 cover that again. But let me ask you this, did the PCB
12 workers wear these rubber coats and the respirators and
13 the rubber gloves going up their arms at all times?

14 A. Oh, no. Only when in their judgment the
15 conditions called for it.

16 Q. What was their normal uniform? What did the
17 PCB workers wear on a daily basis?

18 A. A normal uniform was a two-piece, gray khaki
19 shirt and trousers. They had safety shoes issued to them
20 and a hard hat. That would be during milder weather.
21 During colder weather they would also have a jacket and
22 maybe even a wool knit cap to wear underneath the hard
23 hat, and they wore gloves, generally a plastic-lined
24 canvas glove, unless they were involved in a situation
25 that a lot of PCBs would get on those gloves. Then they

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1 would put it on the neoprene gloves.

2 Q. Let me ask you this while I'm thinking about
3 it, did you ever -- did you walk through the plant,
4 particularly in the area where the PCBs were made or did
5 you stay in your air conditioning office? I don't even
6 know if it was air conditioned, but (inaudible).

7 A. I made a point to walk through the plant at
8 least once a day whenever I was in town. If I was
9 traveling, of course, I couldn't do it.

10 Q. And you were in town most of the time at the
11 plant?

12 A. Yes.

13 Q. And did you ever get PCBs on you as you were
14 working or as you were walking through the plant or going
15 through the PCB area?

16 A. Many times, yes.

17 Q. Can you describe it?

18 A. Of course, it varied.

19 Q. You weren't drenched from head to toe, I take
20 it?

2p 1 A. Oh, no, no. I never found myself in that
22 situation, but let me describe, when I first arrived, the
23 conditions were a little different than when I left in
24 terms of the degree of cleanliness that was expected.

25 When I first arrived, I found that the handrails were

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1 gummy. The steps -- and up the steps were -- they had
2 PCBs on them, and my shoes would stick on them. In fact,
3 at the bottom of eachp stairwell they had a little sand box
4 to pick up some sand so they wouldn't slip as they go up
5 the steps. There were some fumes coming out of the pots,
6 the reactors because the workers were not covering that
7 opening. So as I'd walk through, yes, I would get spots
8 of oil on my shoulders or down my pants leg. Then I'd
9 pick up material on my shoes. I remember many times going
10 to the car in the parking lot and finding a piece of stick
p 11 or a twig and cleaning out the material from the front of
12 my heels. I remember that. So there were at that time
13 opportunities to pick up the PCBs.

14 Q. Did you get it on your hands when you touched
15 the rails that were gummy?

16 A. Yes, I did get it on my hands. I would get
17 it on the door knobs. Of course, unless I ate something,
18 that wasn't often, I had to wash my hands before I picked
19 up any food op r even sometimes a piece of paper and pencil
20 because the work would get dirty from the PCB.

21 Q. If you got it on your hands would you
22 immediately run to the wash room?

23 A. No, not immediately, but when I got back to
24 the office, I'd wash up.

25 Q. Did Monsanto ever manufacture -- I'm

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1 switching subjects completely. I thought I had a question
2 to follow up. I can't remember what it p was. So I'm going
3 to switch the subject for a minute. Did Monsanto ever
4 manufacture or sell trichlorethylene?

5 A. No.

6 Q. Or trichloroethane?

7 A. No.

8 Q. And then you were given the job, and I think
9 you've discussed that at some length in the last day or
10 so, of manager-environmental control. In that job, and
11 you had that from 1970 to '76, was your only job with
12 regard p to PCBs?

13 A. Initially, yes. But as the program
14 developed, I was given other products to be responsible
15 for. So my work load did change.

16 Q. Say from the period 1973 to '76 how much of
17 your time was spent on PCBs as opposed to other issues
18 unrelated to PCBs?

19 A. I would estimate about half of my time was on
20 PCBs, in that period of time.

21 Q. And before that it would be more?

22 p A. It was 100 percent before.

23 Q. Generally, and I'm not sure you were given
24 the opportunity to do this, can you just describe what
25 your job duties were?

1 A. When?

2 Q. In 1970 when this position was created that
3 you assumed.

4 A. I was expected to know as much as I could
5 about PCB and the environmental issue and to communicate
6 that information to anybody that had any interest in it
7 within Monsanto, within the university community, within
8 the government agencies, foreign producers, environmental
9 groups, anybody that had a question about PCBs. I tried
10 to serve at least as a starting mark. And if I felt I can
11 answer the question properly, I would do so. If not, I
12 would make it a point to get the real expert to answer the
13 question.

14 Q. You described the safe handling procedures
15 that you told the workers about at the Queeny plant and at
16 the Anniston, Alabama, plant. How did you learn about
17 those safe handling procedures?

18 A. Primarily my principal source was the plant
19 doctor and his files at both of those plants.

20 Q. I remember now the question I couldn't think
21 of a minute ago. You described the conditions of the
22 Anniston plant at the time you started, 1965, and that they
23 weren't as good as you thought they should be. Would that
24 be fair to say?

25 A. They weren't good enough for me. That's

1 true.

2 Q. And did the -- Did you institute some changes
3 to improve conditions?

4 A. I did, yes.

5 Q. Just generally describe what you did.

6 A. I'll try.

7 Q. And the reason for it, if you can.

8 A.p I'll try. I don't know if I'll make myself
9 (inaudible). As I see it, there are about four reasons to
10 push for good housekeeping. One, of course, is to avoid
11 exposing workers to hazardous materials, and that was
12 being done at the Anniston plant in spite of the sticky
13 handrails and the sand box at the bottom of the
14 footsteps -- of the stairways. Another reason for good
15 housekeeping is to avoid the slippery steps, for example,
16 p the kinds of situations that result in falls and broken
17 ankles and the like and lacerations and other kinds of
18 injuries. That's still kind of safety related. There is
19 a third one that became more and more prominent as time
20 went on when I was there. This is the one having to do
21 with the environment. A dirty plant sort of dirties its
22 neighborhood. So good housekeeping helps environmental
23 contamination. And the fourth one, and p this, I guess, one
24 could laugh at me for, but I have a strong belief that
25 people like to work in a clean place. It seems to show up

1 in the way they keep their records, their enthusiasm on
2 the job, the way their tools are kept clean and safe.
3 I've even seen it in the way they appear. They just comb
4 their hair better, and they dress cleaner. It sort of
5 feeds on itself. So finally I was gratified that -- I

6 b forgot what year it was, 1968 I think it was, Monsanto
7 gave the Anniston plant an outstanding award for
8 housekeeping. And at this point the employees came in and
9 asked could they bring their families by. And I was ready
10 for the answer. I expected it. And the answer was
11 "Certainly." So we had the families, and they brought
12 their children in. The place was clean enough that they,
13 themselves, were proud enough to show it, which prp ior to
14 that they just would not have even thought of it. Does
15 that help any?

16 Q. Yes. Back in the late 1930's were the people
17 at Monsanto, including yourself -- Well, strike that. You
18 weren't there in that period?

19 A. Not quite.

20 Q. You were probably in grade school or
21 something?

22 A. Right.

23 Q. But you did look into when you took the job
24 in 1970, youp studied the history of Monsanto's association
25 with PCBs and any problems that might have been caused by

1 PCBs during the period from 1935 until 1970?

2 A. Yes, I did.

3 Q. And in that review was Monsanto aware that if
4 you breathed the fumes, and this is back in the 1930's,
5 from heated PCBs for an extended period you could develop
6 some situations where your liver would be affected?

7 A. Yes.

8 Q. And I mention the word heated PCBs. If you
9 had a vat of PCBs sitting right here in front of the jury,
10 between us, would that be of concern, the fumes, if they
11 were at room temperature?

12 A. No.

13 Q. Why not?

14 A. They do not give off fumes at room
15 temperature the way, say, gasoline would. They are just
16 not that type of liquid.

17 Q. So you've got to heat the PCBs to generate
18 fumes that would cause any type of problems whatsoever?

19 A. Certainly.

20 Q. As far as you know, based on your years
21 you've spent at Monsanto dealing with PCB matters, what
22 human health effects or health problems can be caused by
23 exposure to PCBs?

24 A. Well, they can run from stinging of the
25 eyes -- When it gets in the eyes, it does sting. No

1 quesp tion about it. It can cause reddening of the skin
2 that I believe I described as like similar to chapped
3 hands. It can cause this severe chest pain that I
4 described similar to a chest cold, a coughing and
5 irritation.

6 Q. Let me stop you right here because I want to
7 clarify something. There have been some words used, and
8 I'm not sure that they have been explained. Maybe I'm
9 being over-simplified in this, but are thop se what you
10 would call acute symptoms from PCB exposure?

11 A. Yes. That would fit the definition for acute
12 exposures, yes.

13 Q. What does the word "acute" mean?

14 A. That means a very short-term exposure at a
15 level enough to cause the effect that you're seeing for a
16 very short time, like a snapshot from a camera kind of
17 thing.

18 Q. And that's pretty immediate, those effects?
19 p I mean they wouldn't show up ten years later or two months
20 later?

21 A. Oh, no.

22 MR. KOTOSKE: We are in a position now where
23 the man doesn't have the qualification to answer that
24 question.

25 MR. CARNEY: I think, Your Honor, he does.

1 MR. KOTOSKE: Please.

2 THE COURT: Your objection is qualifications?

3 MR. KOTOSKE: Yes. He can't speak for
4 (inaudible) periods and (inaudible) diseases. He is not
5 qualified to do that.

6 THE COURT: Well, he's a chemical engineer.

7 MR. KOTOSKE: Well, that doesn't give him
8 medical qualifications to diagnose and articulate the
9 medical effects and the health hazards from exposure to
10 chemicals. I concede he's a chemical engineer, and he
11 might design a very good chemical piece of equipment, but
1p 2 the human body is something that this man doesn't know
13 anything about.

14 THE COURT: I'm going to sustain to form the
15 question, Mr. Carney. Rephrase.

16 MR. CARNEY: Maybe we'll -- You know, I think
17 this witness is qualified to talk about acute versus
18 chronic, something very basic, but we'll have medical
19 doctors who will describe it, and I'm perfectly willing to
20 wait.

21 THE COURT: That's fine.

22 MR. CARNEY: I just thought I'd clarify it
23 for jury.

24 MR. KOTOSKE: Don't misunderstand me, Judge.
25 He can give symptoms. He can talk about chest pain,

1 redness of the skin.

2 THE COURT: He can describe what he's seen.

3 MR. KOTOSKE: That's right. Don't
4 misunderstand me.

5 THE COURT: It's up to you, Mr. Carney.

6 b MR. CARNEY: I'll wait on it. We have other
7 witnesses, and they are going to cover that.

8 Q. (By Mr. Carney) Let me ask you this. I
9 interrupted your answer. Based on all of your knowledge
10 and study of PCBs over the years, I'd like to ask you what
11 are the human health effects, health problems that can be
12 caused by exposure to PCBs? And you started out and you
13 gave me those three. Will you finish your answer?

14 MR. KOTOSKE: Well, I have the same
15 objection. Enough is (inaudible) What he sees, I have no
16 objection to.

17 THE COURT: It's based on this information.
18 He is not making a medical diagnosis. It's based on his
19 learning, as to what he's learned, et cetera. So I'm
20 going to overrule the objection. You may answer.

21 A. In addition to those that I described,
22 further exposure beyond the sore chest and the red skin
23 could lead to the chloracne we talked about earlier and,
24 again, still further exposure could lead to damages to the
25 liver, to the point where the liver is affected.

1 Q. (By Mr. Carney) Any other health problems
2 that can be caused by exposure to PCBs?

3 A. I can't think of any more.

4 Q. Now, there's been some testimony and some
5 evidence about if you'd drink cups of PCB material or
6 something, it can cause death. Has there ever been any
7 situation you're aware of where somebody has died from
8 exposure to PCBs?

9 A. I have not heard or seen or witnessed any
10 such death.

11 Q. Why did you say -- or I don't know if it was
12 you or somebody from Monsanto. Maybe it was somebody from
13 Westinghouse -- that if you ultimately -- the extreme is
14 the PCBs could cause death?

15 A. I say that because my medical advisors at the
16 plants knowing how the liver can be affected and its
17 ability to repair itself told me that if it goes too far,
18 the liver, in essence, gives up. And without a liver, you
19 have death.

20 Q. Is that something unique to PCBs as an
21 industrial chemical that it can cause death?

22 A. That's not unique to PCBs. The liver damage?

23 Q. Yes.

24 A. Many chemicals cause that.

25 Q. There are other industrial chemicals that if

1 you get too much of them can cause death?

2 A. Certainly.

3 Q. Are there other chemicals that we know of
4 every day that can cause death if you get too much of
5 them?

6 A. Certainly.

7 Q. Can you give me an example?

8 A. Well, let me try to think of something we
9 all --

10 MR. KOTOSKE: Well, judge, you know, let's
11 not drift too far, and I think we are.

12 MR. CARNEY: Well, I think he's making the
13 point that if you drink a gallon --

14 MR. KOTOSKE: Let's not argue in front of the
15 jury. There's a time for that.

16 THE COURT: (inaudible) arguing. I'm going
17 to overrule the objection, but remember what we're here
18 p about as far as this witness is concerned.

19 MR. CARNEY: I know (inaudible).

20 A. I guess gasoline and the motor oil and the
21 gasoline in our cars are examples of materials that can
22 cause death if misused. The liquid bleach in our homes
23 and the drain cleaner that clears up our stopped-up drains
24 could cause death if misused. (inaudible) just come to
25 mind a common, every-day kinds of things that we use and

1 yet they are hazardous if misused.

2 Q. (By Mr. Carney) Now, you started to mention
3 something else. I'm not sure this has been clearly
4 mentioned in this case yet (inaudible). Are there other
5 industrial chemicals that cause chloracne?

6 A. Yes, sir.

7 Q. You mentioned -- I goes you did mention
8 earlier the wood preservative. Can you give me some other
9 examples of chemicals thatp are industrial chemicals that
10 cause chloracne?

11 A. Well, I suppose I could rattle off a group of
12 chemicals, but I think I could shorten it by saying that
13 most of the family of chemicals that are referred to by
14 the chemist as chlorinated hydrocarbons, that's carbon and
15 hydrogen with a chlorine, that combination leads to many
16 chemicals that can cause this chloracne symptom.

17 Q. And those chemicals also cause lp iver damage?

18 A. Yes.

19 MR. KOTOSKE: I'll stipulate that they will.

20 MR. CARNEY: Good.

21 THE COURT: Do you?

22 MR. CARNEY: Good.

23 Q. (By Mr. Carney) Are there other industrial
24 chemicals that can cause skin irritation, redness of the
25 skin that we heard some plaintiffs talk about?

1 A. Certainly. There's many of those, of course.

2 Q. Just give a couple of examples.

3 A. Paint thinners, anything that blends well
4 with the fats and oils that will extract the fat out of
5 the skin will redden the skin. That's paint thinners, the
6 dry cleaner fluid, triethylene, perchloroethylene. These
7 kinds of things will extract oils and will cause
8 reddening.

9 Q. I want to briefly cover this topic, and I
10 want to get into it a little more today. You've mentioned
11 what you told Monsanto workers about safe handling or
12 precautions with PCBs. Did Monsanto give any information
13 to its customers about safe handling of PCBs?

14 A. Yes, they did.

15 Q. Can you describe the types of information?
16 We've already had some mention of the labels, but can you
17 describe some of the other information that was given to
18 Monsanto's customers about that subject?

19 A. The other information includes primarily
20 booklets and brochures that describe the product and its
21 properties and its uses. There are sections in those
22 brochures that highlight the safe handling required for
23 that particular material.

24 Q. Was there also correspondence between
25 customers such as Westinghouse back and forth, questions?

1 A. Very much of that, where individualsp from our
2 customers' plants would inquire directly to Monsanto with
3 sometimes a general question and sometimes a very
4 specific. And the medical department would respond to
5 those either by a return telephone call or a letter,
6 sometimes a visit, whatever was appropriate.

7 Q. Now, when you were plant manager at Anniston,
8 did you have any of your PCB workers that came down with
9 chloracne?

10 A. No.

11 p Q. Any liver damage --

12 A. No.

13 Q. -- because of exposure to PCBs?

14 A. No, sir.

15 Q. Did you have any problems with dermatitis or
16 a reddening or a rash of the skin with a PCB worker while
17 you were plant manager at the Anniston, Alabama, plant?

18 A. I recall one case, the individual who,
19 incidentally, was a 30-year employee and a chief operator.

20 THp E REPORTER: And a what?

21 A. And a chief operator just didn't put on his
22 gloves when he was filling a tank car and taking a sample
23 of the material, and he didn't do that for several evening
24 shifts in a row.

25 Q. (By Mr. Carney) He didn't wear gloves for

1 several evenings?

2 A. That's right. He finally noticed his hands
3 getting red, and he reported it to the doctor. And, of
4 p course, the doctor told him how to treat it and then told
5 him to wear his gloves, as he should be. So the doctor
6 then in his daily stop by my office told me about it. And
7 I made it a point to wait for that evening shift to meet
8 the employee, and I saw his hands. They were red and had
9 broken hair lines with evidence of past bleeding by that
10 time. He was treating. And he sheepishly admitted that
11 he should have known better.

12 p MR. KOTOSKE: Objection. Let's strike the
13 whole thing as hearsay.

14 MR. CARNEY: I think it goes to the knowledge
15 of Monsanto employees.

16 MR. KOTOSKE: (inaudible).

17 THE COURT: I'll allow the answer.
18 Overruled. You may finish your answer.

19 A. He sheepishly admitted to me that he should
20 have known better. He was wearing his gloves.

21 Q. (By Mr. p Carney) Did he miss any work?

22 A. No.

23 Q. Did that problem ever occur again?

24 A. No.

25 Q. Did you ever in any of the five years you

1 were Anniston plant manager ever see any other injury of
2 any kind related to PCB exposure?

3 A. I didn't.

4 Q. Whether it was skin rash or any kind of
5 injury?

6 A. I did not.

7 Q. Is there a difference that you observed
8 between the skin rash that you saw of a PCB worker and the
9 chloracne that you observed that you described earlier?

10 A. Yeah, to me there was a definite difference.

11 Q. Can you describe to the jury the difference
12 between a skin rash from a PCB worker that you saw and
13 chloracne?

14 MR. KOTOSKE: Judge, same objection. I hope
15 this is not going to be construed as any kind of medical
16 diagnosis with any medical overtones.

17 THE COURT: You're not representing that, are
18 you?

19 MR. CARNEY: No. He's seen both, and I just
20 want him to describe what he saw.

21 THE COURT: He can describe what he saw.

22 A. The skin rash definitely was a reddening of
23 the skin. I don't know quite what to compare it with. It
24 was an angry looking kind of red skin; whereas, the
25 chloracne, I didn't see any redness. I just saw the

1 imperfect texture of the skin. It was rough, along with
2 the blackheads.

3 Q. (By Mr. Carney) Let's go back. I'd like to
4 give the jury a little bit of background about Monsanto's
5 history. And I'm going to be very, very brief about it.
6 I think there's been some mention, Monsanto was founded in
7 1901?

8 A. Yp es.

9 Q. What was it -- What was the company's first
10 product, if you recall?

11 A. Saccharin.

12 Q. And what are the types of businesses that
13 Monsanto is in now or in the last, say, five years?

14 A. They are in the fibers business. They
15 manufacture fibers that are used in Wear-Dated clothing or
16 in the Wear-Dated carpeting, the acrylon and nylon fibers.
17 They make the sweetener Nutra-Sweep t. They are in the diet
18 drinks that we see. They make many of the plastics we
19 find in the automobiles these days, the dashboard, the
20 paneling, the outside trim. And they also make the
21 plastic liner that's in the safety glass for your
22 windshield and also for those windows that are now -- they
23 have a colored sheet in there to keep out sunlight. And
24 they make that same liner for building windows in the sky
25 scrapers that we nopl w see with the glass that you can see

1 out, but you can't see in kind of thing. Of course, they
2 make a lot of chemicals for other industries. They make
3 many of the ingredients that go into detergents like the
4 shampoos and so on, the liquid soap. They make materials
5 that go into plastics to make them soft that I talked
6 about earlier, plasticizer. They make a lot of the
7 chemicals that go into rubber tires so the tp ires don't
8 crack and dry and stay flexible and sturdy and reliable.
9 I can't think of any more.

10 Q. I think that's enough. I wanted to give a
11 little flavor of the company. Monsanto has some plants
12 located near this courthouse?

13 A. Yes.

14 Q. Can you name the ones in the city of
15 St. Louis?

16 A. There is one on the South Second Street.
17 That's the Queeny plant we talked about. Then there is
18 one in south St. Louis, the Carondelet plant.

19 Q. And there is one, of course, across the
20 river, Sauget?

21 A. Sauget, yes, sir.

22 Q. And Monsanto's headquarters are out on
23 Lindbergh and Olive; is that correct?

24 A. That's correct, yes.

25 Q. The Carondelet plant down in south St. Louis

1 makes ingredients for toothpaste and other tooth products?

2 A. Yes, sir.

3 Q. I almost hesitate to ask this question, but I
4 want you to be very brief. And I'll ask you to give a
5 very brief explanation of what PCBs are made of. And I've
6 heard you give a detailed explanation, and I couldn't
7 follow it. So if you could just be real brief, I think
8 that's all we need.

9 A. I'll try. We start out with --

10 THE REPORTER: One moment.

11 p (The reporter changed paper.)

12 A. We start out with two common chemicals that's
13 common to most of us, I believe. There is chlorine gas,
14 just like the chlorine used to sterilize public swimming
15 pools. And we start with benzene, which is an ingredient,
16 for example, in gasoline. The benzene is heated at a high
17 temperature and pressure, and it makes biphenyl, two
18 benzenes combined to make biphenyl. The biphenyl at room
19 temperature looks like white candle wax. So it's kept
20 heated so it's molten. We bubble chlorine through it.
21 The chlorine attaches itself to the biphenyl, and we start
22 making chlorinated biphenyl. And depending on which of
23 the chlorinated biphenyls we need, the chlorination is
24 either a short one or a longer one. At the -- I'm sorry.

25 Q. I'm sorry. Go ahead.

1 A. At the end, that mixture is boiled off, and
2 the vapors are cooled, and you collect the good PCB. The
3 bottom is a brown or black tar that is discarded.

4 Q. What do the PCBs look like after they are
5 manufactured?

6 A. The lower chlorinated, like the 1242 type,
7 look very much like baby oil or the mineral oil you buy in
8 the drugstore. It's about that consistency. And it's
9 water clear. Once in a while it might be described as
10 having a faint yellow color to it, but generally when it's
11 real pure it's like baby oil. The higher chlorinated ones
12 pick up this yellow tint. And finally when you get to the
13 very high chlorinated ones, they become a solid like the
14 Aroclor 1268 when it's ground up looks like table salt.

15 Q. So it's not a liquid at all at that point?

16 A. That is true.

17 Q. What do PCBs smell like? We have had a lot
18 of testimony about that. I'd like your (inaudible).
19 You've been in the (inaudible).

20 A. To me, they remind me of disinfectant kind of
21 odor, like many of the household disinfectants, those
22 without the perfumes in them, sort of a medicinal kind of
23 odor, the kind you might associate with, again, in my
24 mind, with an operating room disinfectant kind of aroma.

25 Q. Do they smell at all like rotten eggs?

1 A. That's the first I heard of that expression
2 was in this courtroom. I've never heard that description
3 before.

4 Q. And what was Monsanto's trade name for PCBs?

5 A. Aroclor was one of the trade names, followed
6 by a number.

7 Q. And most of the PCBs that were sent to the
8 Bloomington plant were what type of Aroclor?

9 A. Aroclor 1242.

10 Q. Ap nd I may give a little more detail on this
11 later, but was there another PCB that was about the same
12 chlorination as Aroclor 1242?

13 A. Yes, there was.

14 Q. And what was that called?

15 A. Aroclor 1016.

16 Q. And both these two PCBs, what percentage of
17 the amount of PCBs sent to Bloomington were these Aroclor
18 1242 or 1016, which are about the same?

19 A. Oh, gosh, over 99 1/2 percep nt, very close to
20 100 percent.

21 Q. Of all the PCBs sent to Bloomington were this
22 1242 or its sister compound, 1016?

23 A. That's right.

24 Q. Was there any of the 1260 that we have heard
25 about and tested at IBT that went to Bloomington?

1 A. No, not that I know of.

2 Q. And there was a tiny, tiny amount of 1254?

3 A. A little bit, yes.

4 p Q. So the overwhelming majority, in fact, 99 --
5 over 99 percent of PCBs sent to Bloomington was 1242 or
6 the related 1016 which had the same chlorination?

7 A. That's correct.

8 Q. These are both what you would call lower
9 chlorinated PCBs?

10 A. Yes.

11 (Ms. Pape replaced Ms. Carter.)

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1 Q. And the PCBsp that Renate Kimbrough found some
2 problems with in the rats, were they the lower chlorinated
3 1242 or the higher chlorinated?

4 A. They were the higher chlorinated 1260.

5 Q. 1260. And no 1260 even went to Bloomington,
6 did it?

7 A. That is true.

8 Q. And the 1242 means 42 percent chlorination?
9 Or am I--describe the 42--1242--what the 42 means.

10 A. 42--it says thap t--let me put it this way: For
11 every 100 pounds of that PCB, 42 pounds of that is chlorine.

12 Q. And in the 1254 would mean--?

13 A. 54 percent by weight is chlorine--54 pounds
14 out of every 100 pounds.

15 Q. And the 1260, the 60 would mean the same
16 thing--60 pounds?

17 A. Correct.

18 Q. Chlorine by weight?

19 A. Correct.

20 Q. Just for curip osity, why did you have 1016?
21 Why did you not have that the 1242 or have a 42 at the end of
22 it since it was 42 pounds chlorinated by weight?

23 A. We tried that, but it caused so much confusion
24 in the minds of everybody connected with it. They couldn't
25 tell whether we're talking about the older product or the new

1 product. And in order to avoid that confusion, we decided to
2 keep the number 1016 which was used back at the laboratory to
3 identify that material while it was under test.

4 Q. And the 1016 was the product that Monsanto
5 made to replace the 1242?

6 A. Yes.

7 Q. And that came about in trying to find a PCB
8 that wouldn't harm the environment?

9 A. That was the intent, yes, sir.

10 Q. Mr. Kotoske has talked about the profits on
11 PCBs. Can you give me some idea--give the jury some idea as
12 to how profitable an item of PCBs was for Monsanto as
13 compared to the other products that it had?

14 A. I guess the best way I can describe it is just
15 to say that PCBs were not what I want to call a star product.
16 They were a good average product for a chemical company.

17 Q. Indeed, Monsanto was the only producer or
18 manufacturer of PCBs in the United States?

19 A. That is correct.

20 Q. Did Monsanto have a patent on PCBs?

21 A. No, it did not.

22 Q. And there were other manufacturers of PCBs in
23 the world?

24 A. Yes.

25 Q. Japan?

1 A. Yes.

2 Q. And what countries in Europe had companies
3 that manufactured PCBs?

4 A. Germany, France, Spain, Italy, Czechoslovakia
5 p and Russia.

6 Q. Did Monsanto sell its PCB products to the
7 United States Government?

8 A. Yes.

9 Q. To which branches?

10 A. The Department of Defense--all the military
11 installations and the like--the General Services
12 Administration, the T.V.A. Authority, the Rural
13 Electrification Administration. That's all I can think of at
14 the moment.

15 Q. What p did the Government use the PCBs for that
16 they bought--the United States Government?

17 A. They use it in power distribution
18 equipment--electrical equipment.

19 Q. Transformers and capacitors?

20 A. Transformers and capacitors, yes, sir.

21 Q. Who were the first customers for PCBs that
22 were made at the plant back in 1935 that Monsanto bought?

23 A. The electrical equipment
24 p manufacturers--General Electric, Westinghouse.

25 Q. For how many years did Westinghouse purchase

1 Monsanto's PCBs for use as a dielec--for use in transformers
2 and capacitors?

3 A. Over 40 years. From the middle '30s to--to
4 '77.

5 Q. So the Bloomington plant--the Westinghouse
6 Bloomington plant was opened in about 1958, so for over 20
7 years Westinghouse had been buying p PCBs from Monsanto prior
8 to Bloomington plant being opened?

9 A. That is correct.

10 Q. Let me hand you this book and I'm gonna ask
11 you to look at Exhibit D-246.

12 MR. KOTOSKE: No objection if he wants to offer
13 that.

14 MR. CARNEY: Just briefly, I want to describe the
15 D-246 and D-247. Can you describe those exhibits for the
16 jury?

17 A. Yes. These are U.S. p patents issued to
18 representatives of the Westinghouse Electric Corporation and
19 they refer to the use of chemicals that are added to
20 transformer PCB-type oils to make them perform better and to
21 make them more stable.

22 MR. CARNEY: Your Honor, I would offer these two
23 Westinghouse patents in evidence at this time.

24 MR. KOTOSKE: What's the other one--246?

25 MR. CARNEY: 247. 246 and 247.

1 MR. KOTOSKE: No objection.

2 THE COURT: So admitted into evidence. Both of
3 'em.

4 BY MR. CARNEY:

5 Q. Westinghouse had patents on the use of PCBs in
6 electrical equipment, correct?

7 A. As reflected by something like these two.

8 Q. And 247 covers an additive that Westinghouse
9 added to PCBs to make a better PCB for the electrical
10 equipment?

1p 1 A. That is correct.

12 Q. Next I'd like to refer to D-54 and D-55. I'd
13 like you to look at those.

14 MR. KOTOSKE: You mean 254 and 255, don't you?

15 MR. CARNEY: I'm sorry. Defendant's Exhibit 254
16 and 255.

17 MR. KOTOSKE: I'll have an objection to 254 because
18 that has to do with Westinghouse Inerteen transformers which
19 has nothing to do with this case. And 255 is tranp sformers.
20 If he's got some for capacitors, I don't care, but I don't
21 want transformers going into this case.

22 MR. CARNEY: Your Honor, this--these are PCBs. Or
23 it's the transformers using PCBs, and it goes to the
24 knowledge of Westinghouse about these.

25 THE COURT: Overruled.

1 BY MR. CARNEY:

2 Q. Can you identify Exhibit 254?

3 A. 254 is a brochure or pamphlet entitled
4 Westinghouse Inerteen Transformers, published by the
5 Westinghouse Electric and Manufacturing Company.

6 THE REPORTER: Westinghouse what?

7 A. Electric and Manufacturing Company, Sharon,
8 Pennsylvania.

9 Q. What about 255?

10 A. 255 is another booklet or brochure--

11 MR. KOTOSKE: Your Honor, I think we're going too
12 far. We better go to side bar.

13 b THE COURT: Okay.

14 (A discussion was had at the Bench.)

15 THE COURT: You may continue.

16 Q. Mr. Papageorge, have you had a chance to look
17 at Exhibit--and would you identify Exhibit 255?

18 A. 255 is a Westinghouse article or brochure or
19 pamphlet entitled Network Transformers and Accessories for
20 Secondary Network Systems published by the Westinghouse
21 Electric and Manufacturing Company, Sharon, Pennsylvania.

22 MR. CARNEY: Your Honor, I move for the admission
23 of Exhibits 250--Defendant's Exhibits 254 and 255.

24 MR. KOTOSKE: Well, you know, I've already objected
25 and you overruled my objection, so I guess they're in.

1 THE COURT: It's noted.

2 MR. KOTOSKE: And the other one the same thing.

3 THE COURT: Same thing.

4 p MR. CARNEY: I'm gonna show the jury Exhibit 254,
5 and I don't exactly--this right here--can you read it in the
6 back row? I can't--let me--I'm gonna go up here and I'll
7 pull it over so you can share.

8 BY MR. CARNEY:

9 Q. Would you take a look and read from this
10 Westinghouse document the first sentence of paragraph 2?

11 THE COURT: What page from the document is that
12 chart?

13 MR. Cp ARNEY: That's on page 3.

14 THE COURT: Thank you.

15 MR. KOTOSKE: Well, now, let him read--read the big
16 chart. I don't have a problem with this.

17 THE COURT: It's in evidence, so he can read
18 whatever he wants.

19 MR. KOTOSKE: You don't have to read it. Read it,
20 Mr. Attorney. I don't care.

21 THE COURT: Well, Mr. Carney, do it--do it the way
22 you want to.

23 p MR. KOTOSKE: Whatever is easiest.

24 BY MR. CARNEY:

25 Q. Why don't you read it, Mr. Papageorge, since

1 I'm--

2 A. Will you help me find it again, sir?

3 Q. Let me do that. Why don't I read this one
4 because I--it probably goes quicker if I read it. "In this
5 Golden Jubilee Year, Westinghouse takes pleasure in
6 presenting Inerteen."

7 MR. KOTOSKE: I'll stipulate that's what it says.

8 MR. CARNEY: "Much time and effort have been
9 expended in developing this truly nonflammable liquid which
10 may be used as a substitute for transformer oil. Research
11 work to bring about this outstanding development dates back
12 to the year 1921 when the United States patent"--I won't read
13 the number--"was assigned to Westinghouse Electric and
14 Manufacturing Company. Inerteen was first used commercially
15 in transformers early in 1933. Inerteen has been approved by
16 the National Board of Fire Underwriters, thus making possible
17 its use for many applications where oil-insulated
18 transformers carry restrictions." And that's a
19 document--what's the date of that document?

20 A. 1936.

21 Q. Okay.

22 MR. CARNEY: Your Honor, this will probably be a--

23 THE COURT: Take a break?

24 MR. CARNEY: --a break point.

25 THE COURT: Ladies and gentlemen, we'll take a

2p 4

1 short ten-minute break. Do not discuss the case among
2 yourselves or with others.

3 (A recess was taken, after which the
4 following proceedings were had.)

5 THE COURT: We're gonna go for about 40 more
6 minutes if we can stand it. (Inaudible.) Everybodyp okay
7 with 40 minutes? About 40 minutes and get out of here by 20
8 or a quarter to 5?

9 UNKNOWN JUROR: Okay.

10 THE COURT: You're on.

11 MR. CARNEY: Okay.

12 BY MR. CARNEY:

13 Q. Let's go to Exhibit D-55 which has been--

14 THE REPORTER: Did you say D?

15 MR. CARNEY: D as in David. Defendant's Exhibit
16 255 which has been admitted into evidence.

17 p Q. And this is a Westinghouse 1936 document,
18 correct?

19 A. Yes, sir, it is.

20 Q. And would you go to page 7?

21 A. I have it.

22 Q. And read starting with the Inerteen Network
23 Transformers. Would you start reading there? Read the first
24 three sentences.

25 A. "Westinghouse research and installation

1 engineers have produced a new p nonflammable insulating and
2 cooling medium for use in transformers and switches known as
3 Inerteen."

4 Q. Now, that Inerteen was Westinghouse's trade
5 name, right?

6 A. Yes. "In addition to these characteristics,
7 Inerteen has dielectric and thermal characteristics equal to
8 or better than transformer oil. It is nonflammable in the
9 sense that it cannot be made to burn, and nonexplosive since
10 p the gas given off is noncombustible when mixed with air in
11 any proportion."

12 Q. Okay. Now, go down to the sentence starting
13 more or less.

14 A. "More or less irritation to the skin may be
15 expected in handling these liquids, and, for this reason,
16 care is necessary when working around transformers and
17 switches in which they are used."

18 Q. Okay. Are you familiar with the type of
19 cap pacitors that were manufactured at the Westinghouse
20 Bloomington plant between 1958 and 1977?

21 A. To a degree, yes.

22 Q. And was Westinghouse plant--well, was
23 Westinghouse one of the largest PCB customers of Monsanto?

24 A. Yes.

25 Q. Next to General Electric?

1 A. Yes.

2 Q. What is a capacitor? Can you just explain it
3 briefly?

4 b A. I'll try. Since I'm not an electrical
5 engineer, I'll try to use my layman's understanding.

6 Q. That would help everybody.

7 A. It's a device that is used to store electrical
8 energy and to release it in--when needed in sudden bursts to
9 run motors, for example, or to send power along transmission
10 lines on to its destination, wherever it's headed, so that it
11 gets to that destination at the right level, so it doesn't
12 peter out and there's nothing there at the end of the line.

13 Q. Did Westinghouse buy Monsanto PCBs for use in
14 any products other than capacitors at the Bloomington plant?

15 A. No.

16 Q. Did Westinghouse also buy PCBs for other
17 plants that it owned?

18 A. Yes.

19 Q. Tell me what those--just mention those other
20 plants--Westinghouse plants that bought PCBs for capacitors
21 or transformers.

22 A. Sharon, Pennsylvania, and South Boston,
23 Virginia.

24 Q. Were those transformer or capacitor plants?

25 A. Transformer plants.

1 Q. Okay. Did they also use PCBs at Westinghouse
2 in its Muncie, Indiana, plant?

3 A. There was a time, yes, when they did.

4 Q. Did Westinghouse also use PCBs in its
5 Cincinnati, Ohio, plant, if you know?

6 A. I don't remember that.

7 Q. And where were the headquarters of
8 Westinghouse?

9 A. Pittsburgh, Pennsylvania.

10 Q. How were PCBs shipped to the Bloomington
11 plant?

12 A. In tank cars--railroad tank cars.

13 Q. Were there also some 55-gallon drums shipped?

14 A. Oh, yes. Yes.

15 Q. But the vast majority of the PCBs went by tank
16 cars to the Bloomington plant?

17 A. Yes.

18 Q. Take a look at Exhibit 248 and 250. Can you
19 identify Exhibit 248?

20 A. 248 is a copy of a Westinghouse purchasing
21 department specification for 54201 CF and CH.

22 Q. Are those PCBs?

23 A. (No oral response.)

24 Q. Let me ask you this, Mr. Papageorge: Was this
25 a specification for Inerteen for capacitors?

1 A. Yes.

2 Q. And this was a Westinghouse specification
3 telling Monsanto how they wanted their Inerteen manufactured?

4 A. Not--not manufactured, but how they
5 wanted--what properties they expected of the Inerteen when
6 they received it.

7 Q. And did Monsanto follow the Westinghouse
8 specifications in makingp and sending PCBs to the Bloomington
9 plant?

10 A. Yes.

11 Q. Take a look--and that's a specification made
12 in 1961, correct--Westinghouse specification?

13 A. That is correct.

14 Q. Take a look at the next exhibit--250.

15 A. I have it.

16 Q. Is that a Westinghouse specification for
17 Inerteen for capacitors?

18 A. Yes.

19 Q. p And that's dated 1971?

20 A. Yes.

21 Q. And did Monsanto follow this specification in
22 making and delivering to Westinghouse PCBs for the
23 Bloomington plant?

24 A. Yes.

25 Q. What is the purpose of these specifications

1 that Westinghouse sent to Monsanto for capacitors for
2 Inerteen?

3 A. It's to inform Monsanto of the type of product
4 thatp Westinghouse expected to be delivered to its plants.

5 Q. It would describe the chemical, physical and
6 electrical properties that Westinghouse required PCBs to
7 meet?

8 A. Yes.

9 Q. Did Westinghouse have any procedures for
10 testing the PCBs that it received from Monsanto to make sure
11 it met its specifications?

12 A. They did.

13 Q. Did Westinghouse Bloomington plant p test the
14 PCBs when they came in railroad tank cars?

15 A. Yes.

16 Q. And what would happen if the PCB tank car
17 shipment didn't meet the Westinghouse specification?

18 A. If it was slightly out of specification, they
19 would attempt to treat it in their own plant. If it was far
20 off specification, they would send the tank car back to
21 Monsanto.

22 Q. Did that ever happen?

23 p A. Occasionally.

24 Q. Were PCBs a good dielectric product for use in
25 capacitors?

1 A. The best.

2 Q. Why were they the best?

3 A. Well, of course, they had near perfect
4 electrical properties. But in addition to that, they had
5 this resistance to burning--to fire that was very important.

6 Q. What does fire-resistant mean?

7 p A. It means that the material, even in the
8 presence of air, will not support a flame. The flame will
9 keep snuffing out. It will not keep burning.

10 Q. Why is it important to have a fire-resistant
11 material in a capacitor?

12 A. Well, many capacitors are installed in
13 locations that involved valuable property and, of course, the
14 presence of people. And, of course, the idea there is to
15 prevent any p disastrous fires from resulting because of a
16 failed capacitor that erupts into a flame and then spews
17 burning oil in all directions.

18 Q. Were capacitors and transformers used in
19 public places like stadiums and subway stations and high-rise
20 buildings?

21 A. Exactly, yes.

22 Q. What is a--what is a building code?

23 A. Well, a building code is a set of--of the
24 listed requiremep nts describing the kinds of things that a
25 community will--expects in the construction of a building.

1 Q. Did any of the building codes in the
2 United States require the use of PCBs?

3 A. Many of the building codes in the
4 United States did require that, yes.

5 Q. For what reason?

6 A. For safety protection--for fire protection.

7 MR. CARNEY: Before I forget, Your Honor, I--I had
8 the witness identify the exhibits 250 and 248--the Inerteen
9 Westinghouse specifications for capacitors. I would offer
10 those exhibits.

11 THE COURT: Any objections?

12 MR. KOTOSKE: No objection to 250. I want that in.
13 But I got a problem with 248. And it's not a big problem.
14 My exhibit has a 248-A attached to it. Does yours?

15 THE COURT: No.

16 MR. KOTOSKE: Should I just discard--

17 MR. CARNEY: I'll tell you what the difference is,
18 Judge.

19 THE COURT: No, wait. I'm sorry. It does.

20 MR. KOTOSKE: Well, is he offering 24--

21 THE COURT: Yeah.

22 MR. CARNEY: I believe they're the same document
23 except one of 'em came out of--let me make sure on this.

24 MR. KOTOSKE: And the other problem, Judge--I don't
25 think it's major. This one--248--it's got a whole lot of

1 handwriting notes.

2 MR. CARNEY: Oh, I--

3 MR. KOTOSKE: Do you know what that means? Other
4 than that, I--you know, I don't object to it unless
5 (inaudible). But I want the exhibit in. I just don't want
6 it in this form.

7 MR. CARNEY: Okay. What we have here is the same
8 document. One of 'em has Westinghouse bar codes on itp .
9 That's 248-A which is, I believe, what you have. The other--

10 MR. KOTOSKE: Is that the one you wanted to use?

11 MR. CARNEY: And that's fine.

12 THE COURT: Want to use A?

13 MR. CARNEY: (Inaudible).

14 THE COURT: All right.

15 MR. KOTOSKE: Use this 248-A.

16 THE COURT: Defendant's Exhibit 248-A and
17 Defendant's 250 are admitted into evidence.

18 p MR. KOTOSKE: No objection.

19 BY MR. CARNEY:

20 Q. Did Westinghouse--Mr. Papageorge, did
21 Westinghouse have an industrial hygiene or a medical
22 department during the years that they were using PCBs?

23 A. Yes, they did.

24 Q. And how do you know that?

25 MR. KOTOSKE: Oh, I'll stipulate they had a medical

1 department.

2 MR. CARNEY: And industrial hygiene department?

3 MR. KOTOSKE: Oh, I don't know about that.

4 Q. Did Westinghouse also have an industrial
5 hygiene department?

6 A. They had an industrial hygienist. I don't
7 know if they were organized into a department.

8 Q. And who was the head of the--or who was the
9 person that you had dealings with or had--or who was the
10 person that Monsanto corresponded with in the industrial
11 hygiene department at Westinghouse primarily?

12 A. Mr. Speicher.

13 Q. You described how Monsanto conveyed
14 information about PCBs and safe handling to customers. Let's
15 focus on Westinghouse because that's the customer that was
16 involved in this case. How did Monsanto give Westinghouse
17 information about how to handle PCBs safely? Could you
18 summarize the different types of information?

19 p A. There were, of course, the product bulletins
20 that were made available to many people at Westinghouse--
21 research people, manufacturing people, health people. There
22 were, of course, discussions--person-to-person kind of
23 discussions. The opportunities for that were many. Examples
24 include the contact from Monsanto sales representative who
25 would drop by with brochures in hand and any new information

1 p that he might be brought up to speed on. There were
2 opportunities for Westinghouse people to come to St. Louis
3 and sit down with the--the right people at Monsanto and have
4 these discussions. Opportunities also for individuals from
5 Westinghouse to go to Monsanto plants and then compare notes.
6 That's all that comes to mind now, but--

7 Q. Okay. And we'll get into some of those
8 documents tomorrow if we don't get into it today. And, of
9 course, there were warning labels that were put on all the
10 drums?

11 A. Oh, yes. Yes.

12 Q. How do you know the Monsanto warning label was
13 put on every drum of PCBs?

14 A. Well, the procedure at Monsanto for labeling
15 drums involves many individuals whose job it is to check that
16 label through that system. The label is applied to the drum
17 by the individual in charge of the drumming facility. That
18 drum is labeled before the contents--before the materials is
19 put into the drum. It's moved, then, into the filling
20 station where the individual who fills it again checks that
21 label to see that it's getting--it's labeled with the
22 material it's going to receive. When the drum is full, it
23 is, of course, stenciled with other information like lot
24 numbers and dates and so on. And that's then sent over and
25 put on a pallet--four drums to a pallet. Other individuals

1 with fork lift trucks come by when notified to pick up that
2 day's drumming and take it to a warehouse. The individual
3 picking it up checks the labels again to make certain that
4 all four drums on each pallet has the right label on it.
5 Because he's carrying a ticket that tells him what kind of
6 material he's to pick up and where he is supposed to take it.
7 When it arrives at the warehouse, the area designated for
8 that particular load, there is another individual in charge
9 of that warehouse who makes sure that what goes into that bay
10 or that area is the right material. And he fills out his
11 ticket. So that when all these papers go back, then, to the
12 office, they should all match. And then later when a
13 shipment is made, the shipping people know exactly where to
14 go to get the right material to make the proper shipment.

15 Q. Because of those procedures that you talked
16 about, are you certain that every PCB drum that would have
17 PCBs in it that was sold by Monsanto had a label?

18 A. Yes.

19 Q. And it had a Monsanto warning on it?

20 A. Yes.

21 Q. You've described, Mr. Papageorge, how--in a
22 general way how Monsanto conveyed information about PCBs to
23 Westinghouse. Can you tell me whether Westinghouse had any
24 knowledge about PCBs other than what was given to them by
25 Monsanto?

1 MR. KOTOSKE: This is gonna call for hearsay and
2 I'm gonna object. I just don't want to get caught short.

3 MR. CARNEY: I think this--you know, this goes to
4 our knowledge as to what Westinghouse knew. I think it goes
5 to that issue.

6 b THE COURT: You want to come over?

7 MR. KOTOSKE: Yeah, I think so.

8 (A discussion was had at the Bench.)

9 THE COURT: You may proceed.

10 Q. Mr. Papageorge, did you know certain people at
11 Westinghouse that worked for Westinghouse?

12 A. I did, yes.

13 Q. Tell me the people that you knew personally.

14 A. I recall a Mr. Don McClain.

15 b Q. Where did he work?

16 A. Bloomington, Indiana.

17 Q. Westinghouse Bloomington plant?

18 A. Yes, sir.

19 Q. Okay.

20 A. Dr. T. K. Sloat.

21 THE REPORTER: Dr. whom?

22 THE WITNESS: T. K. Sloat--S-l-o-a-t. He was with
23 the Sharon, Pennsylvania, transformer plant. I remember a
24 Mr. Wilburn. I believe he was with the South Boston,
25 Vp irginia, plant. There was a Dr. Dakin--D-a-k-i-n--in the

1 research dependent in Pittsburgh.

2 Q. Did you know a Mr. Mandelkorn?

3 A. Mandelkorn, also with research, yes, sir.

4 Q. Did you have discussions with these people and
5 meetings with these people and telephone conversations with
6 these people?

7 A. Many times.

8 Q. Based on those discussions and conversations
9 that you had--let's take 'em one at a time. Let's talk about
10 D. T. Sloat.

11 MR. KOTOSKE: Your Honor, just one other thing.
12 Can we have a rough time frame when it happened?

13 THE COURT: Sure.

14 Q. What was the time period that you knew
15 Mr. Sloat?

16 A. 1970 through 1976. And I still know him
17 today, I guess, but I worked with him through '76.

18 p Q. What was the state of Mr. Sloat's knowledge
19 with regard to PCBs?

20 MR. KOTOSKE: Well, see, that's the problem.
21 Objection.

22 Q. Based on your personal knowledge and
23 experience and discussion.

24 THE COURT: He can relate to the tenor of the
25 discussions. He can get into what was discussed and then the

1 jury can make the necessary conclusions. So go ahead and do
2 p that.

3 Q. Go ahead.

4 A. Dr. Sloat, to me, was the key Westinghouse
5 individual who knew an awful lot about PCB and transformers.
6 He was Mr. Transformer--Mr. Westinghouse Transformer--in my
7 way of observing him. He was a pioneer in a way, and
8 certainly knew a lot more about PCBs than I did in the
9 transformer application.

10 Q. Did he indicate through the discussions you
11 had with him any knowledge about toxicity of PCBs?

12 A. Oh, yes. In fact, he taught me a few things.

13 Q. Did he--

14 MR. KOTOSKE: Okay. Now, the objection. You
15 forced the issue. Now, the objection is learned (inaudible).

16 MR. CARNEY: Well, Your Honor, could we do this at
17 side bar? I don't want to get into speeches.

18 THE COURT: Yeah. That's a legal point.

19 (A p discussion was had at the Bench.)

20 THE COURT: All right. Ladies and gentlemen, we're
21 gonna--I'm sure you'll be disappointed to hear this, but
22 we're gonna stop for today. And the attorneys and I have
23 some matters in chambers that we have to discuss further, so
24 I'm gonna ask you all to be here at 10:15 tomorrow morning,
25 so (inaudible). Again, do not discuss the case among

1 yourselves or with other^s or review or listen to anything
2 about this trial. Any questions?

3 UNKNOWN JUROR: We're not staying 'til 6, right?

4 THE COURT: Oh, no.

5 UNKNOWN JUROR: Good.

6 THE COURT: See you tomorrow at 10:15.

7 (Ms. Pape was replaced.)

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