

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEVADA

NEVADA POWER COMPANY,

Plaintiff,

-vs-

MONSANTO COMPANY, GENERAL
ELECTRIC CORPORATION, et al.,

Defendants.

CV-89-555-LDG (LRL)

I N D E X

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NEVADA POWER COMPANY,	)	
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Plaintiff,	)	
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-vs-	)	# CV-89-555-LDG (LRL)
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	)	
MONSANTO COMPANY, GENERAL	)	
ELECTRIC CORPORATION, et al.,	)	
Defendants.	)	

DISCOVERY DEPOSITION OF WITNESS, to be used in an action pending in the District Court of the United States, for the District of Nevada, wherein NEVADA POWER COMPANY is Plaintiff, and MONSANTO COMPANY, et al. are Defendants, pursuant to Notice, under the provisions of Rule 26 of the Rules of Civil Procedure, taken on March 17, 1993, at the law offices of Messrs. Husch & Eppenberger, 100 North Broadway, St. Louis, Missouri, before John T. Concannon, a Notary Public within and for the State of Missouri.

A P P E A R A N C E S

The Plaintiff was represented by Mr. Ralph A. Bradley, of the law firm of Bradley & Merrell, c/o Jones, Jones, Close & Brown, 300 South Fourth Street, Ste. 700, Las Vegas, Nevada, 89101.

The Defendant, Monsanto Company, was represented by Mr. Bruce A. Featherstone, of the law firm of Kirkland & Ellis, 1999 Broadway, Ste. 4000, Denver Colorado, 80202.

The Defendant, Westinghouse Corporation, was represented by Ms. Laurie Basch, of the law firm of Weil, Gotshal & Manges, 767 Fifth Avenue, New York, New York, 10153.

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GEORGE ROUSH, JR.,

of lawful age, being first duly sworn to tell the truth,
the whole truth, and nothing but the truth, deposes and
says on behalf of the Plaintiff, as follows:

DIRECT EXAMINATION

QUESTIONS BY MR. BRADLEY:

Q. Dr. Roush, my name the Ralph Bradley, and you
and I were introduced to one another just a few moments
ago. Is that true?

A. Yes, sir.

Q. I represent Nevada Power Company in this
lawsuit that they have brought against Monsanto,
Westinghouse and General Electric; you understand that,
don't you?

A. Yes.

Q. Are you here, today, represented by an
attorney?

A. Yes.

Q. If, during the course of the deposition, I ask
a question that's not clear, will you tell me?

A. Yes.

Q. And if you give an answer to a question, I'm
going to assume that you understood the question. Fair
enough?

A. Yes.

1 Q. All right. And if, at any time during this
2 afternoon, you want to take a break, you just let us know
3 and we'll accomodate you, all right?

4 A. Yes.

5 Q. What is your residential address?

6 A. 10 Babler Lane, B-a-b-l-e-r, St. Louis, 63124.

7 Q. Are you presently employed?

8 A. Retired.

9 Q. When did you retire?

10 A. 1988.

11 Q. Let's start this deposition by having you
12 describe your educational background, beginning with
13 college. Where did you attend college?

14 A. University of Wisconsin.

15 Q. Did you receive a Bachelor's Degree from the
16 University of Wisconsin?

17 A. My education was interrupted by the war.

18 Q. All right. So you began college at the
19 University of Wisconsin and then went into the military?

20 A. Yes.

21 Q. What branch of the military?

22 A. Signal Corp.

23 Q. And what was your rank when you got out of the
24 military?

25 A. First Lieutenant.

1 Q. Did you return to college when you got out of
2 the military?

3 A. Yes. 1946.

4 Q. Where did you go to college in 1946?

5 A. Wisconsin.

6 Q. Did you receive a degree from the University
7 of Wisconsin?

8 A. I didn't take the degree right away.

9 Q. Okay. Did you ultimately get a degree?

10 A. Yes.

11 Q. What degree did you get?

12 A. Washington University Medical School.

13 Q. And you got that degree when?

14 A. 1951.

15 Q. And I take it, your degree was as a medical
16 doctor?

17 A. Yes. In that interim, I went back and got my
18 degree from Wisconsin. Just had to write and get it.

19 Q. All right. So you received a Bachelors Degree
20 from Wisconsin?

21 A. Yes.

22 Q. Did you intern?

23 A. Yes.

24 Q. Where did you intern?

25 A. In Milwaukee. Milwaukee County Hospital.

1 That's a teaching hospital of Marquette.

2 Q. Did you obtain a specialty when you went
3 through your medical training?

4 THE WITNESS: Will you ask the question again?

5 Q. (By Mr. Bradley) Yes. Do you have a
6 specialty in any area of medicine?

7 A. Yes.

8 Q. What is your specialty?

9 A. Occupational Medicine.

10 Q. Describe for me the training you have had in
11 occupational medicine?

12 A. In 1951, went to the University of Pittsburgh
13 and have a degree from the School of Public Health. It's
14 called a Masters in Public Health in Occupational Medicine.

15 Q. Was the Masters through any medical school?

16 A. It was at the University of Pittsburgh School
17 of Public Health.

18 Q. All right. But the School of Public Health
19 wasn't part of the School of Medicine?

20 A. No. It's -- They're both part of the
21 University of Pittsburgh.

22 Q. All right. And do you have any other degrees
23 from any other institutions?

24 A. No.

25 Q. I take it, you became licensed as a medical

1 doctor at some point?

2 A. In 1957.

3 Q. How long did you attend the University of
4 Pittsburgh in their School of Public Health?

5 A. Two years.

6 Q. You graduated in 1953 from the University of
7 Pittsburgh?

8 A. In 1952.

9 Q. All right.

10 A. That was a post-graduate fellowship I had.

11 Q. Upon graduation from the University of
12 Pittsburgh, did you obtain employment?

13 A. I went to the National Cancer Institute at
14 Bethesda.

15 Q. And that was in 1952?

16 A. Yes.

17 Q. What did you do at the National Cancer
18 Institute in 1952?

19 A. I had a clinical fellowship in cancer therapy.

20 Q. Did the fellowship relate to your Masters
21 Degree in Public Health and Occupational Medicine?

22 A. Not directly, but it was my purpose.

23 Q. All right.

24 A. It was understanding chemotherapy.

25 Q. How long was the fellowship at the National

1 Cancer Institute?

2 A. One year.

3 Q. What did you do when the fellowship ended?

4 A. Went to the Stanton Island Marine Hospital,
5 residency in medicine.

6 Q. How long were you at Stanton Island Marine
7 Hospital?

8 A. One year.

9 Q. What kind of medicine did you practice in your
10 residency?

11 A. Internal medicine.

12 Q. What did you do at the end of your residency?

13 A. I'm not finished yet.

14 Q. All right. Go ahead.

15 A. I went back to the University of Pittsburgh.

16 Q. And why did you do that?

17 A. I finished my residency in internal medicine.

18 Q. When did you finish your residency in internal
19 medicine?

20 A. That year. One year.

21 Q. In --

22 A. '57.

23 Q. Help me for a moment. I have you at the
24 National Cancer Institute for one year beginning in 1952;
25 is that correct?

1 A. Yes, sir.

2 Q. In 1953, you went to Stanton Island Marine
3 Hospital for one year?

4 A. Yes.

5 Q. So that's 1954. 1954, went back to the
6 University of Pittsburgh to finish your residency?

7 A. Yes.

8 Q. And you finished that in 1957?

9 A. Yes.

10 Q. When you obtained your residency, was it
11 common to have a four year residency?

12 A. No.

13 Q. Why did you have a four year residency?

14 A. Because mine was mixed up by spending the time
15 at NIH.

16 Q. What did you do when you finished your
17 residency in 1957?

18 A. Became part of the faculty at the School of
19 Public Health, University of Pittsburgh.

20 Q. What is the field of public health?

21 A. Mine was not in public health, my was
22 occupational medicine.

23 Q. What did you teach, then, as part of the
24 faculty of the School of Public Health at the University of
25 Pittsburgh in 1957?

1 A. I taught students coming there for a degree in
2 occupational medicine.

3 Q. What did you teach?

4 A. Occupational medicine.

5 Q. What is occupational medicine?

6 A. Understanding of the needs of industry in
7 occupational medicine. That included understanding of a
8 man's ability to work, the hazards associated with work,
9 responsibilities of occupational medicine to the company
10 with whom we are working.

11 Q. What responsibilities are there of someone
12 practicing occupational medicine to the company with whom
13 they are working?

14 A. Helping them to understand what the workers in
15 that plant have in the way of problems associated with
16 their work. If the man has any injury or disability
17 associated with his work, that has to be communicated to
18 the management of the company.

19 Q. How long were you at the faculty of the School
20 of Public Health at the University of Pittsburgh?

21 A. During that time I was there, I was Assistant
22 Professor of Occupational Medicine.

23 Q. How long were you there?

24 A. Two years.

25 Q. And during the two-year time, was the subject

1 that you taught only occupational medicine?

2 A. No.

3 Q. What else did you teach?

4 A. I also taught internal medicine. I was
5 Instructor of Medicine.

6 Q. And then in 1957, you obtained a license to be
7 a medical doctor?

8 A. No.

9 Q. No. When were you licensed as a medical
10 doctor?

11 A. I'm not there yet.

12 Q. All right.

13 MR. FEATHERSTONE: You mean in terms of your
14 history; is that what you're saying?

15 A. Yes. I'm not there yet.

16 Q. (By Mr. Bradley) Okay. What did you do
17 following --

18 A. I was still essentially in training.

19 Q. All right.

20 A. I went to University of Louisville.

21 Q. Was this in 1959?

22 A. '57/58. I may be off a year. I can't tell.

23 Q. And what did you do at the University of
24 Louisville?

25 A. Had a fellowship in cardiology, one year.

1 Q. What did you do in your fellowship in
2 cardiology at the University of Louisville?

3 A. Became a cardiac consultant.

4 Q. How did you become a cardiac --

5 Q. I became a cardiac consultant. I did cardiac
6 catheterizations.

7 Q. You received training to do that?

8 A. Yes.

9 Q. While at the University of Louisville?

10 A. Yes. That's what I did. I did cardiac
11 catheterization.

12 Q. What is a cardiac catheterization?

13 A. Got a heart, and the question whether there is
14 something wrong with one of the valves. Whether the heart,
15 the two sides of the heart are functioning; and you put a
16 catheter in one of the major veins in the forearm and go up
17 and you put it into the heart and then you measure the
18 pressure inside the - outside the heart between the valves;
19 put another catheter in the major artery in the leg that
20 goes up on the other side of the heart and you study those
21 two parts of the heart's function.

22 Q. What did you do when you left the University
23 of Louisville?

24 A. Went to University of Cincinnati.

25 Q. What did you do at the University of

1 Cincinnati?

2 A. I was Associate Professor of Occupational
3 Medicine.

4 Q. How long were you at the University of
5 Cincinnati?

6 A. Until '72.

7 Q. What did you do as Associate Professor of
8 Occupational Medicine?

9 A. Taught occupational medicine to physicians.

10 Q. Did you teach any courses, other than
11 occupational medicine while at the University of
12 Cincinnati?

13 A. No.

14 Q. When did you become licensed as a medical
15 doctor?

16 A. Didn't get licensed yet.

17 Q. All right. What did you do in 19 - following
18 -- What did you do after the University of Cincinnati?

19 A. Went to Tulane Medical School in New Orleans.

20 Q. Why did you go the Tulane Medical School?

21 A. They built me a toxicology laboratory.

22 Q. What was your job title when you went to
23 Tuland Medical School?

24 A. Professor of Medicine.

25 Q. What did you do while you were at Tulane

1 Medical School?

2 A. Ran that toxicology laboratory.

3 Q. How long did you run the toxicology lab?

4 A. I've forgotten where I am in years.

5 MR. FEATHERSTONE: 1972.

6 MR. BRADLEY: I have that you went to Tulane
7 Medical School in 1972.

8 A. I was there for two years.

9 Q. (By Mr. Bradley) All right. What did you do
10 when you left Tulane Medical School?

11 A. I went to Monsanto Company.

12 Q. What --

13 A. And got my license in medicine here.

14 Q. Does your license entitle you to practice in a
15 specialty?

16 A. Just medicine.

17 Q. What work were you doing at the toxicology lab
18 at Tulane Medical School?

19 A. We did toxicology.

20 Q. Well, on what kind of chemicals or products?

21 A. Whatever would be coming to us.

22 Q. All right. While at Tulane Medical School,
23 did you do toxicology on products manufactured by Monsanto?

24 A. No. That was before I knew Monsanto.

25 Q. During the two years you were at Tulane

1 Medical School, did you do toxicology workups on any
2 products containing PCBs?

3 A. No.

4 Q. While at the Tulane Medical School, did you do
5 any toxicological workups on chemicals?

6 A. Yes.

7 Q. Which chemicals, do you recall?

8 A. On a number of chemicals.

9 Q. Any of the chlorinated aromatic hydrocarbons?

10 A. I don't think so. We did a number of them.
11 The toxicologists did this short-term. Do it in a couple
12 of days so you could turn them over. We did no chronic
13 studies but we would have if I had stayed there.

14 Q. Doing all acute studies?

15 A. Yes.

16 Q. Were you working with animals?

17 A. Yes.

18 Q. Rats?

19 A. Yes.

20 Q. Mice?

21 A. Yes.

22 Q. Any other animals?

23 A. Not on any continuing basis.

24 Q. Why was it that you left the lab to go to work
25 for Monsanto?

1 A. They were going to built me a toxicology
2 laboratory that would be more to my needs than the one I
3 had at Tulane.

4 Q. Who, at Monsanto, indicated to you that they
5 would build you a toxicology lab more suited to your needs?

6 A. Man who became my boss.

7 Q. Dr. Kelly?

8 A. No.

9 Q. Who?

10 A. Mr. Throtall, vice-president.

11 Q. When you -- You went to Monsanto, then, in
12 1974?

13 A. 1973.

14 Q. '3. When you went to Monsanto in 1973, had
15 Monsanto, in fact, built a toxicology lab?

16 A. No.

17 Q. For your use?

18 A. No, they had not.

19 Q. Did you say "No. They have now?"

20 A. They had not.

21 Q. All right. Did they eventually build a
22 toxicology lab for you?

23 A. Yes.

24 Q. When was that built?

25 A. I can't be sure. 1975 about.

1 Q. What was your job title when you began work at
2 Monsanto?

3 A. Associate Medical Director.

4 Q. Who was the medical director when you began
5 your work at Monsanto?

6 A. Dr. Kelly.

7 Q. Was Dr. Kelly your boss when you began your
8 work at Monsanto?

9 A. Yes.

10 Q. Do you have an office in the medical area of
11 Monsanto?

12 A. Yes.

13 Q. Describe for me the physical layout of the
14 medical department at Monsanto when you went to work there
15 in 1973.

16 A. We had a clinical section, and we had one
17 physician, one physician working in that clinical section
18 and Dr. Kelly and I substituted and supplemented in the
19 clinical practice at Monsanto. That's one section.

20 Q. What other sections were there?

21 A. We had an industrial hygiene section, headed
22 by Mr. Wheeler, and he had one or two industrial hygienists
23 working with him. I can't tell you when they came.

24 Q. What other sections were there?

25 A. Then there was a section on toxicology.

1 A. Who ran that?

2 A. George Levinskas.

3 Q. What other sections were there?

4 A. That's it. We had -- What I was thinking

5 about is, we had a library and I'm not sure where that fit

6 into this.

7 Q. Were all of the sections housed in the same

8 building?

9 A. Yes.

10 Q. Were there other departments than the medical

11 department in this one, in this building?

12 A. Yes.

13 Q. What other departments were in the building

14 that housed the medical department when you began work

15 there in '73?

16 A. An overseas operation.

17 Q. Did the medical department have one floor of a

18 building?

19 A. It had half of that first floor.

20 Q. I'm going to hand you a piece of paper and ask

21 you, if you would, to diagram for me the first floor of the

22 building that the medical department was in in 1973 and

23 indicate which part of the first floor was the medical

24 department.

25 A. I'm not sure how accurate. It was a long time

1 ago and it was changed many times subsequent to this.

2 MR. BRADLEY: Let's have this marked as, I
3 guess, Roush Deposition Exhibit One.

4 (Whereupon, the reporter marked Roush Deposition Exhibit
5 Number One, for identification.)

6 Q. (By Mr. Bradley) All right. You've drawn
7 here your best estimate of the physical layout of the
8 medical department when you began work with Monsanto in
9 1973.

10 A. When I started.

11 Q. And you've made some drawings that appear to
12 be rooms and you have some names, or other identifying -

13 A. Yes.

14 Q. Explain to me, then, what you've done with
15 Exhibit One?

16 A. The entry hall into the building.

17 Q. What building is this?

18 A. A building.

19 Q. A building. All right. It's on what's called
20 the Monsanto Campus?

21 A. Yes.

22 Q. Go ahead.

23 A. And so as you come in, there's a receptionist
24 there.

25 Q. All right. And you've written "receptionist?"

1 A. Yes. And next to her was a secretary.
2 Q. All right. Secretary had his or her own room?
3 A. No. It was open.
4 Q. Okay.
5 A. And next to her was Dr. Kelly.
6 Q. All right. Dr. Kelly was where? Would you
7 point?
8 A. Right here.
9 Q. All right. And you wrote "Dr. Kelly" there?
10 A. Yes.
11 Q. All right.
12 A. Then I was next to him.
13 Q. All right.
14 A. And we had an opening for another doctor that
15 was not there.
16 Q. All right.
17 A. And on the other side, we had examination
18 rooms and we had a section on toxicology and there were
19 three people. I'm not sure how they were situated.
20 Q. All right.
21 A. Then we had the industrial hygiene section.
22 Q. All right. And when you went to work for
23 Monsanto in 1973, was there a medical department library?
24 A. I'm not sure how formal it was.
25 Q. Was there an area that was referred to as the

1 library?

2 A. Yes.

3 Q. Would you draw that?

4 A. I can't tell you where it is.

5 Q. Why is it that you can't tell me where it is?

6 A. Because we left there quite soon and went to
7 another building.

8 Q. I see. All right. And you don't recall where
9 the library was when you began your work there?

10 A. Right.

11 Q. All right. Would you draw for me now the
12 physical layout of the medical department when you moved
13 from what's referenced by Exhibit One?

14 (Whereupon, the reporter marked Plaintiff's Roush
15 Deposition Exhibit Number Two, for identification.)

16 Q. (By Mr. Bradley) We've now marked your
17 diagram that you have just prepared as Plaintiff's Roush
18 Deposition Exhibit Two. Can you tell me what that is?

19 A. We moved to another building. This is moving
20 over to G Building.

21 Q. All right.

22 A. And we were down in the basement area there.
23 We had windows around the side but we were below ground.

24 Q. And what year did you move to G Building?

25 A. '78.

1 Q. And you have some markings on this Exhibit, as
2 well. Would you explain those to me?

3 A. This is the entry.

4 Q. All right.

5 A. Because we were a basement, we came directly,
6 right into my door, and my office was right adjacent to
7 there. So I was one of the few people who had windows on
8 both sides. My secretary was there.

9 Q. Uh-huh.

10 A. And we had the toxicology group right next to
11 that, and we had industrial hygiene next, with Jack Garrett
12 as the head of it.

13 Q. All right.

14 A. And we had a library, and I'm not sure just
15 how it was located with respect to this, and Dr. Degarmo,
16 D-e-g-a-r-m-o, was our administrator. And on our other
17 side we had the physicians and industrial hygiene.

18 Q. Did you have any examining rooms?

19 A. No. The examining rooms were still back in A
20 Building and we had to hire an extra physician to take the
21 place of what we had been doing.

22 Q. So when you moved to G Building from A
23 Building in '78, the medical department still maintained
24 examining rooms in A Building?

25 A. Yes. The clinical facility remained there.

1 Q. What were your job responsibilities as
2 Associate Medical Director in 1973?

3 A. To do the clinical examinations that this, the
4 full-time man was unable to do.

5 Q. Did you have other job responsibilities as
6 Associate Medical Director in '73?

7 A. Yes.

8 Q. What else?

9 A. Visited plants to understand what kind of
10 operations, what they were doing.

11 Q. What other job responsibilities, if any?

12 THE WITNESS: Besides that?

13 MR. BRADLEY: Yes. I want you to tell me all
14 your job responsibilities in '73.

15 THE WITNESS: This was before, while --

16 MR. BRADLEY: This is when you first began
17 working there in 1973.

18 A. As I said, we had visited plants and worked
19 with the toxicologists, talked about their organization,
20 how they functioned and their responsibilities.

21 Q. (By Mr. Bradley) All right. And when you
22 began work in 1973, who were the toxicologists with
23 Monsanto?

24 A. George Levinskas was in charge.

25 Q. Was the toxicology section under your

1 authority as Associate Medical Director?

2 A. It was under Levinskas'.

3 Q. Who did Levinskas report to?

4 A. He reported to Kelly.

5 Q. As the Associate Director, or Associate
6 Medical Director, was your primary responsibility working
7 with the clinical section?

8 A. They were both major functions.

9 Q. All right. What kind of work did you do with
10 the toxicologists in 1973?

11 A. Participated with them with the definition of
12 what studies needed to be done and understand and interpret
13 the findings of their studies that were completed.

14 Q. When you began work in 1973, did Monsanto have
15 its own toxicology lab?

16 A. No.

17 Q. And when did it have a toxicology lab? Is
18 that the lab you indicated earlier was built for you around
19 1975?

20 A. Yes.

21 Q. In 1973, did Dr. Levinskas report at all to
22 you?

23 A. It was more functional than administratively
24 so.

25 Q. What do you mean by that?

1 A. Well, if he had a question about what he
2 should do next or whether we should do something, he came
3 to me directly. He didn't have to go through anyone else.

4 Q. Would he -- Do you know whether he would
5 normally go to you with questions about toxicology as
6 opposed to going to Dr. Kelly?

7 A. No. Levinskas is a nationally recognized
8 toxicologist, and so what he did toxicologically was his
9 determination, but we would discuss what he was going to
10 do.

11 Q. Was there a point in time when your title
12 changed at Monsanto?

13 A. The day Dr. Kelly retired.

14 Q. When was that?

15 A. December of '74.

16 Q. And you then became Director of the Medical
17 Department at Monsanto?

18 A. Yes.

19 Q. When you became Medical Department Director
20 was Dr. Levinskas still in charge of the toxicology
21 section?

22 A. Yes.

23 Q. As Director of the Medical Department, did Dr.
24 Levinskas report to you?

25 A. Yes.

1 MR. FEATHERSTONE: Would you read that
2 question back, please?

3 (Whereupon, the reporter propounded the previous question.)

4 Q. (By Mr. Bradley) Who did you report to as
5 Medical Department Director in 1974?

6 A. I reported to Mr. Bible for a very short
7 period of time.

8 Q. What was his job title when you reported to
9 him?

10 A. He was vice-president, and some administrative
11 title.

12 Q. After you no longer reported to Dr. Bible, who
13 did you report to?

14 A. Mr. Throtall.

15 MR. FEATHERSTONE: Is it Dr. Bible?

16 A. No.

17 Q. (By Mr. Bradley) And when you -- Do you
18 recall the date that you began reporting to Mr. Throtall?

19 A. No, sir. No, sir.

20 Q. Do you --

21 A. But it was very short.

22 Q. Do you recall his job title when you began
23 reporting to him?

24 A. He was Vice-President in Charge of Research.

25 Q. Was Mr. Throtall involved at all in the

1 decisions to undertake various toxicological studies
2 regarding Monsanto products?

3 A. No.

4 Q. Those decisions, while you were medical
5 department director, were made by the head of the
6 toxicology department with your consultation?

7 A. Yes. And possibly informing Throtall. Not
8 participating but more informing.

9 Q. Have you had your deposition taken before?

10 A. Yes.

11 Q. How many times have you had your deposition
12 taken?

13 A. Ten to twenty.

14 Q. During the times you had your deposition taken
15 on previous occasions, did you give information regarding
16 polychlorinated biphenyls?

17 A. Yes.

18 Q. Out of the ten to twenty times you had your
19 deposition taken, what's your estimate of how many times
20 you addressed the topic of polychlorinated biphenyls?

21 A. Five.

22 Q. Tell me what you remember about those five
23 depositions. When did they occur, who was there?

24 A. I can't.

25 Q. Can you tell me the last time you had your

1 deposition taken where the subject matter was, at least in
2 part, polychlorinated biphenyls?

3 Q. I don't know the name of it. This one was in
4 Houston.

5 Q. Do you recall roughly the year that you had
6 your deposition taken?

7 A. Five years ago.

8 Q. Do you know what the reason was why you had
9 your deposition taken in that case?

10 A. There was concern for contamination.

11 Q. Of -

12 A. By Monsanto. Three or four different
13 companies were involved.

14 Q. And the contamination was of PCBs?

15 A. All chemicals.

16 Q. All right. Including PCBs?

17 A. I can't answer that.

18 Q. Well, at least PCBs came up as a subject
19 matter in your deposition?

20 A. I can't even answer that.

21 Q. Do you maintain copies of the transcripts of
22 any depositions where you've given testimony?

23 A. No.

24 Q. Do you know if those are kept anywhere?

25 A. No.

1 Q. Did you review any of your deposition
2 testimony prior to appearing here, today?

3 A. No.

4 Q. Do you recall which attorney represented --
5 Were you represented by an attorney when you had your
6 deposition taken in Houston?

7 A. I'm sure I was, but I shouldn't be that sure.
8 I think I was.

9 Q. Do you remember the names of any of the
10 attorneys?

11 A. No.

12 Q. Do you remember the names of the Plaintiffs?

13 A. No.

14 Q. Do you remember the names of the other three
15 or four different companies?

16 A. No.

17 Q. And other than the deposition in Houston, do
18 you recall anything at all about the other roughly four
19 times you gave depositions covering the topic of PCBs?

20 A. There was a deposition out in San Francisco.

21 Q. Is that in the early 1980s?

22 A. Late '80s, I would think.

23 Q. Was that in a case called One Market Place?

24 A. Yes.

25 Q. Do you recall whether your deposition was

1 transcribed, the one that you gave in the One Market Place
2 case?

3 A. No, I don't know.

4 Q. Do you recall whether you read the words - the
5 questions you were asked during that deposition and answers
6 that you gave?

7 A. I usually corrected all of those.

8 Q. All right. Did you correct the deposition
9 that you gave in Houston, as well? You reviewed it and
10 made whatever corrections you needed?

11 A. I'm sure I did.

12 Q. All right. Do you recall the subject matter
13 of the testimony of your deposition in the One Market Place
14 case?

15 MR. FEATHERSTONE: Well, Mr. Bradley, I think
16 that's the case that's governed by the confidentiality
17 order that I referenced several weeks ago in another
18 deposition. So you can answer that question generally.

19 A. That's about all I know, my participation.
20 They would say, "You're going to give a deposition," and
21 that's all the direction I would be given.

22 Q. (By Mr. Bradley) All right. Do you recall,
23 though, giving testimony about PCBs?

24 THE WITNESS: Where?

25 MR. BRADLEY: In San Francisco.

1 A. Yes.

2 Q. (By Mr. Bradley) Do you recall any other
3 occasions where you gave depositions regarding PCBs?

4 A. No, I do not.

5 Q. Okay. What materials, if any, did you review
6 to prepare for today's deposition?

7 THE WITNESS: What?

8 Q. (By Mr. Bradley) What materials, if any, did
9 you review to prepare for today's deposition?

10 A. PCBs.

11 Q. What materials did you review? Did you review
12 letters, studies?

13 A. No. I have a toxicology book at home.

14 Q. Did you review the toxicology book to prepare
15 for today's deposition?

16 A. Yes.

17 Q. What's the name of the toxicology book?

18 A. It's called Pattey, P-a-t-t-e-y.

19 Q. Pattey?

20 A. P-a-t-t-e-y, Pattey.

21 Q. Is Pattey the author of it?

22 A. Yes.

23 Q. What's the title of the volume?

24 A. Toxicology. It's a standard reference book.

25 Q. What else did you review in preparation for

1 today's deposition?

2 A. Nothing particularly.

3 Q. Well, did you review any of the documents that
4 you generated while you were medical director at Monsanto?

5 A. We talked about the subject yesterday with
6 counsel.

7 Q. I don't want to know what you talked about but
8 I'm interested, though, in knowing what documents you
9 reviewed.

10 A. I can't recall them. I can't do that because
11 we just took things out.

12 Q. You don't remember anything at all, whether
13 they were studies or --

14 A. Well, we talked about the IBT study.

15 Q. Did you review some documents relating to the
16 IBT studies?

17 A. No. Well, there was some correspondence.

18 Q. All right. Other than the correspondence
19 regarding IBT, what do you recall about the documents that
20 you reviewed?

21 MR. FEATHERSTONE: Dr. Roush, just so you
22 know, Mr. Bradley already told you he doesn't want to know
23 what you talked about with counsel but you can, if you
24 recall it, identify for him the documents you were shown
25 yesterday for this deposition.

1 A. I can't recall them.

2 Q. (By Mr. Bradley) Do you recall whether you
3 reviewed any studies?

4 A. The IBT study was the one that --

5 Q. All right.

6 A. - that really is the crux.

7 Q. All right.

8 MR. FEATHERSTONE: When you get to an
9 appropriate point, Mr. Bradley, I need to find out about
10 Mr. McNicholas.

11 MR. BRADLEY: This is an appropriate point.

12 (Whereupon, a fifteen minute recess was taken.)

13 Q. (By Mr. Bradley) Dr. Roush, I assume that
14 you've heard the term polychlorinated biphenyls?

15 A. Yes.

16 Q. Also known as PCBs?

17 A. Yes.

18 Q. Also known as chlorinated biphenyls?

19 A. Yes.

20 Q. Also known as chlorinated diphenyls?

21 A. Yes. Not the same.

22 Q. Chlorinated biphenyls are not the same as
23 chlorinated diphenyls?

24 A. Yes, they are.

25 Q. What's not the same?

1 A. What you had said. I thought there was a
2 difference in that last one. You say it again.

3 Q. Are PCBs also known as chlorinated diphenyls?

4 A. Yes.

5 Q. And are PCBs also known as chlorinated
6 biphenyls?

7 A. Yes.

8 Q. Are chlorinated biphenyls and chlorinated
9 diphenyls the same?

10 A. Yes.

11 Q. When did you first hear the term PCBs?

12 A. When I came to Monsanto.

13 Q. Who, at Monsanto, first told you about PCBs?

14 A. First?

15 MR. BRADLEY: Yes.

16 A. I don't remember.

17 Q. (By Mr. Bradley) All right. Did you have a
18 discussion when you first went to Monsanto regarding PCBs?

19 THE WITNESS: Will you say that again?

20 MR. BRADLEY: Yes.

21 Q. (By Mr. Bradley) When you first went to
22 Monsanto, did you meet with anyone to discuss
23 polychlorinated biphenyls?

24 A. No.

25 Q. Tell me, then, how it was that you came to

1 first hear about the term PCBs, in what context?

2 A. Mr. Wheeler took me over to his office and
3 said, "I want to tell you what I'm working on."

4 Q. And what was he working on?

5 A. On PCBs.

6 Q. What work was he doing on PCBs when you met
7 with him?

8 A. Environmental contamination.

9 Q. What environmental contamination work was he
10 doing on PCBs?

11 A. It was related to the finding in Sweden, I
12 think it was, that PCBs were present in the environment.

13 Q. What specifically was Mr. Wheeler doing
14 regarding environmental contamination of PCBs when you met
15 with him?

16 A. Keeping up-to-date to what contamination there
17 was, or whatever he found in the literature, but he was
18 keeping up-to-date.

19 Q. Did he tell you how he was keeping up-to-date?

20 A. Literature primarily but also from other
21 companies.

22 Q. Did he tell you what he was doing to keep
23 up-to-date in the literature?

24 A. No.

25 Q. Did he show you any library acquisitions that

1 he had that addressed the topic of environmental
2 contamination by PCBs?

3 A. No.

4 Q. Did you discuss with him at all what he was
5 doing to keep up-to-date with the literature on PCBs?

6 A. No.

7 Q. Was there ever a point in time where you
8 discussed with Mr. Wheeler what he was doing, if anything,
9 to keep up-to-date on the literature in the field of PCBs?

10 THE WITNESS: Ask that again.

11 Q. (By Mr. Bradley) Yes. Was there ever a time
12 that you spoke with Mr. Wheeler regarding what he was doing
13 to keep up-to-date on the subject of PCBs in the
14 literature?

15 A. To a degree, yes.

16 Q. When did that occur?

17 A. I can't answer that.

18 Q. What did he indicate to you he was doing to
19 keep up-to-date regarding PCBs in the literature?

20 A. I think you just asked that question.

21 Q. Well, and do you have any more information,
22 other than what you've given me?

23 A. No. He had a file and he would take it out
24 and we would talk from his accumulated file.

25 Q. When you met -- Was it Mr. Wheeler or Dr.

1 Wheeler?

2 A. Mr. Wheeler.

3 Q. What was his title when you first met with him

4 to discuss PCBs?

5 A. I don't recall.

6 Q. Was he within the medical department?

7 A. Yes.

8 Q. Was he within the toxicology section?

9 A. No.

10 Q. What section was he in?

11 A. He was head of the industrial hygiene.

12 Q. You indicated that he had a file cabinet in

13 which he kept materials relating to PCBs?

14 A. Yes.

15 Q. And was that a two or four drawer file

16 cabinet?

17 A. I don't recall.

18 Q. Do you recall whether it was more than one

19 file cabinet?

20 A. About where I was when you asked me the other

21 time.

22 Q. So you don't know?

23 A. No.

24 Q. All right.

25 A. He had taken that seriously.

1 Q. Well, what does that mean about the number of
2 file cabinets that he had?

3 A. I can't answer. That's unrelated.

4 Q. All right. And over what period of time did
5 you have discussions with Mr. Wheeler regarding his work on
6 environmental contamination of PCBs?

7 A. I can't answer that.

8 Q. Do you recall whether your conversations with
9 him began in 1973?

10 A. Yes. No, sir, I can't answer that. I think
11 so.

12 Q. All right. Do you know whether you stopped
13 having discussions with Mr. Wheeler about environmental
14 contamination of PCBs before you retired?

15 THE WITNESS: Before he retired?

16 MR. FEATHERSTONE: Before you retired.

17 A. He was retired long before me.

18 Q. (By Mr. Bradley) All right. When did he
19 retire?

20 A. '74 or '75.

21 Q. Did you have those discussions with him about
22 environmental contamination of PCBs up to the time he
23 retired?

24 A. Yes.

25 Q. What responsibilities, if any, did Mr. Wheeler

1 have regarding environmental contamination of PCBs between
2 the time you began working at Monsanto and the time that he
3 retired?

4 THE WITNESS: Can you read that, give me that
5 question again?

6 (Whereupon, the reporter propounded the previous question.)

7 A. I don't know.

8 Q. (By Mr. Bradley) At the time you became
9 medical director in December of 1974, who, if anyone within
10 the medical department, had any responsibility relating to
11 the subject matter of PCBs?

12 A. Mr. Wheeler.

13 Q. And what responsibilities did he have when you
14 became medical director regarding PCBs?

15 A. He continued on that same assignment.

16 Q. All right. What responsibilities did he have
17 regarding PCBs? You said he was head of the industrial
18 hygiene section.

19 A. Yes.

20 Q. He worked on environmental contamination of
21 PCBs?

22 A. Yes.

23 Q. I'm trying to figure out what that means.
24 What did he do as head of the industrial hygiene section
25 relating to PCBs?

1 A. Nothing. He didn't do anything. He kept
2 up-to-date.

3 Q. And he was the only one who had
4 responsibilities in the medical department relating to
5 PCBs?

6 A. Yes.

7 Q. At least up until his retirement?

8 A. Yes.

9 MR. FEATHERSTONE: Off the record.

10 (Whereupon, a discussion was held between Counsel, off the
11 record.)

12 Q. (By Mr. Bradley) During the time that you
13 were medical director, did you ever prepare a summary of
14 data on the toxicity of Aroclor?

15 A. No.

16 Q. During the time that you were in the medical
17 department as associate director and director, up to the
18 time of your retirement, did the medical department ever
19 prepare a summary of data on the toxicity of Aroclor?

20 A. Yes.

21 Q. Who prepared that?

22 A. Levinskas.

23 Q. Did you review it?

24 A. Yes.

25 Q. What did you do, if anything, prior to

1 reviewing that summary?

2 A. It was after I retired.

3 Q. You prepared the summary after you retired?

4 A. Yes.

5 Q. Why is it, then, that you reviewed it if you
6 were retired?

7 A. I do work for Monsanto.

8 Q. You still do consulting work for Monsanto?

9 A. Yes.

10 Q. Do you recall the year that you reviewed the
11 summary prepared by Dr. Levinskas?

12 A. No.

13 Q. Help me again. What year did you retire?

14 A. '88.

15 Q. Do you know whether, between 1973, the month
16 that you began your employment in the medical department,
17 and the time of your retirement, whether the medical
18 department prepared a document or a summary on the data of
19 the toxicity of Aroclor?

20 A. No.

21 Q. No, you don't know or --

22 A. We did not.

23 Q. You did not. When you did review the summary
24 that was prepared after your retirement, what, if anything,
25 did you do prior to the review?

1 A. I don't know what you mean by the question.

2 Q. Well, did you review any toxicology standard
3 textbooks or any studies? Did you do anything at all to
4 prepare you to review a document which was a summary of
5 data on the toxicity of Aroclor?

6 A. No.

7 Q. Did you write a -- Excuse me. Did you
8 provide something written as part of your review of the
9 summary of data on the toxicity of Aroclor?

10 A. No.

11 Q. Okay. Did you orally give someone your
12 impressions of the summary?

13 A. Levinskas.

14 Q. All right. So after he gave you the summary,
15 you met with him or you spoke with him and told him what
16 you thought of the summary? Yes?

17 A. Yes.

18 Q. And do you recall what you told him regarding
19 the summary?

20 A. I thought he did a good job.

21 Q. Did you indicate to him whether there were any
22 areas that he had omitted from the summary that perhaps he
23 shouldn't - perhaps should be included?

24 MR. FEATHERSTONE: Let me hear that question
25 back now, please.

1 (Whereupon, the reporter propounded the previous question.)

2 A. No.

3 MR. FEATHERSTONE: Object to the form.

4 Q. (By Mr. Bradley) My question is, did you
5 indicate to Dr. Levinskas any areas that you thought he
6 should include in the summary that he hadn't included?

7 A. No.

8 Q. In your estimation, it was a thorough review
9 of the summary of the toxicity of Aroclor?

10 MR. FEATHERSTONE: Object to the form.

11 Q. (By Mr. Bradley) In your opinion, it was a
12 thorough review on the data on the toxicity of Aroclor?

13 A. I can't answer the question.

14 Q. Did you view it as a comprehensive review of
15 the data on the toxicity of Aroclor?

16 A. I can't answer that question.

17 Q. All right. Is my question not clear?

18 A. Yes. The question you asked me, I can't
19 answer.

20 Q. Why can't you answer it?

21 A. Because you're asking more out of me than I
22 have to give.

23 Q. All right. You didn't know whether it was a
24 comprehensive review?

25 A. When you do a comprehensive review, do you

1 look at just this, or do you go back and read other things
2 to make sure it's complete? Is that what you do? The
3 answer is no.

4 Q. All right. I take it, you didn't do anything
5 to determine whether it was a comprehensive --

6 A. I didn't do anymore than read what he had
7 done.

8 Q. All right. Describe for me, if you will, what
9 documents you reviewed between 1973 and the time you
10 reviewed the summary prepared by Dr. Levinskis on the
11 subject of PCBs. Can you do that?

12 THE WITNESS: What did you say I would do?
13 Say it again.

14 Q. (By Mr. Bradley) I'm interested in knowing
15 what documents, if any, you reviewed over the fifteen or
16 sixteen years you were employed at Monsanto regarding the
17 subject matter of PCBs.

18 A. That's a tough -- I can give some but don't
19 ask me to say what I did.

20 MR. BRADLEY: All right. Go ahead and give me
21 what you can.

22 A. Patty's got a good section on that.

23 Q. All right.

24 A. Kimbrell has written on the subject, on
25 dioxins and furans and things like that.

1 MR. FEATHERSTONE: He's talking about PCBs, Dr.
2 Roush.

3 A. I'm talking about the book. That's the title
4 of the book.

5 MR. FEATHERSTONE: All right.

6 MR. BRADLEY: Okay.

7 A. There's a National Research Council article on
8 PCBs, good one.

9 Q. (By Mr. Bradley) All right. Did you review
10 any of the articles that were in Mr. Wheeler's file
11 regarding PCBs?

12 A. No.

13 Q. Did you review any articles, if there were
14 any, in the library of Monsanto's medical department on
15 PCBs?

16 A. Yes.

17 Q. What do you recall about the articles that you
18 reviewed?

19 MR. FEATHERSTONE: Object to the form.

20 Q. (By Mr. Bradley) Do you recall why you
21 reviewed articles on PCBs in Monsanto's medical department
22 library?

23 A. An internal discussion.

24 Q. Do you recall which studies you reviewed?

25 A. No.

1 Q. Do you recall how many studies you reviewed?
2 A. No.
3 Q. Do you recall whether there were more than
4 five?
5 A. Oh, yes.
6 Q. Do you recall whether there were more than
7 ten?
8 A. No.
9 THE WITNESS: You mean in all that time, from
10 the beginning to the end?
11 MR. BRADLEY: Yes.
12 MR. FEATHERSTONE: Fifteen years, Dr. Roush.
13 MR. BRADLEY: From the time you began your
14 employment to the time you retired from Monsanto.
15 A. I don't know.
16 Q. (By Mr. Bradley) Did you ever attempt to
17 comprehensively review all the literature that had been
18 written on the subject matter of PCBs during the period of
19 time you worked at Monsanto?
20 MR. FEATHERSTONE: Object to the form.
21 A. No.
22 Q. (By Mr. Bradley) When you began your work at
23 Monsanto, did you have any discussions with Dr. Kelly
24 regarding the subject matter of PCBs?
25 A. No.

1 Q. When you began your work at Monsanto, did the
2 medical department have any responsibility for preparing
3 any materials regarding the subject matter of PCBs?

4 A. They participated in the safety data sheets.

5 Q. Anything else?

6 A. No.

7 Q. Do you know whether, by reviewing documents or
8 by talking with other people within the medical department
9 during the time you were employed with Monsanto, do you
10 know whether the medical department participated in the
11 preparation of any materials on PCBs prior to the time you
12 were a Monsanto employee?

13 A. No.

14 Q. I take it, you heard of the term furan?

15 A. Yes.

16 Q. Do you recall when you first -- Well, let me
17 ask it this way. Do you recall whether you heard that term
18 for the first time before or after you began your
19 employment with Monsanto?

20 A. After.

21 Q. Okay. Do you recall how it was that you heard
22 the term for the first time?

23 A. First episode of chloracne.

24 Q. When was the first episode of chloracne?

25 A. Long before I joined Monsanto.

1 Q. How did you learn about that first episode?

2 THE WITNESS: Talking about chloracne?

3 Q. (By Mr. Bradley) Was the first episode of
4 chloracne a Monsanto employee, is that what you meant?

5 A. Yes.

6 Q. And do you recall who told you about the
7 Monsanto employee who had the first episode of chloracne?

8 A. No.

9 Q. And what were you told, if anything, about the
10 relationship of that first episode and furans?

11 MR. FEATHERSTONE: Object to the form of the
12 questioning.

13 A. We had an episode of chloracne and we didn't
14 know what caused it.

15 Q. (By Mr. Bradley) Did somebody indicate to you
16 that it might have been caused by furans?

17 A. Didn't know there was such a term as furans.

18 Q. You indicated that you heard the term furan in
19 regards to this first episode of chloracne. What did you
20 hear?

21 MR. FEATHERSTONE: Object to the form of the
22 questioning.

23 Q. (By Mr. Bradley) Did you hear anything at all
24 regarding furans in relationship to this first episode of
25 chloracne while you were employed at Monsanto?

1 A. Yes.

2 Q. What did you hear?

3 MR. FEATHERSTONE: Same objection to the form

4 of the question.

5 A. This requires -- We had an episode of

6 chloracne and we always said we had one case, one instance.

7 Q. And did somebody --

8 A. Then as time went on, then we learned how to

9 do furans and then they said that was a furan that did it.

10 Q. Do you recall what date it was, or -- Let me

11 ask it this way. Was it in the 1970s that Monsanto had its

12 first episode of chloracne?

13 A. I don't know when it was. It was before me.

14 Q. You wouldn't know, then, whether it was the

15 '60s, '50s, '40s?

16 A. No, sir.

17 Q. When did you first hear that the first episode

18 of chloracne might have been caused by furans?

19 A. Recently.

20 Q. And who told you that?

21 A. I don't remember.

22 Q. Was it someone with Monsanto?

23 A. Yes.

24 Q. Someone within the medical department?

25 A. Yes.

1 Q. Had you heard about furans before this medical
2 department employee suggested to you that Monsanto's first
3 episode of chloracne might have been caused by furans?

4 THE WITNESS: Can you ask that question again?

5 MR. BRADLEY: Yes.

6 Q. (By Mr. Bradley) I'm interested in knowing
7 whether you heard about furans before you had this
8 conversation relating furans to the first episode of
9 chloracne.

10 A. Came in before I knew that there were furans in
11 our PCBs, and that means trace levels.

12 Q. When did you know that your PCBs had trace
13 levels of furans?

14 A. I don't know. It's recent though, and I can't
15 tell you what "recent" means.

16 Q. Can you tell me whether it was before you
17 retired?

18 A. Yes. Well, about the time I retired.
19 "Recently," that means after that. I don't know.

20 Q. When did you first hear about the Yusho
21 episode?

22 A. At the time of the Chicago symposium.

23 Q. Was that in 1975?

24 A. '74, '75.

25 Q. The Chicago symposium was - or do you recall

1 who sponsored the Chicago symposium?

2 A. I think it was EPA.

3 Q. Did you speak at that symposium?

4 A. No.

5 Q. You must -- I take it, you attended it?

6 A. Yes.

7 Q. Do you recall what sessions of the symposium
8 you attended that addressed the subject matter of PCBs?

9 A. The whole meeting was PCBs.

10 Q. All right. Do you recall which sessions you
11 attended that addressed the subject matter of furans?

12 A. I think it was part of the general program.

13 Q. Why was it that you attended that symposium?

14 A. The IBT results were published, were given out
15 at that time.

16 Q. And what was it about the IBT results that led
17 you to attend the Chicago symposium?

18 A. Monsanto paid for the IBT study.

19 Q. Okay. Why did completion of the study mean
20 that you attended the Chicago symposium?

21 A. Why did that mean I attended? We had an
22 investment in it.

23 Q. Did you attend the Chicago symposium, at least
24 in part, then, to help protect your investment?

25 MR. FEATHERSTONE: Object to the form.

1 A. Primarily to learn all I could learn about
2 PCBs.

3 Q. (By Mr. Bradley) Well, did you attend the
4 Chicago symposium, in part, to help protect Monsanto's
5 investment in PCBs?

6 MR. FEATHERSTONE: Object to the form.

7 A. I can't answer it in that form.

8 Q. (By Mr. Bradley) Have you heard the term
9 polychlorinated dibenzylfuran?

10 A. Yes.

11 Q. What is a polychlorinated dibenzylfuran?

12 A. It's a diphenyl in which the two rings are
13 joined by an oxygen, one of the two.

14 Q. Do you recall when the first time was that you
15 heard the term polychlorinated dibenzylfuran?

16 A. No.

17 Q. Do you know whether it's ever been claimed
18 that polychlorinated dibenzylfurans are chemical
19 contaminants of PCBs?

20 A. Yes.

21 Q. Did you learn that during the time that you
22 were employed at Monsanto?

23 A. Yes.

24 Q. Did you learn that at least by the time the
25 Chicago symposium was completed?

1 MR. FEATHERSTONE: That it was claimed?

2 MR. BRADLEY: Yes.

3 A. I joined Monsanto in '73. It was two years
4 after that, that that symposium took place.

5 MR. BRADLEY: Right.

6 A. Now, everything I learned there was new to me
7 because I was new on PCBs.

8 Q. (By Mr. Bradley) Well, my -- I'm interested
9 in knowing whether you ever learned that polychlorinated
10 dibenzylfurans are, in fact, chemical contaminants of PCBs?

11 A. I'm not sure when, but the first thing we
12 learned about furans was USHA, and USHA was presented there
13 and I can't tell you whether it was then or shortly
14 thereafter.

15 Q. But you do agree that polychlorinated
16 dibenzylfurans are chemical contaminants of PCBs?

17 MR. FEATHERSTONE: Object to the lack of
18 foundation.

19 A. My impression is, it is a little bit.

20 Q. (By Mr. Bradley) Okay. Can you compare the
21 toxicity of PCBs to polychlorinated dibenzylfurans?

22 A. No. Nor can anyone else.

23 Q. Do you know wheather or not polychlorinated
24 dibenzylfurans are considered more toxic than PCBs?

25 A. I don't know.

1 Q. During the time that you worked at Monsanto,
2 did you ever speak with anyone from Nevada Power Company?

3 A. No.

4 Q. During the time you were employed at Monsanto,
5 did you ever speak with any electric utility company
6 regarding PCBs?

7 A. Not to my knowledge.

8 Q. During the time you were employed at Monsanto,
9 did you speak with anyone from General Electric regarding
10 PCB?

11 A. Not that I recall.

12 Q. During the time you were employed at Monsanto,
13 did you speak with anyone from Westinghouse regarding PCBs?

14 A. Same answer.

15 Q. During the period of time you were employed at
16 Monsanto, do you know whether the head of the toxicology
17 section in the medical department ever spoke with any
18 electric utility regarding the subject matter of PCBs?

19 A. I don't think so.

20 Q. During --

21 THE WITNESS: You're talking about while I was
22 medical director?

23 MR. BRADLEY: I'm talking about while you were
24 employed at Monsanto.

25 A. Yes.

1 MR. BRADLEY: Including the time you were
2 associate director.

3 Q. (By Mr. Bradley) During the time you were at
4 Monsanto, do you know whether the head of the toxicology
5 section of the medical department at Monsanto ever spoke
6 with anyone from General Electric regarding PCBs?

7 A. No.

8 Q. During that time you were employed at
9 Monsanto, do you know whether the head of the toxicology
10 section of the medical department of Monsanto ever spoke
11 with anyone from Westinghouse regarding PCBs?

12 A. I don't know.

13 Q. You began your work at Monsanto in '73 and Dr.
14 Kelly retired in '74; is that correct?

15 A. Yes.

16 Q. Do you recall roughly how many months you'd
17 worked there before he retired?

18 A. About eighteen or nineteen months.

19 Q. And during that eighteen or nineteen month
20 period, did Dr. Kelly explain to you what he knew about
21 PCBs?

22 A. My teacher was Wheeler.

23 Q. So I take it, you and Kelly didn't have those
24 kinds of discussions?

25 A. No. He left it up to him.

1 Q. All right.

2 A. That was his responsibility.

3 Q. During those eighteen or nineteen months

4 before Dr. Kelly retired, did Dr. Kelly show you any

5 documents relating to PCBs?

6 A. No.

7 Q. Those were all shown to you by Dr. Wheeler, or

8 Mr. Wheeler?

9 A. Yes.

10 Q. Do you know whether Mr. Wheeler is still

11 living?

12 A. No, he is not.

13 Q. When did he pass away?

14 A. Couple of years ago.

15 Q. During the time that you were employed at

16 Monsanto, was Mr. Wheeler always the head of the toxicology

17 section of the medical department at Monsanto?

18 MR. FEATHERSTONE: That's not how he has been

19 identified.

20 A. He was not.

21 MR. BRADLEY: Excuse me. Mr. Wheeler was head

22 of the industrial hygiene section?

23 A. Yes.

24 Q. (By Mr. Bradley) And during that period,

25 during the time you were employed at Monsanto, was Mr.

1 Wheeler always the head of the industrial hygiene section
2 of the medical department at Monsanto?

3 A. He quit within three or four years after I
4 retired - I mean after I joined the company.

5 Q. So he quit in 1976 or '77

6 A. Yes.

7 Q. Who took his position when he quit?

8 A. Jack Garrett.

9 Q. When Jack Garrett became head of the
10 industrial hygiene section in the medical department, did
11 you then turn to Mr. Garrett regarding the subject matter
12 of PCBs?

13 A. Both he and Levinskas.

14 Q. What training did Mr. Garrett have in the
15 subject matter of PCBs prior to taking over the industrial
16 hygiene section?

17 MR. FEATHERSTONE: Object to the absence of
18 foundation.

19 A. He was the head of industrial hygiene section
20 and the subject of PCBs was part of his regular duties.

21 Q. (By Mr. Bradley) Were you responsible for the
22 appointment of Mr. Garrett to the head of the industrial
23 hygiene section?

24 A. Yes.

25 Q. Did you meet with Mr. Garrett prior -- Well,

1 you were the one who promoted Mr. Garrett to the head?

2 A. Yes.

3 Q. Did you meet with him and talk with him about
4 the appointment prior to making the appointment?

5 A. Yes.

6 Q. Okay. And when you met with him, did you
7 discuss with him his knowledge of PCBs?

8 A. I knew he knew about PCBs by that time.

9 Q. How did you know that he knew about PCBs prior
10 to meeting with him regarding his appointment to be
11 industrial hygiene section head?

12 A. Just discussion.

13 Q. Discussion with Mr. Garrett?

14 A. Yes. And Levinskas.

15 Q. And when you made the appointment, what did
16 you know about Mr. Garrett's background in PCBs?

17 A. I knew it as it was applied to Monsanto.

18 Q. When you made the appointment, did you know
19 whether Mr. Garrett was on toxicologist?

20 A. No, he was not.

21 Q. Did he have a graduate degree in industrial
22 hygiene?

23 A. I don't know.

24 Q. You knew, though, that he worked with the
25 industrial hygiene section in Monsanto?

1 A. Yes. For many years.

2 Q. Are you familiar with the Monsanto product
3 known as 1016?

4 A. Yes.

5 Q. Did that product exist before you began your
6 employment with Monsanto?

7 A. I don't know.

8 Q. The PCBs manufactured by Monsanto were known
9 as Aroclors?

10 A. Yes.

11 Q. And the Aroclors all had different numbers,
12 correct?

13 A. Well, there were PCBs with different chlorine
14 attachments.

15 Q. There were, for example, Aroclors 1221, 1242,
16 1254, 1260? Yes?

17 A. Yes.

18 Q. And the "12" denominated what?

19 A. I don't know.

20 Q. Do you know what the second two digits
21 denominated?

22 A. That's the chlorine content.

23 Q. And 1016 was a product that contained PCBs; is
24 that correct?

25 A. We just said that before, and I don't know

1 anything about 1016.

2 Q. You don't know whether 1016 had any PCBs in
3 it?

4 A. No. It doesn't sound like it could.

5 Q. All right. No, sir, it doesn't.

6 MR. FEATHERSTONE: I move to strike that
7 comment.

8 Q. (By Mr. Bradley) During the time you were
9 employed at Monsanto, did you ever hear that PCBs might
10 cause harm to human health?

11 THE WITNESS: Might cause what?

12 MR. BRADLEY: Harm to human health.

13 A. Yes.

14 Q. (By Mr. Bradley) When did you first hear
15 that?

16 A. When I first heard of PCBs.

17 Q. What kind of harm did you hear PCBs might
18 cause to human health?

19 MR. FEATHERSTONE: Object to the form of the
20 questioning.

21 A. It is an irritant.

22 Q. (By Mr. Bradley) To the skin?

23 A. And to the eyes.

24 Q. What else did you hear about it?

25 A. I'm not through with irritation.

1 Q. I'm sorry.

2 A. It's a respiratory irritation too.

3 Q. What's a respiratory irritant?

4 A. One that causes cough.

5 Q. All right.

6 A. And there is -- And so you can get irritation
7 of skin, eyes and respiratory track. It also, with some
8 question, produces liver effects, in terms of change in the
9 levels of enzymes and effects what we call liver function
10 studies. You have a change in alkaline phosphate, SGOT,
11 SGTP and GGTP. Those are all capitalized. There is a --

12 MR. FEATHERSTONE: This is what you heard?

13 A. No. This is what I know, what I've read.

14 MR. FEATHERSTONE: He asked what you heard
15 when you joined, is the question.

16 MR. BRADLEY: Actually, I don't believe that's
17 the question at all. Why don't you read the question back.
18 (Whereupon, the reporter propounded the previous question.)

19 MR. FEATHERSTONE: The question is, what did
20 you hear.

21 THE WITNESS: As opposed to what I read?

22 MR. BRADLEY: The question is, what did you
23 hear. Not when you first started, but what did you hear
24 when you first heard that PCBs might cause harm to human
25 health.

1 MR. FEATHERSTONE: Object to the form of the
2 questioning.

3 MR. BRADLEY: Well, I'll re-ask it.

4 Q. (By Mr. Bradley) Was there ever a point when
5 you learned that PCBs might cause harm to human health?

6 A. Yes.

7 Q. When did you first learn that?

8 A. I don't know.

9 Q. What kind of harm did you learn that PCBs
10 might cause to human health?

11 A. Would cause irritation, as I've described.
12 That's common sense. It may cause change in the liver
13 function, it may have an effect on the nervous system.
14 Those are all of what we call acute effects.

15 Q. Did you ever learn that PCBs might cause
16 chronic effects to human health?

17 A. There is a question whether it does or not.

18 Q. What did you learn about that?

19 MR. FEATHERSTONE: Object to the form of the
20 questioning.

21 Q. (By Mr. Bradley) What did you learn about
22 whether PCBs cause chronic effects to human health?

23 MR. FEATHERSTONE: Object to the form of the
24 questioning.

25 A. I didn't say that it caused chronic effects.

1 Q. (By Mr. Bradley) What did you learn that
2 indicated to you that PCBs may cause chronic harmful
3 effects to human health?

4 MR. FEATHERSTONE: Object to the form of the
5 questioning.

6 A. Learned that at the Chicago symposium as soon
7 as I joined, shortly after I joined. A lot of my knowlege
8 is related to what I learned there.

9 Q. (By Mr. Bradley) And what kind of chronic
10 effects did you learn PCBs might cause to human health?

11 MR. FEATHERSTONE: Object to the form of the
12 questioning.

13 A. PCBs in rodents causes liver damage, as we've
14 described, and in a bigger dose, will produce a more
15 lasting effect maybe, and maybe it will go away.

16 Q. (By Mr. Bradley) Did you ever learn whether
17 PCBs causes a skin condition called chloracne?

18 A. Yes.

19 Q. Did you ever learn whether, if a worker has
20 chloracne, it might indicate some kind of a more serious
21 chronic systemic poisoning?

22 MR. FEATHERSTONE: Object to the form of the
23 questioning.

24 A. No.

25 Q. In your discussions with Dr. Levinskas, did he

1 ever indicate to you that if a worker has a skin rash
2 following exposure to PCBs, that that could indicate a
3 systemic poisoning?

4 A. No.

5 Q. Are you familiar with the phrase "systemic
6 poisoning?"

7 A. Yes.

8 Q. What does that mean?

9 A. It means it's not superficial, in effect. So
10 if it involves -- If it's one of the organ systems, it's
11 called a systemic effect.

12 Q. Like the heart or the lungs or the liver?

13 A. Or the GI tract or the kidneys or whatever.

14 Q. Have you ever heard the name Dr. Lewis
15 Schwartz?

16 A. No.

17 Q. Did Dr. Kelly ever tell you that he
18 participated in a round table discussion in 1937 regarding,
19 in part, chlorinated biphenyls?

20 A. No.

21 Q. Did Dr. Levinskas, or anyone else, ever tell
22 you that PCBs were alleged, or excuse me, it was alleged
23 that PCBs caused harm to the liver, as early as the 1940s?

24 MR. FEATHERSTONE: Object to the form of the
25 questioning.

1 A. I've read that.

2 Q. (By Mr. Bradley) When did you read that?

3 A. I can't answer that question.

4 Q. Did you read any Monsanto document that warned

5 purchasers of Monsanto products that it was known back in

6 the '40s that PCBs might cause harm to the liver?

7 A. There was a pamphlet that was put out that

8 said be careful of this and this and this.

9 Q. Did the pamphlet indicate that back in the

10 '40s, it was alleged that exposure to PCBs might harm the

11 liver?

12 A. This document doesn't say that. It says, "Do

13 not get skin contact or inhalation exposure."

14 Q. Doesn't say it might cause liver problems?

15 A. But it talks about limiting air exposure.

16 Q. What's the name of the pamphlet?

17 A. Safety Data Sheet, I think, of some form.

18 Q. Have you ever heard of a Mr. F.R. Kaimer,

19 K-a-i-m-e-r?

20 A. No.

21 Q. During the time you were employed at Monsanto,

22 did you ever learn whether any General Electric employees

23 were alleged to have severe cases of acne because of their

24 exposure to materials that contained, in part, chlorinated

25 biphenyl?

1 A. No.

2 Q. During the time you worked at Monsanto, were
3 you ever - did you ever learn about a product called
4 Halowax?

5 A. Yes.

6 Q. What was Halowax?

7 A. I don't remember.

8 Q. Do you recall whether it contained parts of
9 chlorinated biphenyl?

10 A. It was a question, of whether it did.

11 Q. It contained chlorinated Napthalene though,
12 didn't it?

13 A. I think so.

14 Q. During the time you worked at Monsanto, were
15 you - did you ever learn that workers exposed to Halowax
16 developed chloracne?

17 A. I think so. That was a long time ago.

18 Q. During the time you worked at Monsanto, did
19 you ever learn that it was alleged that at least one worker
20 may have died because of exposure to Halowax?

21 A. I don't remember that.

22 Q. During the time that you were employed at
23 Monsanto, did you ever learn whether Monsanto undertook any
24 studies to determine whether Halowax contained PCBs?

25 A. I don't know.

1 Q. Did you learn about Halowax from Dr. Levinskas
2 or Mr. Wheeler?

3 A. Reading.

4 Q. What were you reading?

5 A. Just on the general subject on PCBs, and that
6 may have come up then.

7 Q. Were you reading a study or were you reading a
8 report prepared by a Monsanto employee?

9 A. No. No. It was written. It was published.

10 Q. During the time that you were employed at
11 Monsanto, did Monsanto manufacture PCBs?

12 A. Yes.

13 Q. And during that time when Monsanto was
14 manufacturing PCBs and you were employed there, did
15 Monsanto give the workers fresh clothing before they began
16 their work shift?

17 A. Fresh clothing was a part of this safety data
18 sheet that I was telling you about. That was given to
19 customers, too.

20 Q. Safety data sheet was given to customers?

21 A. Yes.

22 Q. Customers would be General Electric and
23 Westinghouse?

24 A. Yes.

25 Q. And did the safety data sheet tell GE and

1 Westinghouse that employees working with PCBs should change
2 their clothing daily?

3 A. Yes.

4 Q. And during the time that you were employed at
5 Monsanto, did the workers working with PCBs change their
6 shoes daily?

7 MR. FEATHERSTONE: Object to the form of the
8 questioning, and also object to the lack of foundation.

9 A. That's a detail I can't answer. They were
10 told not to have PCBs on their clothes, so that means
11 changing things.

12 Q. (By Mr. Bradley) Well, did Monsanto wash the
13 clothing for its employees?

14 MR. FEATHERSTONE: Objection. Lack of
15 foundation. No showing this witness has personal
16 knowledge.

17 A. I don't know.

18 Q. (By Mr. Bradley) And do you recall whether
19 Monsanto did anything else to provide clean apparel for
20 workers working with PCBs during the time that you were at
21 Monsanto and Monsanto was manufacturing PCBs?

22 A. I just recall there was fresh gear.

23 Q. Well, did the gear include fresh gloves?

24 A. Yes.

25 Q. Did the gear include fresh pants?

1 A. Yes.

2 Q. Fresh shirts?

3 A. Yes.

4 Q. Fresh shoes?

5 A. I don't remember.

6 Q. Fresh socks?

7 A. Yes. Fresh gloves.

8 MR. FEATHERSTONE: You already did gloves.

9 THE WITNESS: Huh?

10 MR. FEATHERSTONE: We already did gloves.

11 A. All right.

12 Q. (By Mr. Bradley) And the safety data sheet
13 that you gave to GE and Westinghouse and other customers
14 advised them to also have their workers have fresh
15 clothing?

16 A. Yes.

17 Q. Fresh apparel?

18 A. Yes.

19 Q. All right.

20 MR. FEATHERSTONE: Including -- "You,"
21 meaning the witness? The witness already said he didn't
22 have any contact with them. You mean Monsanto?

23 MR. BRADLEY: Monsanto.

24 MR. FEATHERSTONE: All right.

25 A. Monsanto.

1 Q. (By Mr. Bradley) Did Monsanto do anything to
2 insure -- Well, let me back off. When you sold PCBs to
3 General Electric during the time that you were employed at
4 Monsanto, you knew that they were going to be used in
5 transformers and capacitors, didn't you?

6 A. Yes.

7 Q. You knew that GE and Westinghouse would sell
8 those transformers to electric utility companies?

9 A. Yes.

10 Q. And what, if anything, did Monsanto do to
11 inform the electric utility companies about the safety data
12 sheets that describe the need to have fresh apparel?

13 A. They gave this information. I don't know who
14 they gave it to.

15 Q. I'm going to show you what's been marked for
16 identification as Plaintiff's Exhibit 979 and ask you to
17 review that.

18 MR. FEATHERSTONE: Mr. Bradley, do you want
19 him to read the document?

20 MR. BRADLEY: I do want him to do that. Well,
21 let me ask this question first.

22 Q. (By Mr. Bradley) Have you seen that document
23 before?

24 A. I think so.

25 MR. BRADLEY: Then I do want him to review it.

1 I'm happy taking a five or ten minute break while you
2 review that.

3 THE WITNESS: I want to take a break with you.

4 MR. BRADLEY: All right.

5 (Whereupon, a twenty minute recess was taken.)

6 Q. (By Mr. Bradley) Dr. Roush, have you had an
7 opportunity to at least skim Plaintiff's Exhibit 979?

8 A. Yes.

9 Q. And is that a document that you've seen
10 before?

11 A. Yes.

12 Q. And was that a document that was maintained in
13 a file within Monsanto's medical department?

14 A. I didn't see it there.

15 Q. Where did you see it?

16 A. In my review of looking at Napthalenes.

17 Q. All right. And where did you grab -- Excuse
18 me. Where did you go to review materials relating to
19 Napthalenes?

20 A. I'm sure it was at Monsanto.

21 Q. All right. So this is a document that you
22 would have reviewed at Monsanto?

23 A. I think so.

24 Q. All right. And would that have been in the
25 medical department library?

1 A. Yes.

2 Q. Did Monsanto, in 1973 when you began
3 employment there, have a separate file on Napthalenes?

4 A. I don't know.

5 Q. After you began work with Monsanto in 1973,
6 did Monsanto ever have a file exclusively on Napthalenes?

7 A. I don't know.

8 Q. Do you -- Can PCBs get absorbed through the
9 skin?

10 A. To a degree.

11 Q. Did Monsanto ever tell its customers that PCBs
12 get absorbed through the skin?

13 A. Yes. We were told to wear leather gloves to
14 prevent its absorbtion.

15 Q. So the safety data sheets say wear gloves
16 because if you don't, PCBs get absorbed into the skin?

17 A. Right.

18 Q. Yes?

19 A. It says wear gloves to prevent absorbtion.

20 Q. Did Monsanto ever inform electric utility
21 companies that PCBs get absorbed through the skin?

22 A. That wasn't my responsibility. My answer is,
23 I think it was.

24 Q. And who do you think informed utility
25 companies that PCBs get absorbed through the skin?

1 A. I don't know.

2 Q. Would that have come through the industrial
3 hygiene section of the medical department?

4 A. I don't think so.

5 Q. Would it have come through the medical
6 department at all?

7 A. I don't think so.

8 Q. Which department would it have come through?

9 A. From the business group that was working with
10 PCBs.

11 Q. Through the marketing and sales folks?

12 A. Well, there are those who had responsibility
13 for safety, as well.

14 Q. And which ones -- Which people had
15 responsibility for safety, as well?

16 A. I'm talking about the business group. Within
17 that business group, they did it.

18 Q. Within marketing and sales there were people
19 --

20 MR. FEATHERSTONE: He said business group.

21 Q. (By Mr. Bradley) Is the business group the
22 same as marketing and sales?

23 A. But they also have the responsibilities on
24 handling the product.

25 Q. But when you referenced the business group,

1 were you referring to the marketing and sales people?

2 A. And other things that make -- The business
3 group does a business on PCBs, included in that was
4 responsibility to tell the customers what they needed to
5 know.

6 Q. And who then was responsible within Monsanto
7 for telling the customers what it is that they needed to
8 know?

9 A. The business group.

10 Q. And who headed the business group during the
11 time that you were at Monsanto?

12 A. I don't know.

13 Q. What would that person's title be?

14 A. I don't know.

15 Q. Was there a department within Monsanto called
16 the Business Group?

17 A. Well, each one of our businesses, those that
18 worked with Ag products would have one business group,
19 those working with PCBs would be another group.

20 Q. All right. Was there a department or division
21 within Monsanto that was working with PCBs?

22 A. Yes.

23 Q. And what was that department or division
24 called?

25 A. I don't know. That's what you asked me.

1 Q. All right. How did the -- Let me ask it this
2 way. Did the medical department inform the business people
3 about -- Well, let me be more specific. Did Monsanto's
4 medical department inform Monsanto's business group working
5 with PCBs, that PCBs get absorbed through the skin?

6 A. Yes.

7 Q. And have you seen a document sent by the
8 medical department to the business group working with PCBs
9 that says PCBs get absorbed through the skin?

10 A. I think so.

11 Q. How, normally, would Monsanto's medical
12 department give information to the business group working
13 with the PCBs about potential health hazards of PCBs?

14 A. They would talk to them, explain what the
15 action is, and then they would have an agreement how they
16 would contact the customer.

17 Q. And were the discussions followed by
18 confirming letters, or anything written?

19 A. It would be between that business group.
20 Those who leave Monsanto and go, talk to that customer
21 would be the one who would carry that document.

22 Q. But after the medical department had a
23 discussion with the business group, would those be followed
24 by confirming letters between the medical department and
25 the business group regarding the subject matter of the

1 discussion?

2 A. I don't know.

3 Q. Did you ever talk with the business group
4 working with PCBs and let them know that PCBs get absorbed
5 through the skin?

6 A. That was before I joined Monsanto. They
7 already knew it.

8 Q. Did you talk with anyone within the business
9 department of Monsanto working with PCBs where they
10 indicated to you that they knew PCBs get absorbed through
11 the skin?

12 A. Yes.

13 Q. Who did you speak with from the business
14 department at Monsanto working with PCBs where they
15 indicated they knew that PCBs get absorbed through the
16 skin?

17 A. The safety data sheet said it.

18 Q. Did you talk --

19 MR. BRADLEY: I'm sorry. Would you read
20 back the last two questions and answers?

21 (Whereupon, the reporter propounded the previous two
22 questions and answers.)

23 Q. (By Mr. Bradley) So let me go back. Who did
24 you speak with within the business department who indicated
25 to you that the business department knew that PCBs get

1 absorbed through skin?

2 MR. FEATHERSTONE: You used "business
3 department." He said business group.

4 MR. BRADLEY: Business group, yes.

5 MR. FEATHERSTONE: All right.

6 A. That safety data sheet was already written and
7 defined what the hazards were, as to what they should do to
8 protect themselves from it, and included in that would be a
9 discussion, a statement, concerning the safety.

10 Q. (By Mr. Bradley) My question, though, is --
11 You indicated you'd spoken with someone within the business
12 group of Monsanto working with PCBs where they indicated to
13 you that they knew PCBs got absorbed through the skin. So
14 my question to you is, who is it that you spoke with in the
15 business group of Monsanto's PCBs, working with Monsanto's
16 PCBs, that indicated to you that they knew PCBs get
17 absorbed into the skin?

18 A. I had a copy of their safety data sheet that
19 told me that.

20 Q. All right.

21 A. I don't need to have someone else to go ask
22 them, "Is this yours?"

23 Q. So you didn't talk --

24 A. Directly to them, because I knew it was taking
25 place because I had that safety data sheet.

Q. All right. Did anyone from the business group of Monsanto working with PCBs indicate to you that they knew that there were some studies suggesting that PCBs might cause liver damage?

A. The studies that were done within Monsanto was the IBT studies that showed that PCBs will effect the liver.

Q. My question, though, is did anyone from the business group of Monsanto working with PCBs ever indicate to you that they knew that PCBs might damage the liver?

A. Not to me.

Q. Did anyone from the business group at Monsanto working with PCBs ever indicate to you that they knew anything about the alleged association between PCBs and harmful effects on human health?

MR. FEATHERSTONE: May I hear the question, please, Mr. Court Reporter?

(Whereupon, the reporter propounded the previous question.)

MR. BRADLEY: I'm going to rephrase the question.

Q. (By Mr. Bradley) Did anyone within the business group at Monsanto working with PCBs ever indicate to you that they knew that PCBs might cause harm to human health?

A. Not to to me, they didn't.

1 Q. Did anyone within the business group of
2 Monsanto working with PCBs ever indicate to you that they
3 knew PCBs might cause harm to the environment?

4 A. No.

5 Q. Did you ever review any documents generated by
6 the business group at Monsanto working with PCBs that
7 indicated that that knew that PCBs might cause harm to
8 human health?

9 A. Yes.

10 Q. What documents did you review?

11 A. There are a series of safety data sheets that
12 describe that.

13 Q. Other than the safety data sheets, did you
14 review any documents that would indicate that the business
15 group at Monsanto working with PCBs knew that PCBs might
16 cause harm to human health?

17 A. No.

18 Q. Other than this safety data sheet, did you
19 review, have you ever reviewed any documents generated by
20 the business group at Monsanto working with PCBs that
21 indicates that PCBs might cause harm to the environment?

22 A. No.

23 Q. During the time that you worked at Monsanto,
24 did you ever review any document generated by the medical
25 department to the business group at Monsanto working with

1 PCBs that described how - Excuse me - that indicated PCBs
2 may cause harm to human health?

3 MR. FEATHERSTONE: May I hear that one back,
4 please, Mr. Court Reporter?

5 (Whereupon, the reporter propounded the previous question.)

6 A. My safety data sheet is the only thing I've
7 got that talks about whether it will or will not produce
8 effects on human health.

9 Q. (By Mr. Bradley) Who generated the safety
10 data sheets?

11 A. The safety man from the business group working
12 with someone from the medical department.

13 Q. All right. And during the time you were
14 employed at Monsanto, did you review any documents that
15 were generated by Monsanto's medical department to
16 Monsanto's business group working with PCBs that indicated
17 PCBs may cause harm to the environment?

18 A. No. That wasn't our responsibility. It was
19 not the medical department's responsibility.

20 Q. Whose responsibility was it?

21 A. Business group.

22 Q. Did the business group maintain its own
23 library?

24 A. I don't know.

25 Q. How did the business group learn about PCBs

1 causing harm to the environment?

2 MR. FEATHERSTONE: Objection.

3 A. I can't answer that.

4 MR. FEATHERSTONE: No showing of personal
5 knowledge.

6 Q. (By Mr. Bradley) Are you familiar with a
7 series of studies performed by a Professor Jensen in Sweden
8 regarding PCBs?

9 A. No.

10 Q. Are you aware of any studies at all that show
11 that PCBs may cause harm to the environment?

12 A. I can't answer that question.

13 Q. Why can't you answer the question?

14 A. I don't know what you mean by "damage to the
15 environment."

16 Q. Well, how about thinning of eggshells?

17 A. I think that would be a reasonable one, but
18 that's so infrequent.

19 Q. Well, did you, while you were employed at
20 Monsanto, did you review any studies that indicated PCBs
21 may cause eggshells to be thinner?

22 MR. FEATHERSTONE: Object to the form, the
23 form of the question.

24 A. Yes, I've heard of that.

25 Q. (By Mr. Bradley) And did you relay that

1 information to the business group at Monsanto working on
2 PCBs?

3 A. No.

4 Q. And during the time you were at Monsanto, did
5 you learn that PCBs were being found in marine
6 environments?

7 A. Yes.

8 Q. And did you relate that information to the
9 business group?

10 A. They already knew it.

11 Q. How do you know they already knew it?

12 A. They got that from Wheeler because Wheeler
13 knew that.

14 Q. Did you hear Wheeler tell the business group
15 about --

16 A. No.

17 Q. You're guessing that Mr. Wheeler told them
18 that? Is that what you're doing?

19 A. He worked closely with them.

20 Q. If you were going to find out who Mr. Wheeler
21 worked with in the business group at Monsanto working with
22 PCBs, what would you do?

23 A. Go and talk to one of the members of that
24 business group.

25 Q. Which member of the business group would you

1 talk to?

2 THE WITNESS: By name?

3 MR. BRADLEY: Yes.

4 A. Mr. Papageorge.

5 Q. (By Mr. Bradley) Is there a business group at
6 Monsanto working with PCBs that's different from the
7 marketing and sales?

8 A. They don't have a marketing or anything on
9 PCBs now.

10 Q. Let's talk about the '70s. During the '70s,
11 was there a business group at Monsanto working with PCBs
12 that was separate from Monsanto marketing and sales
13 departments?

14 A. I don't think so.

15 Q. During the time that you worked at Monsanto,
16 did you review any documents that indicated that
17 Plaintiff's Exhibit 979 was given to the business group at
18 Monsanto working with PCBs?

19 A. I don't know.

20 Q. Do you know of any research indicating PCBs
21 may cause malignant melanomas?

22 A. I know one paper in which it talked about it.
23 There were two cases.

24 Q. And when did you review the paper?

25 A. I knew about it before it was published.

1 Q. And when was it published?
2 A. I don't recall.
3 Q. When did you learn about it?
4 A. I can't answer that.
5 Q. You don't recall when you learned about the
6 malignant melanomas?
7 A. Yes. I had a direct call to tell me about it.
8 Q. Was that in the 1970s?
9 A. Whenever it happened. I don't remember that.
10 Q. Well, I know that you don't remember, but do
11 you remember whether it happened in the 1970s?
12 A. It would be the late '70s or early '80s.
13 Q. Do you know whether that information was given
14 to the business group at Monsanto working with PCBs?
15 A. I think it was.
16 Q. And was it given to them in the form of a
17 letter or a report?
18 A. I don't remember.
19 Q. Do you recall talking with anyone within the
20 business group at Monsanto working with PCBs about the
21 malignant melanoma cases?
22 MR. FEATHERSTONE: Object to the form of the
23 question.
24 A. I informed them that we did have it, I recall,
25 that we did receive it, that document.

1 Q. (By Mr. Bradley) You informed someone at the
2 business group within Monsanto?

3 A. Yes.

4 Q. All right. And who was it that you informed?

5 A. I can't recall.

6 Q. Do you recall whether it was via phone?

7 A. We met with them.

8 Q. Did you meet with them in Monsanto's medical
9 department?

10 A. I don't -- Yes, I'm sure we did.

11 Q. And who was there?

12 A. I can't recall.

13 Q. Do you recall whether there was someone from
14 the medical department at that meeting other than you?

15 A. I don't think so.

16 Q. Do you recall whether there was more than one
17 person from the business department at that meeting,
18 business group?

19 A. No.

20 Q. Two of you?

21 A. At least two.

22 Q. And you orally described what you learned
23 about malignant melanomas?

24 A. Yes.

25 Q. And did the business group inform Monsanto's

1 -- At the time you learned about the malignant melanomas,
2 did Monsanto still have customers for its PCB products?

3 A. I think so.

4 Q. And did Monsanto inform its customers about
5 what you learned regarding malignant melanomas and PCBs?

6 MR. FEATHERSTONE: Well, I object to the form
7 of the question and foundation. He already testified that
8 was not his job, that was the job of the business group.

9 MR. BRADLEY: You still have to answer the
10 question.

11 A. With what I know, I can't answer your
12 question.

13 Q. (By Mr. Bradley) Okay.

14 A. But we did respond.

15 Q. You did respond?

16 A. Yes. We told everyone. Everyone knew about
17 it.

18 Q. What do you mean that you responded?

19 A. That malignant melanoma has already
20 disappeared as a subject. It's been published. The
21 medical director of Mobile called me and thanked me for the
22 fact that I helped them on it. And all of this that I've
23 said was given to Monsanto's business group. They knew
24 about my contacts and what had taken place.

25 Q. And did the -- Do you know whether Monsanto's

1 business group, or Monsanto's medical department or any
2 department or group within Monsanto, ever told Monsanto's
3 customers about what you learned of malignant melanoma and
4 PCBs?

5 A. We haven't learned anything. We told them we
6 hadn't learned anything yet.

7 Q. Do you know of any studies or research
8 indicating PCBs may cause brain tumors?

9 A. No.

10 Q. Do you know of any research or study
11 indicating PCBs may have caused injury to workers?

12 THE WITNESS: Injuries to workers?

13 MR. BRADLEY: Yes.

14 A. Yes.

15 Q. (By Mr. Bradley) And what kind of injury did
16 those workers suffer?

17 A. Almost -- The only thing they see is the
18 result of irritation.

19 Q. Doctor, is there a difference between
20 irritation and chloracne?

21 A. Yes.

22 Q. Do you know of any research study indicating
23 PCBs may have caused chloracne to workers?

24 A. There is a lot of literature that talks about
25 it causing acne but to say it causes chloracne is not

1 clear.

2 Q. Did Monsanto ever inform its customers that
3 PCBs -- Excuse me, let me start all over again. Did
4 Monsanto ever inform its customers that it's not clear
5 whether PCBs may cause chloracne?

6 MR. FEATHERSTONE: Well, same objection.
7 Absence of foundation for this witness to testify regarding
8 those questions. He's already identified for you, Mr.
9 Bradley, how it was Monsanto warned its customers. He said
10 it came through the business group.

11 THE WITNESS: You're asking about the
12 difference between chloracne and acne?

13 MR. BRADLEY: I'm asking you whether Monsanto,
14 whether you ever saw any documents or you heard anybody
15 ever say that Monsanto warned its customers that it's
16 unclear whether PCB, or whether chloracne may be - may
17 result from exposure from PCBs.

18 A. There are accidents in which there is, I was
19 told there was chloracne. All this happened --

20 MR. FEATHERSTONE: No. He's asking you
21 whether you have seen any document or heard any statement
22 that Monsanto warned its customers that exposure to PCBs -
23 it's unclear that exposure to PCBs could cause chloracne.
24 I think I phrased that correctly.

25 MR. BRADLEY: Close enough.

1 A. I don't know.

2 Q. (By Mr. Bradley) As a doctor, how would you
3 explain the difference between chloracne and skin
4 irritation?

5 A. Chloracne is a reaction that takes place in
6 the pores, largely associated with sweat glands, and the
7 material that causes the reaction gets into these pores and
8 causes a reaction around it and you've seen acne, kids'
9 acne. Its very similar, only it's got something that's in
10 it now.

11 Q. Is chloracne, medically speaking, a more
12 severe condition than skin irritation?

13 A. Yes. Because it's more -- Last longer.

14 Q. Is there -- Excuse me. Are there different
15 degrees of severity of chloracne?

16 A. Yes.

17 Q. Medically speaking, how would you describe the
18 condition of a severe chloracne?

19 MR. FEATHERSTONE: May I hear that question,
20 please?

21 (Whereupon, the reporter propounded the previous question.)

22 A. A severe case is one in which the reaction
23 between two pores, two nodules, become one, so there is a
24 coalescence of a lesion.

25 Q. (By Mr. Bradley) Does a patient with severe

1 chloracne run a risk of having scars? Let me ask it this
2 way. Will severe chloracne cause scarring?

3 A. It can.

4 Q. Do you know whether exposure to chlorinated
5 biphenyl has ever caused severe chloracne to workers
6 working with chlorinated biphenyl?

7 A. It's so infrequent that I can't answer the
8 question.

9 Q. Well, when you say it's infrequent, does that
10 mean it happens but it happens rarely?

11 MR. FEATHERSTONE: Object to the form.

12 Q. (By Mr. Bradley) What do you mean, it happens
13 infrequently?

14 A. It rarely happens.

15 Q. (By Mr. Bradley) Do you know when the first
16 case was of a worker experiencing severe chloracne from
17 exposure to PCBs?

18 A. No.

19 Q. Did you ever review any documents from
20 Monsanto to its customers indicating that rarely, PCBs
21 could cause, have caused severe chloracne?

22 A. No. Not to my knowledge.

23 Q. You haven't reviewed anything?

24 A. I've reviewed it but it's not in our current
25 literature.

1 Q. Was it in any of the former literature that
2 you reviewed?

3 THE WITNESS: Before my time?

4 MR. BRADLEY: That you may have reviewed.

5 A. I don't know.

6 Q. (By Mr. Bradley) Do you know whether the
7 United States Environmental Protection Agency classifies
8 PCBs as a probable human carcinogen?

9 A. I think it says "possible." It does say
10 possibly, but that's only -- It doesn't talk about the
11 animal data. That's only talking about the human data.

12 Q. Do you know when the United States
13 Environmental Protection Agency classified PCBs as a
14 possible human carcinogen?

15 A. Yes.

16 Q. When was that?

17 A. After that problem we were talking about, the
18 melanoma.

19 Q. So sometime in the late '70s?

20 A. Yes.

21 Q. Did you participate as a witness in any
22 Government hearings regarding the Toxic Substances Control
23 Act?

24 A. No.

25 Q. Did you ever review material that Monsanto

1 sent to its customers prior to your employment at Monsanto
2 describing the harm to human health that is caused by
3 exposure to PCBs?

4 MR. FEATHERSTONE: That is caused?

5 MR. BRADLEY: That's what was --

6 MR. FEATHERSTONE: Object to the form.

7 A. We had published what we gave to our
8 customers, that - the irritant potential of it. We don't
9 think that there's much beyond that except for the question
10 of liver effect.

11 Q. (By Mr. Bradley) Did you review material
12 generated by Monsanto prior to your employment with them
13 that advised their customers that exposure to PCBs caused
14 liver problems?

15 MR. FEATHERSTONE: Object to the form.

16 A. Yes.

17 Q. (By Mr. Bradley) And what did you review that
18 said that?

19 A. Some of those safety data sheets say that.

20 Q. Other than the safety data sheets, did you
21 review anything that Monsanto gave to its customer -

22 A. No.

23 Q. - that indicated exposure to PCBs caused harm
24 to the liver?

25 A. No.

1 Q. All right. Are chlorinated Napthalenes trace
2 constituents of a commercial PCB mixture manufactured by
3 Monsanto?

4 A. I don't think so.

5 Q. Do you know whether nearly all Americans are
6 reported to have over five hundred parts per billion PCBs
7 in their adipose tissue?

8 A. I know we have PCBs in our fat, in our blood.

9 Q. Almost all of us?

10 A. The data is not there that will answer that,
11 but it's very common.

12 Q. Do you know whether PCBs have ever been found
13 in human mother's milk?

14 A. Yes.

15 Q. Do you know whether PCBs pass through the
16 mother's placenta to the fetus?

17 A. Not as well as by milk.

18 Q. Do PCBs biodegrade?

19 A. Yes.

20 Q. Are you familiar with the term
21 biomagnification?

22 A. Yes.

23 Q. What is it?

24 A. By virtue of passing from one animal to
25 another, the material that we're taking goes with them and

1 so over a life, over several generations, there can be an
2 increase.

3 Q. Do you know whether PCBs biomagnify in the
4 human food chain?

5 A. I've never heard, seen it described.

6 Q. Do you know whether PCBs can work
7 synergistically with other compounds by impairing the
8 immune system?

9 A. I've seen it described.

10 Q. Did Monsanto ever inform its customers that
11 PCBs can work synergistically with other compounds by
12 impairing the immune system?

13 A. No. Wouldn't know what to tell them.

14 Q. Have PCBs been shown to cause liver cancer in
15 experimental animals?

16 A. In about three out of ten cases, it is said
17 that there are some neoplastic lesions.

18 Q. And were those studies on those experimental
19 animals conducted during a period of time when Monsanto had
20 customers for its PCB products?

21 MR. FEATHERSTONE: Object to the form of the
22 question.

23 A. I was -- Monsanto was out of the business by
24 that time.

25 Q. (By Mr. Bradley) All right. Do you know

1 whether chronic poisoning may occur with repeated exposures
2 to sufficient concentrations of PCB vapor?

3 THE WITNESS: What's the conclusion?

4 Q. Do you know whether chronic poisoning may
5 occur with repeated exposure to sufficient concentrations
6 of PCB vapors?

7 A. Never heard it described.

8 Q. As a doctor, do you know what chronic
9 poisoning is?

10 A. Yes.

11 Q. What is chronic poisoning?

12 A. Chronic poisoning is where the material is
13 given to the organism and instead of giving it to them so
14 to produce acute effects, instead of that, it's given at a
15 lower dose where it doesn't produce enough to make the
16 animal ill except over a period of some time. We usually
17 say over a month, that we see an effect in the animal.

18 Q. Did Monsanto ever tell its customers that
19 chronic poisoning may occur with repeated exposures to
20 sufficient concentrations of PCB vapor?

21 A. We don't think it happens.

22 Q. Did Monsanto ever tell its customers that
23 repeated exposures to PCB vapor may produce internal bodily
24 injury which may be disabling or could be fatal?

25 MR. FEATHERSTONE: I object, again, to the

1 foundation for the question because this witness testified
2 who had the responsibility for advising customers.

3 THE WITNESS: I have difficulty with it. Can
4 you repeat that for me?

5 (Whereupon, the reporter propounded the previous question.)

6 Q. (By Mr. Bradley) Did Monsanto ever inform its
7 customers that repeated exposures to PCB vapor may produce
8 internal bodily injury which may be disabling or could be
9 fatal?

10 A. No.

11 Q. Did Monsanto ever inform its customers that
12 PCBs are highly toxic if taken internally?

13 MR. FEATHERSTONE: Same objections.

14 A. Yes.

15 Q. Did Monsanto ever inform its customers that
16 PCBs are not very irritating to the skin but if absorbed
17 through the skin can produce toxic reactions internally?

18 A. No.

19 Q. Did Monsanto ever inform its customers that
20 periodic physical examinations should be conducted by
21 medical personnel for workers exposed to PCBs?

22 MR. FEATHERSTONE: Object to the lack of
23 foundation for this witness to respond to a question about
24 Monsanto ever informing customers, when he joined the
25 company in 1973.

1 THE WITNESS: I'm sorry.

2 A. No..

3 Q. (By Mr. Bradley) That didn't happen, at least
4 while you were employed at Monsanto?

5 A. That's right.

6 Q. And you didn't review any documents indicating
7 that Monsanto had given that information to customers prior
8 to your employment at Monsanto?

9 A. And even whether I believe it's necessary.

10 MR. FEATHERSTONE: That's not the issue, Dr.
11 Roush. The issue is whether you know whether that was ever
12 communicated by Monsanto.

13 A. And I said I don't know.

14 MR. FEATHERSTONE: All right.

15 Q. (By Mr. Bradley) Do you agree that a skin
16 disease called chloracne could be an indication of a more
17 serious systemic injury?

18 A. No.

19 Q. Do you know whether Monsanto ever informed its
20 customers that a skin disease called chloracne could be an
21 indication of a more serious systemic injury if exposure to
22 PCBs was allowed to continue?

23 MR. FEATHERSTONE: Same objection. Lack of
24 personal knowledge for this witness to respond.

25 A. I don't think so.

1 Q. (By Mr. Bradley) At least, that didn't happen
2 while you were employed there?

3 A. That's right.

4 Q. You didn't review any documents indicating it
5 had happened before you began your employment?

6 A. That's right.

7 Q. Do you know whether lower temperatures for
8 destroying Aroclors - and by "lower," I mean below eight
9 hundred degrees --

10 THE WITNESS: Lower than what?

11 MR. BRADLEY: Let me ask this question.

12 Q. (By Mr. Bradley) Was there a period of time
13 when Monsanto incinerated Aroclors to destroy them?

14 A. I don't know.

15 Q. Was there a time when Monsanto knew that if it
16 incinerated PCBs at low temperatures that that could cause
17 the PCBs to vaporize and furans to form?

18 A. I don't know.

19 Q. Would you agree that furans are one of the
20 most extremely toxic of any compound since the beginning of
21 chemistry?

22 A. No.

23 Q. When you began work for Monsanto, were you
24 made aware that there might be Congressional action taken
25 to restrict the manufacture of PCBs?

1 A. Yes.

2 Q. When you began your employment with Monsanto,
3 do you know whether Monsanto employed any of its -- Excuse
4 me. Let me start all over again. When you began your
5 employment at Monsanto, do you know whether Monsanto
6 informed any of its customers that there might be
7 Congressional action that would restrict the manufacture of
8 PCBs?

9 A. Yes.

10 Q. And while you were at -- When you first went
11 to Monsanto, do you know whether Monsanto informed any
12 electric utility companies that there was Congressional
13 action which might restrict the manufacture of PCBs?

14 MR. FEATHERSTONE: Wait a minute. You started
15 off by saying "might be Congressional action." Now, are
16 you changing it to there was Congressional action? Object
17 to the form of the questioning.

18 MR. BRADLEY: I'll re-ask it.

19 Q. (By Mr. Bradley) When you began your work at
20 Monsanto, did Monsanto inform electric utility companies
21 that there might be Congressional action that would
22 restrict the manufacture of PCBs?

23 A. Yes.

24 Q. Okay. And which electric utility company --
25 Let me ask it this way. How did Monsanto inform electric

1 utility companies, when you began working with Monsanto,
2 that there might be Congressional action that would
3 restrict the manufacture of PCBs?

4 A. I don't know.

5 Q. How do you know that Monsanto gave that
6 information to electric utility companies?

7 A. They knew it. I'm not sure how they got it.
8 Monsanto told them or else the Government told them, one or
9 the other.

10 Q. So all the electric utility companies knew
11 that in 1973?

12 A. Yes.

13 MR. FEATHERSTONE: How is he going to answer
14 that, Ralph, all the electric utilities? This is the
15 associate medical director of Monsanto.

16 MR. BRADLEY: All right.

17 Q. (By Mr. Bradley) While you were employed at
18 Monsanto, did you observe any Monsanto employees working in
19 a lab on, or with PCBs?

20 A. No.

21 Q. Did you ever go to Industrial Biotest
22 Laboratories?

23 A. Yes.

24 Q. When you were there, who did you meet with?

25 A. Dr. Calandra.

1 Q. Did you meet with anyone else?

2 A. There was another man, his name was Richter.

3 Q. What was the purpose of your meeting with Dr.
4 Calandra?

5 A. Talk about the PCB study.

6 Q. Did the meeting occur at IBT headquarters?

7 A. Yes.

8 Q. While you were there, did you walk around the
9 IBT headquarters?

10 A. No.

11 Q. While you were there, did you observe any of
12 the rooms where the animals were kept?

13 A. No.

14 Q. Were there animals kept at the IBT
15 headquarters?

16 A. Yes.

17 Q. Did you ever hear of a room called the Swamp
18 Room?

19 A. No.

20 Q. Who, at Monsanto, if anyone, -- Let me ask
21 this. Do you know of anyone at Monsanto who also visited
22 the IBT labs?

23 A. Anyone else from Monsanto that visits had IBT?

24 NR. BRADLEY: Yes.

25 A. No.

1 Q. I'm going on show you Plaintiff's Exhibit 1251
2 and ask you what that document is? What is this Exhibit,
3 Dr. Roush?

4 A. This is a discussion of the findings of the
5 IBT cancer study, and upon completion of this study, we
6 agreed to take this to Washington and present this data to
7 the various agencies.

8 Q. And this is dated January 13, 1976?

9 A. Yes.

10 Q. Had you seen this document prior to today?

11 A. No.

12 Q. Does the document fairly and accurately report
13 the results of the meeting that's reference in the
14 document?

15 MR. FEATHERSTONE: Object to the form of the
16 question.

17 A. No. This reflects the NIOSH interpretation of
18 the results.

19 Q. (By Mr. Bradley) Is your interpretation any
20 different than their's?

21 A. Well, the discussion is between the IBT
22 studies, or the Calandra studies and the study that was
23 done someplace -- Didn't it say in here that -- No. Just
24 IBT and Kimbrough.

25 Q. Do you know a gentleman by the name of Paul

1 Wright?

2 A. Yes.

3 Q. How did you first learn of Mr. Wright?

4 A. He was working for Monsanto when I joined.

5 Q. In 1973?

6 A. Yes.

7 Q. What department was he working in?

8 A. He was working for Levinskas, in toxicology.

9 Q. All right. Part of the medical department,
10 toxicology section?

11 A. Yes.

12 Q. Did Mr. Wright then leave Monsanto?

13 MR. FEATHERSTONE: It's Dr. Wright.

14 A. No.

15 Q. (By Mr. Bradley) Dr. Wright never went to
16 work for IBT?

17 A. He had worked for IBT before I joined.

18 Q. All right. When did Mr. - excuse me - Dr.
19 Wright work for Monsanto?

20 A. I can't give you the dates.

21 Q. Okay. Did you hire Dr. Wright?

22 A. No.

23 Q. Who hired Dr. Wright?

24 A. Dr. Levinskas. He worked for him.

25 Q. Okay. When did Dr. Wright work for IBT?

1 A. Prior to my joining Monsanto.

2 Q. And after you joined Monsanto, Dr. Wright
3 continued as a Monsanto employee up to what date, do you
4 know?

5 MR. FEATHERSTONE: You have to answer that.

6 A. Yes. Not by a shake of the head.

7 MR. FEATHERSTONE: Is the answer no? You
8 shook your head no, because you don't know the date, is
9 that correct?

10 A. That's correct.

11 Q. (By Mr. Bradley) Do you know whether Dr.
12 Wright was a Monsanto employee in 1976?

13 A. Yes.

14 Q. Was he a Monsanto employee in 1975?

15 A. I don't know.

16 Q. '74?

17 A. I'm not sure of the dates.

18 Q. He was a Monsanto employee when you first
19 became a Monsanto employee?

20 A. Yes.

21 Q. Was there a point in time when Dr. Wright --
22 I'm going to start my question all over again. Did Dr.
23 Wright not work for Monsanto for part of the 1970s, do you
24 know?

25 A. I don't know.

1 Q. Do you know whether -- Off the record.

2 (Whereupon, a discussion was held between Counsel, off the
3 record.)

4 MR. BRADLEY: I'm now going to show you
5 Plaintiff's Exhibit 1421 and ask you to review that.

6 Q. (By Mr. Bradley) Have you had a chance to
7 review it?

8 A. Yes.

9 Q. All right. Is this an August 27th, 1976
10 internal memorandum sent to you by Frederick Johannsen?

11 A. Yes.

12 Q. Is this a fair and accurate copy of the
13 interdepartmental memorandum sent to you on that date?

14 A. Yes.

15 Q. And is this the sort of document that you
16 maintained in your files at Monsanto?

17 A. Yes.

18 Q. You did that as part of the regular practice
19 of Monsanto?

20 A. I wanted to know whether there was any cancer
21 related to that.

22 Q. Do you know whether the information contained
23 in this exhibit was ever given to any Monsanto customers?

24 A. We gave this -- We didn't have
25 epidemiologists. This is a toxicologist doing this, and we

1 gave it to a Dr. Mabube for review and he thought this was
2 not significant.

3 Q. So is it fair to say, then, that you did never
4 give this information to Monsanto customers?

5 A. No.

6 Q. That's not fair to say?

7 A. We did not.

8 Q. You did not. All right.

9 A. We then gave a paper on this subject.

10 Q. I'm now going to show you what's mark for
11 identification as Plaintiff's Exhibit 367 and ask you to
12 review that. Have you seen that document before?

13 A. Yes. Long ago.

14 Q. Is that a report entitled, "Mortalities of PCB
15 workers at the Monsanto plant in Sauget, Illinois" by
16 Judith A. Zack, Z-a-c-k, and David C. Musch, M-u-s-c-h,
17 dated December 14, 1979?

18 A. Yes.

19 Q. Is this a fair and accurate report proposed by
20 them?

21 A. Yes.

22 Q. Is this the sort of document that you
23 maintained in your files at Monsanto?

24 A. Yes.

25 Q. Did you do that as part of your business work

1 at Monsanto?

2 A. Yes.

3 Q. I'm now going to show you what's marked for
4 identification as Plaintiff's Exhibit 350 and ask you to
5 tell me what that document is. Actually, I'm going to ask
6 you first to review it. Have you had a chance to review
7 it?

8 A. Almost. Yes.

9 Q. Is this a April 18th, 1975 letter to you from
10 J.C. Calandra, President, along with a review of a PCB
11 meeting?

12 A. Yes. This is the result of a meeting, yes.

13 Q. All right. Is this a document that you've
14 seen before?

15 A. Yes.

16 Q. And is this a fair and accurate copy of the
17 document?

18 A. Yes.

19 Q. And is this the sort of document that you
20 maintained in your files at Monsanto as part of your
21 regularly conducted business?

22 A. If it was appropriate, it would be.

23 Q. Do you see the first full paragraph there,
24 were it says, "Dear George, I fully appreciate that the
25 meeting on PCBs today was not completely satisfactory and

1 many nagging questions remain."

2 A. Yes.

3 Q. Would you agree that the meeting referenced
4 was not completely satisfactory?

5 A. Yes.

6 Q. Would you agree that many nagging questions
7 remained after that meeting?

8 A. Yes.

9 Q. What was there about the meeting that was not
10 completely satisfactory?

11 A. The interpretation of whether these nodules
12 were hyperplastic nodules or whether they are
13 well-differentiated carcinomas, or what interpretation
14 should be put on these.

15 Q. Was the question whether or not they were
16 malignant, cancerous?

17 A. Yes.

18 Q. All right. And was the nagging questions that
19 remained whether or not those lesions were malignant
20 cancers?

21 A. No. The question is how we're going to
22 respond to EPA on -- We were going to take this to
23 Washington and wanted to have it clear what it was that we
24 were taking to them.

25 Q. All right. I'm now going to show you

1 Plaintiff's Exhibit 424 and ask you to review that
2 document. Have you had a chance to review that?

3 A. I think so. At least, go over it lightly.

4 Q. Is that a September 9, 1969 interdepartment
5 memo to E. Wheeler from W.R. Richard?

6 A. Yes.

7 Q. And those are both Monsanto employees?

8 A. Yes.

9 Q. And have you seen this document before?

10 A. No.

11 Q. Would you turn to page four, towards the
12 bottom on the left-hand side. Do you see the name
13 R-o-u-s-h down there?

14 A. Yes.

15 Q. Do you know what that is, if that's referring
16 to you?

17 A. If it's 1969, it's not referring to me.

18 MR. FEATHERSTONE: Let's go off the record for
19 a second.

20 (Whereupon, a discussion was held between Counsel, off the
21 record.)

22 Q. (By Mr. Bradley) Is this the sort of document
23 that Monsanto would maintain in its files as part of its
24 regularly conducted business activities?

25 MR. FEATHERSTONE: Object to the form.

1 A. The question is what they do with things like
2 this, is the important thing. This is an assessment.

3 MR. FEATHERSTONE: The question is whether its
4 kept in the files.

5 MR. BRADLEY: Yes.

6 Q. (By Mr. Bradley) They keep it in the files?

7 A. I don't know.

8 Q. Is this the sort of document that you would
9 expect them to keep in the files though?

10 A. I don't know.

11 Q. Did Monsanto have a policy for maintaining
12 records relating to PCBs during September of 1969, do you
13 know?

14 A. I don't know.

15 Q. All right. Dr. Roush, I -- Apparently, there
16 is another Roush that worked at Monsanto whose name was Don
17 Roush. Had you ever -- Do you know of a Don Roush who
18 worked at Monsanto?

19 A. I did not.

20 Q. I'm now going to show you Plaintiff's Exhibit
21 1154 and I'm interested in knowing whether you've ever
22 reviewed that before?

23 A. No, I haven't seen it.

24 Q. All right. I'm now going so show you
25 Plaintiff's Exhibit 1425 and ask you to review that. Have

1 you had a chance to review that?

2 A. Yes, sir.

3 Q. Is that an August 29th, 1975 interdepartmental
4 from David Wood to you - or excuse me, to W.B. Papageorge?

5 A. Yes.

6 Q. Are you copied over on the right-hand, as
7 indicated by the -

8 A. Yes.

9 Q. - information on the right-hand side? Is this
10 a document you've seen before?

11 A. I must have seen it, my name's on there, but I
12 don't recall it.

13 Q. All right. I'm going to show you Plaintiff's
14 Exhibit 428 and ask you to review that. Doctor, I want to
15 know whether you've seen that document before?

16 THE WITNESS: This was in 1969.

17 MR. BRADLEY: Yes, I know that.

18 A. Yea. But I don't recall it.

19 MR. BRADLEY: All right.

20 A. I haven't read it either.

21 MR. BRADLEY: Take your time, then, to
22 determine, just to determine whether you've seen the
23 document before.

24 A. No.

25 Q. I'm now going to show you Plaintiff's Exhibit

517 and ask you to review it for the purpose of telling me whether you've ever seen the document before?

A. I don't recall it.

Q. I'm now going to show you Exhibit 422 and ask you if you have ever seen that document before?

MR. FEATHERSTONE: He wants you to look at it to say whether you have seen it before.

A. No, I haven't seen this. This is 1959?

MR. BRADLEY: Hard to read it, but it's 1969.

THE WITNESS '69?

MR. BRADLEY: Yes. Bruce, I need to put 422 here, and I'll make a note to get you a copy, though you already have it, but I'll make you a copy anyhow.

MR. FEATHERSTONE: Did you use 422 in some other deposition?

MR. BRADLEY: No. But I used 422 in our request to admit the authenticity. All of these exhibits, up through 970, are exhibits that we provided to you.

Q. (By Mr. Bradley) I'm now going to show you Plaintiff's Exhibit 709 and ask you to review it for the purpose of indicating whether you've seen the document before. Have you had a chance to review that?

A. Yes.

Q. Have you seen that document before?

A. No.

1 Q. All right. I'm now going to show you Exhibits
2 359 and 340 together, and I'd ask you to review them
3 together for the purpose of telling me whether you have
4 seen these documents before. Have you seen that document
5 before?

6 A. No.

7 Q. Would you turn, on Plaintiff's Exhibit 359, to
8 page five, under -- Let me give you a context. If you
9 look back at page four, you'll see the word "toxicity"
10 underlined at the bottom of the page, and at the top of
11 page five, it has "human" underlined.

12 A. All right. What's the question?

13 Q. My question is, do you agree, "The known toxic
14 effects of PCBs in humans include an acne-like skin
15 eruptions (chloracne), pigmentation of the skin and nails,
16 excessive eye discharge, swelling of eyelids and
17 distinctive hair follicles."

18 A. Yes. The only question I have there was that
19 acne-like lesion. Whose definition are we going to use?

20 Q. Do you agree, for a number of years, chloracne
21 of the face and neck has been reported among workers
22 exposed to chlorinated hydrocarbons?

23 A. Yes.

24 Q. Do you agree that workers exposed to PCBs in
25 the process of insulating cables in the production of

1 condensers and the manufacture of chlorobiphenyls have
2 reported these skin lesions along with systemic effects
3 such as digestive disturbances, edema of the face and
4 hands, burning of the eyes and impotence and hematuria?

5 A. Yes.

6 Q. What is hematuria?

7 A. Blood in the urine. Uria is urine, and hema
8 is blood.

9 Q. Did Monsanto inform its customers that the
10 known toxic effects of PCBs in humans include an acne-like
11 skin eruption (chloracne), pigmentation of the skin and
12 nails, excessive eye discharge, swelling of eyelids and
13 distinctive hair follicles?

14 MR. FEATHERSTONE: Same objection previously
15 stated about the absence of personal knowledge for this
16 witness to answer the question.

17 A. This is from Japan, that you're really citing,
18 Yusho, Y-u-s-h-o, and they got it because they were eating
19 the PCBs in the cooking oil. It hasn't been seen since.

20 Q. (By Mr. Bradley) Did Monsanto tell its
21 customers that for a number of years, chloracnia of the
22 face and neck has been reported among workers exposed to
23 chlorinated hydrocarbons?

24 A. They were told about the, about lesions on
25 their face, about the skin problems.

1 Q. But not chloracne? Or yes, they were told of
2 chloracne?

3 A. I don't think they were.

4 Q. All right. Were Monsanto customers told that
5 workers exposed to PCBs in the process of manufacture of
6 chlorobiphenyls have reported skin lesions along with
7 systemic effects such as digestive disturbances, edema of
8 the face and hands, burning of the eyes, impotence and
9 hematuria?

10 MR. FEATHERSTONE: Same objection. Absence of
11 personal knowledge of this witness about what Monsanto told
12 its customers.

13 A. I don't believe these things. I don't believe
14 this.

15 Q. (By Mr. Bradley) Is the answer, then, that
16 you don't - Monsanto, as far as know, didn't report that to
17 its customers?

18 A. I don't know whether it did or not.

19 Q. Now, on page four, under the section that says
20 - or let me do it this way. Under the second full
21 paragraph under "Human," at the end of the last sentence,
22 it has the references for 16 and 22. Do you see that
23 there?

24 A. Yes.

25 Q. It's on page five.

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A. Yes.

Q. Now, there's a reference section, is there not, at the end of this document?

A. Yes.

Q. And 16 and 22 refer to -- Well, 16 refers to an article by Dr. Kimbrough, dated 1974 and 22 refers to an article by Dr. Schwartz in 1936; is that correct?

A. Yes.

Q. Turn now to page six.

A. Yes.

Q. Under the section that begins "Animal."

A. Yes.

Q. And goes through page eight?

A. Yes.

Q. While you were at Monsanto, do you know whether Monsanto ever told its customers about the animal toxicity effects that are referred to on pages six, seven and eight of this exhibit?

A. I don't know.

MR. FEATHERSTONE: Let's go off the record.
(Whereupon, a discussion was held between Counsel, off the record.)

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GEORGE ROUSH, JR.

Subscribed and sworn to before me this _____ day
of _____, A.D., 19_____.

Notary Public

Notary Public within and for the State of Missouri.

MY COMMISSION EXPIRES THE _____ DAY OF
_____, A.D., 19_____.

1 STATE OF MISSOURI)
2) SS
COUNTY OF ST. LOUIS)

3 I, John T. Concannon, a Notary Public within and for
4 the State of Missouri, duly commissioned, qualified and
5 authorized to administer oaths and to take and certify to
6 depositions, do hereby certify that pursuant to Notice in
7 the civil cause now pending and undetermined in the
8 District Court of the United States, within and for the
9 District of Nevada, entitled NEVADA POWER COMPANY
10 Plaintiff, -vs- MONSANTO COMPANY, et al., Defendants, to be
11 used in the trial of said cause in said Court, I was
12 attended at the law offices of Messrs. Busch & Eppenberger,
13 100 N. Broadway, Suite 1300, in the City of St. Louis,
14 State of Missouri, by Ralph A. Bradley, attorney for the
15 Plaintiff; by Bruce A. Featherstone, attorney for the
16 Defendant, Monsanto Company; by Laurie Basch, attorney for
17 the Defendant, Westinghouse; and by GEORGE ROUSH witness,
18 in said office on March 17, 1993.

19 The said witness, GEORGE ROUSH, being of sound mind
20 and being by me first carefully examined and duly cautioned
21 and sworn to testify the truth, the whole truth and nothing
22 but the truth in the case aforesaid, thereupon testified as
23 is shown in the foregoing transcript, said testimony being
24 by me reported in shorthand and caused to be transcribed
25 into typewriting, and that the foregoing pages correctly

1 set out the testimony of the aforementioned witness, GEORGE
2 ROUSH, together with the questions propounded by counsel
3 and the remarks and objections of counsel thereto, and is
4 in all respects a full, true and complete transcript of the
5 questions propounded to and the answers given by said
6 witness; and that said testimony, so transcribed, was
7 subscribed to by the witness on the _____ day of
8 _____, A. D., 1993.

9 I FURTHER CERTIFY that I am not of counsel nor
10 attorney for any of the parties to said suit, nor related,
11 nor interested in any of the parties or their attorneys.

12 WITNESS MY HAND and Notarial Seal, given this _____
13 day of _____, A. D., 1993, at St. Louis, Missouri.

14 MY COMMISSION EXPIRES SEPTEMBER 12, 1994
15
16
17

18 _____
19 JOHN T. CONCANNON,
20 Notary Public, within and
21 for the State of Missouri
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1
2 April 28, 1993
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4

5 Bruce A. Featherstone, Esq.
6 Kirkland & Ellis
7 1999 Broadway - Ste. 4000
8 Denver, Colorado 80202

9
10 Re: Nevada Power Company -v-
11 Monsanto Company, et al.

12 Dear Mr. Featherstone:

13 This letter, incorporated as the last page of Mr.
14 Roush's deposition, taken on March 17, 1993, will serve as
15 notice to you that his testimony is now ready for reading
16 and signing of same. You will recall you indicated a
17 preference for him reading his deposition, rather than
18 waiving signature.

19 Enclosed please find the original signature page of
20 Mr. Roush's deposition, along with an eratta sheet. Please
21 have Mr. Roush read and sign his deposition and return the
22 original signature page to me. I will then return the
23 signature page to the original transcript, and notify Mr.
24 Bradley of any corrections the witness may have made.

25 Thank you for your cooperation in this regard.

Sincerely,

JOHN T. CONCANNON
Shorthand Reporter

Concannon & Jaeger
General Court Reporters
705 Olive Street - Ste. 604
St. Louis, Missouri 63101

JTC:md