

1 IN THE UNITED STATES DISTRICT COURT
2 SOUTHERN DISTRICT OF INDIANA
3 INDIANAPOLIS DIVISION

3 THE CITY OF BLOOMINGTON, INDIANA;)
4 THE UTILITIES SERVICE BOARD OF)
5 BLOOMINGTON, INDIANA; and MONROE)
6 COUNTY, INDIANA,)

7 Plaintiffs,)

8 vs.)

9 Civ No.
10 IP 83-9-C

11 WESTINGHOUSE ELECTRIC CORPORATION,))
12 a Pennsylvania corporation; and)
13 MONSANTO COMPANY, a Delaware)
14 corporation,)

15 Defendants.-----)

16 The continued deposition of W. B. PAPAGEORGE,
17 called for examination by the Plaintiffs, pursuant
18 to notice and pursuant to the provisions of the
19 Federal Rules of Civil Procedure of the United
20 States District Courts, pertaining to the taking
21 of depositions for the purpose of discovery, taken
22 before Arnold M. Goldstine, a Notary Public and
23 Certified Shorthand Reporter within and for the
24 County of Cook and State of Illinois, at 1312
25 Merchants Bank Building, Indianapolis, Indiana,
26 commencing on June 26, 1986, at the hour of nine
27 o'clock a.m.

1
2 APPEARANCES:

3 Mr. James G. McConnell
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9 -and-

10 Mr. Geoffrey M. Grodner
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15 appeared on behalf of the Plaintiffs;

16
17 Mr. Michael R. Fruehwald
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19 1313 Merchants Bank Building
20 Indianapolis, Indiana 46204

21 appeared on behalf of Defendant
22 Monsanto Company.
23
24

I N D E X

WILLIAM B. PAPAGEORGE

Continued Direct Examination
By Mr. McConnell

293

E X H I B I T S

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1 MR. MC CONNELL: Back on the record.

2 This is the resumption of the deposition
3 of Mr. Papageorge.

4 W. B. PAPAGEORGE,

5 having been previously duly sworn,
6 was examined and testified as follows:

7 DIRECT EXAMINATION (CONTINUED)

8 BY MR. MC CONNELL:

9 Q. And you recognize that you are still
10 under oath?

11 A. I do.

12 Q. Okay.

13 Mr. Fruehwald has produced the 1970 press
14 release that Mr. Karaganis requested yesterday
15 consisting of four pages. Why don't we mark this
16 as the next exhibit, 137.

17 (The document above-referred to
18 was marked Bloomington Deposition
19 Exhibit No. 137 for identification.)

20 Would you take a look at the press
21 release the court reporter has marked as Exhibit
22 137, Mr. Papageorge. I will ask you if you
23 recognize that?

24 A. I do recognize it.

1 Q. Okay.

2 The date it bears is July 1970. Do you
3 have any recollection of July 16?

4 A. There is a July 16 date also.

5 Q. Okay.

6 Was this press release issued by Monsanto
7 on or about the 16th of July 1970?

8 A. Yes.

9 Q. Okay.

10 The first statement in the press release
11 is that Monsanto is the sole US producer of
12 polychlorinated biphenyls.

13 You mentioned yesterday that you did some
14 investigation to determine whether or not it could
15 be established that there had been one or two
16 other producers in this country at one time.

17 Do you recall whether this press release
18 was issued before or after that inconclusive
19 investigation that you mentioned yesterday?

20 A. Before.

21 Q. Before. Okay.

22 The action that is referred to in the
23 quote attributed to Mr. Minckler in the second
24 paragraph, unilateral action to restrict its use.

1 Does that refer to the discontinuance of
2 sales to the plasticizer users and the hydraulic
3 fluid users?

4 A. Yes.

5 Q. Okay.

6 So that action was taken at sometime
7 before this press release was issued?

8 A. Yes.

9 Q. Looking at the second page, there is a
10 reference in the first paragraph to a recent
11 report that pcb can induce birth defects in
12 animals.

13 Do you know specifically what that refers
14 to?

15 A. Primarily the work of Dr. Risebrough in
16 California, with the inability of bird's eggs to
17 hatch and with soft shells and other defects.

18 Q. Do you know whether as of July 15, 1973,
19 Monsanto had undertaken any studies in bird
20 species to test the information that was reported
21 by Dr. Risebrough?

22 A. Yes.

23 Q. Do you know what the results of those
24 studies were?

1 A. I remember most of them. Yes.

2 Q. Okay.

3 What is your recollection?

4 A. There were three of the Aroclors tested.

5 Aroclor 1242, Aroclor 1254 and Aroclor 1260.

6 The animals that were used in the tests
7 were rats, dogs and chickens. The levels of
8 exposure as I recall were, I am not real certain
9 anymore, ten, a hundred and a thousand parts per
10 million. There was a range of exposures.

11 As far as the rats were concerned, and
12 the dogs, the livers were larger in the exposed
13 animals than in the control animals, the
14 unexposed. The weight gain at the higher levels
15 of exposure -- the weight gain of the exposed
16 animals was not as large as those, the weight
17 gained by the unexposed.

18 For the chickens there was a reproduction
19 problem observed at low levels of exposure of the
20 Aroclor 1242.

21 The tests were repeated and it was
22 established at about 3 parts per million and
23 above, the chickens would lay thin egg shelled
24 eggs and the eggs would not hatch as well as those

1 of the control animals.

2 And the dogs as I remember, they
3 exhibited a gastric irritation. Their stomach and
4 intestines were affected by the exposure of the
5 high levels of the higher chlorinated pcb's.

6 Q. All right.

7 A. That is all I recall at the moment.

8 Q. We will go into some of those reports in
9 more detail later. I was just interested in the
10 reference here to birth defects.

11 Monsanto tested that in its chicken
12 studies, at least as a test having what Dr.
13 Risebrough had reported?

14 A. That is correct.

15 Q. Looking at page 3 of the Exhibit 137, in
16 the second paragraph on the page, there is a
17 statement again in quotation attributed to Mr.
18 Minckler. And I will read it in to the record.
19 It says, quote:

20 "With rigid control
21 over where the product goes,
22 how it is handled and disposed
23 of, we believe the safety
24 function of the product can

1 continue to serve society and
2 the environment can be
3 protected."

4 And it says, Minckler said.

5 I take it the product that is referred to
6 in that quotation is the pcb's manufactured by
7 Monsanto?

8 A. Yes.

9 Q. Okay.

10 Was this statement that I just read that
11 is attributed to Mr. Minckler in Exhibit 137 a
12 statement of Monsanto's corporate policy with
13 respect to the sale of pcb's?

14 A. I don't know that I would call it a
15 policy, so much as a conclusion arrived at from
16 knowing the application, knowing the product and
17 knowing the need for the product.

18 Q. Would it be accurate to say that this
19 represents a statement of Monsanto's intention
20 that such rigid control be exercised?

21 A. Yes.

22 Q. Okay.

23 Do you know if there was a specific story
24 or incident that this press release was issued in

1 response to?

2 A. I don't recall any article that triggered
3 this.

4 It followed the corporate committee's
5 approval of the restricted sales plan which was
6 made in May. I just don't recall any specific
7 article or incident other than the approval of the
8 plan that triggered this.

9 Q. Okay.

10 You don't recall it being in response to
11 interview or a press conference of Congressman
12 Ryan?

13 A. Congressman Ryan had been critical of
14 Monsanto almost on a regular basis. I don't know
15 that there was any particular action on his part
16 that triggered this particular release.

17 Q. The reason I ask that, there is a
18 reference in the first paragraph on the first page
19 to recent political charges.

20 Was there any other politician other than
21 Congressman Ryan that was critical of Monsanto?

22 A. No.

23 Q. All right.

24 When you became involved in the beginning

1 of 1970 with the coordination of Monsanto's
2 efforts to control the release of pcb's into the
3 environment, did somebody bring you up to date on
4 the history of what had been done before?

5 A. Yes.

6 Q. Was that one person or more than one
7 person?

8 A. Several people.

9 Q. Okay.

10 Was that done by memorandum of some sort
11 or in a series of meetings?

12 A. It was a series of one-on-one
13 discussions.

14 Q. Okay.

15 Who did you talk to?

16 A. I talked to Dr. Kelly, Wheeler, Dr.
17 Richard, Mr. Bergen, Mr. Springgate, Mr. Benignus,
18 Mr. Johnson, Dr. Paton, Mr. Fallon, Dr. Keller,
19 Dr. Munch, Randy Graham, James Bryant. I believe
20 that is it.

21 Q. In other words, when you took over that
22 responsibility or assumed that responsibility, I
23 guess there was no one individual that had it
24 before you did, is that an accurate statement?

1 A. That is true.

2 Q. You wanted to talk to everybody who dealt
3 with the problem in some way before to find out
4 what the present situation was?

5 A. That is correct.

6 Q. Okay.

7 That would be the first thing to do in
8 coordinating would be to find out where everybody
9 is right now, is that essentially what you were
10 trying to do?

11 A. Yes.

12 Q. Okay.

13 And I take it that you asked each of the
14 people you have listed to keep you advised of any
15 additional contacts they had with customers or
16 regulatory agencies or the press that concerned
17 pcb's?

18 A. Yes.

19 Q. Okay.

20 And did they do that?

21 A. As best they could. Yes.

22 Q. Okay.

23 Can you just briefly summarize the --
24 this may be in what you testified to yesterday --

1 Dr. Kelly and Mr. Wheeler and the medical
2 department people were primarily involved in the
3 medical studies and animal studies that were being
4 conducted by the company?

5 A. Primarily. No. They were involved in
6 many things.

7 Q. Their involvement in pcb's was in that
8 portion of it, is that accurate?

9 A. They were the principal individuals
10 involved in those studies, yes.

11 Q. Okay.

12 And the people that were in the marketing
13 department were the ones with the primary
14 responsibility for customer communication; is that
15 correct?

16 A. Yes.

17 Q. Who was it that was primarily responsible
18 for dealing with the press in connection with
19 pcb's?

20 A. Initially it was Mr. John.

21 Q. Okay.

22 A. There were other individuals in there for
23 short periods of time. I have forgotten their
24 names. Then finally by 1974 or so, it was Mr. Dan

1 Bishop.

2 Q. Was he in the public relations
3 department?

4 A. Yes.

5 Q. That is in St. Louis?

6 A. Yes.

7 Q. Now, I notice that the press release that
8 we just marked as Exhibit 137, most of the
9 quotations were attributed to Mr. Minckler.

10 I take it that release would have been
11 prepared by the public relations department in St.
12 Louis?

13 A. They were the editor's authors, yes.

14 Q. Okay.

15 So it was up to them to determine to whom
16 statements of that nature should be attributed?

17 A. I don't know that take they made that
18 decision. I don't know who made it. But I would
19 be surprised if they made it.

20 Q. Let me ask the question in a bit of a
21 different way.

22 If a newspaper reporter received Exhibit
23 137 and saw the quotations in there attributed to
24 Howard Minckler and called Howard Minckler for an

1 interview, what would happen, what would the
2 company's response or Mr. Minckler's response be,
3 according to company procedure?

4 A. Well, this varies from individual to
5 individual. I can only speculate with what Mr.
6 Minckler would have done.

7 He would have -- knowing the man he would
8 have made himself available but he would have
9 asked Mr. John to join him in the discussion.

10 Q. Okay.

11 So it was a coordinated effort between
12 the individual who was responsible for the product
13 and the public relations people?

14 A. Yes. Public relations is a staff
15 department supplying people like Mr. Minckler with
16 services.

17 Q. I understand.

18 And presumably after you became
19 responsible for coordinating the pcb efforts in
20 1970, those two, Mr. Minckler and the public
21 relations people, would have advised you of any
22 press contact that came from the outside to Mr.
23 Minckler?

24 A. Yes.

1 Q. Do you know if there was any such follow
2 up in response to this particular release that has
3 been marked as 137?

4 A. I am aware of follow up from different
5 newspapers, journals and individuals. I don't
6 recall the specifics they wanted details,
7 clarifications.

8 Q. Specifically, was there any request that
9 you can recall for detailed information about what
10 is referred to on page 2 as comprehensive toxicity
11 study sponsored by Monsanto?

12 A. I don't recall that as a specific
13 request.

14 Q. Okay.

15 Was the medical department responsible
16 for communicating the results of Monsanto's
17 toxicity studies to the various federal agencies?

18 A. Yes.

19 Q. Okay.

20 And to my knowledge there were at least
21 three federal agencies that were concurrently
22 concerned with this. That is the Food and Drug
23 Administration, the National Institute of
24 Occupational Safety and Health, and the

1 Environmental Protection Agency.

2 Were there any others?

3 A. It depends on what point in time.

4 Some of those organizations were still
5 being formed in early 1970. The Department of
6 Agriculture was concerned at one time early on.
7 The EPA also had an interest.

8 Q. Right. I mentioned the Environmental
9 Protection Agency.

10 A. The Environmental Protection
11 Administration -- Agency. The National Institute
12 of Environmental Health Sciences. I believe that
13 is a part of the National Science, Academy of
14 Science.

15 Q. Okay.

16 A. The Center for Disease Control, which is
17 probably NIOSH in your comments.

18 Q. It is hard sometimes to keep track of who
19 is connected to whom.

20 A. I understand. The wildlife people.

21 Q. Fish and Wildlife Service?

22 A. Fish and Wildlife. There was a
23 laboratory in Maryland, wildlife research
24 laboratory, they were very interested. The fish,

1 pesticide laboratory in Columbia, Missouri.

2 Q. Is that part of the Department of
3 Agriculture?

4 A. At that time I believe it was. It was
5 pesticide oriented.

6 There is a laboratory down in Gulf
7 Breeze, Florida, a government laboratory, that was
8 interested. That represented the commercial
9 fisheries, which I believe is part of the
10 Department of Commerce, I am not certain.

11 Q. Okay.

12 The Department of Agriculture interest in
13 pesticides, did that result from the chemical
14 relatedness of pcb's to DDT or did it result
15 because pcb's were used in some way in pesticide
16 applications?

17 A. I suspect both.

18 Q. Okay.

19 Were pcb's used in pesticides?

20 A. There was at one point in time a
21 Department of Agriculture report on a study made
22 by someone for them. I believe it was made by
23 their own people in Beltsville, Maryland in which
24 they used pcb's in a pesticide formula, for use --

1 for indoor use for crawling insects to paint or
2 spray or apply to shelving and the like, where the
3 active ingredient would be effective longer
4 because pcb's were present.

5 That was a permitted or a registered
6 formulation approved by the pesticide regulators
7 who at that time were under the Department of
8 Agriculture, before EPA took over that function.

9 Q. Was that a use that was known to Monsanto
10 before the government told you about it?

11 A. We found out about it. Let's see, how
12 did we. I don't recall. Someone informed Dr.
13 Kelly that the Department of Agriculture had made
14 this research and approved this use.

15 Dr. Kelly's department looked into it and
16 sure enough found reports and eventually Dr. Kelly
17 wrote to someone in the Department of Agriculture
18 recommending that that use not be permitted any
19 longer.

20 Q. That was not a use I take it that had
21 been promoted by Monsanto?

22 A. No.

23 Q. Unlike the hydraulic fluids and the
24 electrical industry use?

1 A. Hydraulic fluids was promoted by
2 Monsanto.

3 Q. Right.

4 A. The electrical use was promoted by the
5 electrical equipment manufacturers.

6 Q. Would you mark this as 138, please.

7 (The document above-referred to
8 was marked Bloomington Deposition
9 Exhibit No. 138 for identification.)

10 Would you take a look at the document
11 that's been marked as Exhibit 138 which for the
12 record is a memorandum dated March 23, 1970 to Dr.
13 Wheeler or Mr. Wheeler, I guess it is, from --

14 A. From Mr. Garrett.

15 Q. From Mr. Garrett.

16 Do you recall receiving a copy of that?

17 A. Yes.

18 Q. And that refers to a meeting of some
19 scientists and others in Duluth, Minnesota; is
20 that correct?

21 A. That's correct.

22 Q. Were you aware that Mr. Garrett was going
23 to attend that meeting before that meeting took
24 place?

1 A. Yes.

2 Q. And how did he come to be invited to the
3 meeting, if you know?

4 A. From previous contact with Dr. Mount. I
5 think the working relationship had been
6 established between Mr. Garrett and Dr. Mount.

7 Q. Okay.

8 What does the last statement in the last
9 sentence on the first page mean to you, the thanks
10 Monsanto received at times was embarrassing?

11 A. I guess that was Mr. Garrett's reaction
12 to the many thanks that we, Monsanto
13 representatives at that meeting, kept getting all
14 day and the evening dinner that we had with the
15 attendees of that session.

16 Q. Okay.

17 Did you go to that meeting or that
18 session yourself?

19 A. Yes.

20 Q. Who else besides you and Mr. Garrett?

21 A. Dr. Keller.

22 Q. Okay.

23 What was the subject of the meeting?

24 A. It was the presence of pcb's in the

1 environment and, more specifically from Dr.
2 Mount's viewpoint is analytical methods that could
3 be applied to water species.

4 Q. To analyze their tissues for the presence
5 of pcb's?

6 A. Yes.

7 Q. Okay.

8 There had been some controversy in the
9 late sixties, I take it, when the presence of
10 pcb's in wildlife tissues was first reported about
11 whether the analytical methods then in use were
12 sufficient to distinguish between pcb's and other
13 materials. Do you recall that?

14 A. Yes. That is correct.

15 Q. And is it accurate to state that as the
16 manufacturer of pcb's in the United States,
17 Monsanto was in the best position to make
18 available appropriate analytical techniques to
19 other researchers?

20 A. Eventually we were in the best position.
21 We had to work at it.

22 Q. Okay.

23 Would it be accurate to say that when the
24 problem first came to light, Monsanto analysts

1 were among the few who knew what the chemical
2 fingerprints of its products were?

3 A. Yes.

4 But it took a few month after we first
5 heard of it to go to our laboratory, get the right
6 equipment assembled, work with several approaches
7 and find the best one and then confirm the
8 results. That took a few months.

9 Q. Okay.

10 In other words, looking for pcb's in
11 samples of animal tissue requires a different
12 analytical approach than quality control in the
13 production process, is that an accurate statement?

14 A. Exactly.

15 Q. So you have to develop techniques to
16 detect smaller amounts of the material?

17 A. Yes. In the presence of interfering
18 materials.

19 Q. Of other?

20 A. Other unknowns.

21 Q. Right.

22 And of the chemical components of the
23 animal tissues themselves?

24 A. That's right.

1 Q. Okay.

2 What is the technique that was ultimately
3 developed for this kind of pcb analysis of animal
4 tissues?

5 A. It involved an extraction process,
6 whereby the chemical of interest to the analyst is
7 concentrated in a solvent, and in Monsanto's
8 process we recommended hexane as the extractant.

9 Depending on the type of material used,
10 there has to be some preparation of the sample
11 initially. For example, putting it in an
12 Osterizer.

13 Q. To chop it up?

14 A. To chop it up and make it as small a
15 particle as possible. Then there are a specific
16 number of extraction steps that are made. From
17 experience we have learned that if you do so many
18 you are going to get over 90 percent of the
19 material. I have forgotten the exact steps here.

20 The extractant then is concentrated to as
21 small a sample as you can, and that --

22 Q. Is that done by heat?

23 A. Slow evaporation, so we don't volatilize
24 the unknowns.

1 Then that extractant concentrated now is
2 introduced by hypodermic needle into a gas liquid
3 chromatograph. This is a device that has a -- I
4 am not a designer of this equipment, but this is
5 almost a layman's understanding.

6 There is an energy-emitting element in
7 this unit that is affected by the presence of
8 certain chemicals. And this effect is transmitted
9 into a plot on a graph paper.

10 Q. Different fractions come through the
11 column at different times, is that a layman's, a
12 good layman's understanding of what happens?

13 A. Right.

14 Q. And you get a graphic picture?

15 A. You get a reaction to that material
16 coming through, here it comes, bloop. And there
17 is a pause. Here comes the next one. Another
18 peak.

19 Q. Okay.

20 A. So the chart then resembles peaks and
21 valleys. Each of the peaks isolate material
22 identified by the research analyst as being
23 associated with a specific kind of molecule.

24 Now to confirm that, there is another

1 instrument called mass spectrograms, which
2 confirms that that material is of the right size
3 in terms of its molecule, to weigh so much, and it
4 has so many carbons and oxygens and hydrogens. So
5 you confirm that that peak is very likely this
6 particular chemical.

7 Q. So you need the combination of gas liquid
8 chromatography and mass spectrometry to really
9 confirm the identify?

10 A. To confirm. Yes.

11 Q. Okay.

12 A. Now, those peaks and valleys that are
13 charted then are compared to a peak and valley
14 chart that is deliberately made with known
15 material. And a match is made by the analyst.

16 He then reports his findings in terms of
17 Monsanto's Aroclor products, the one that most
18 closely resembles his unknown.

19 So when we see a report from the chemist
20 that says he found so much Aroclor 1242, what he
21 is saying is that this is the best resemblance I
22 can get. It isn't a perfect match. But most of
23 the peaks and valleys seem to line up.

24 Q. And he can tell from the graphic

1 representation the quantity as well as the
2 identity?

3 A. Yes.

4 Q. Okay.

5 A. There are two methods, the height of the
6 peak, or the total area under that curve for the
7 total amount.

8 Q. Are they of comparable accuracy?

9 A. No.

10 The most accurate is the total area under
11 the curve. But that gives the total amount of
12 pcb's.

13 If one wishes to know exactly how much of
14 a particular pcb like dichloro pcb, you look at
15 the peak that represents that material and since
16 it is not a line, the bell-shaped curve may lead
17 to some inaccuracies.

18 There may be other things in there that
19 create the bell.

20 Q. Right.

21 So, in any event, it is an approximation
22 of the quantity, whether you are measuring the
23 entire area or whether you are measuring the
24 particular isomer?

1 A. Well, standing alone it is an
2 approximation. But if it is compared to a
3 standard, which in itself is an approximation and
4 you know that this approximation, although you may
5 calculate it as .9 parts per million and you put
6 in one part per million, you adjust for that in
7 your reporting.

8 Q. Okay.

9 So to the satisfaction of the analyst,
10 then, this is an accurate method for determining
11 the quantity and identity of the particular pcb
12 mixture that is present in the animal tissues?

13 A. Yes.

14 The accuracy is also a function of the
15 experience of the analyst, the cleanliness of the
16 laboratory, the way the sample was taken. Was it
17 contaminated in the taking? There are many
18 factors that can influence the results from a
19 laboratory.

20 Q. In the course of, for example, the
21 studies that Monsanto commissioned, would you want
22 the same analyst using the same piece of equipment
23 to analyze the samples taken at various times
24 during this study, in order to have consistency of

1 results?

2 A. That is one preferred way to do it.
3 Another is to design validation studies, to
4 establish the variation between the chemists. So
5 that each chemist's results are reported as plus
6 or minus rather than a rigid specific number.

7 Q. Right.

8 I am going to show you a document that
9 was previously marked as Deposition Exhibit 10 for
10 identification and I will ask you if you recognize
11 that?

12 For the record it is a one-page memo
13 dated April 17, 1970 to Mr. Olson from Mr.
14 Benignus.

15 A. Yes, I recognize it.

16 Q. Were you present at the meeting, the
17 schedule of which is outlined in this memoranda?

18 A. Yes.

19 Q. And that was a meeting of Monsanto people
20 and representatives from various Westinghouse
21 facilities; is that correct?

22 A. Yes.

23 Q. Okay.

24 MR. FRUEHWALD: This memo was a subject of

1 testimony yesterday and questions have been asked
2 about the meeting.

3 MR. MC CONNELL: Okay. I thought it was. Let
4 me not repeat that.

5 Would you mark this 139, please.

6 (The document above-referred to
7 was marked Bloomington Deposition
8 Exhibit No. 139 for identification.)

9 Q. Taking a look at what the court reporter
10 has marked as Exhibit 139, Mr. Papageorge, I will
11 ask you if you recognize that memo?

12 A. I do.

13 Q. Did you receive a copy of that shortly
14 after the meeting that is discussed in the memo?

15 A. Yes. On or about the date of its
16 publication.

17 Q. Okay.

18 And that was a meeting with Congressman
19 Ryan in the ongoing dialogue between Monsanto and
20 the Congressman?

21 A. That is correct.

22 Q. Okay.

23 Were you ever involved in a face-to-face
24 meeting with Congressman Ryan yourself?

1 A. No.

2 Q. Okay.

3 That was Mr. Mason's assignment?

4 A. Yes.

5 Q. Is there any particular reason that you
6 are aware of, other than the absence of the other
7 gentleman, why John Mason ended up with the
8 assignment of dealing with Congressman Ryan?

9 A. I can only speculate.

10 Q. Nobody ever discussed it with you?

11 A. No.

12 Q. You were just told Mason is going to take
13 care of that, or words to that effect?

14 A. That's right.

15 Q. Okay.

16 From whom did that information come to
17 you?

18 A. Mr. Bergen.

19 Q. Okay.

20 To your knowledge, before he took on the
21 job of the dialogue with Congressman Ryan, had Mr.
22 Mason been involved in any other work on behalf of
23 Monsanto dealing with the Congress of the United
24 States?

1 A. No.

2 Q. Okay.

3 He wasn't your house lobbyist or anything
4 like that?

5 A. No. Mr. Mason had just arrived from
6 Europe.

7 Q. Did you ever talk to him about how he
8 felt about being thrust into this assignment?

9 A. Yes.

10 Q. What did he have to say about that?

11 A. He was amazed at the US way of doing
12 things compared to the European way.

13 Q. Was that favorably amazed or unfavorably
14 amazed?

15 A. Unfavorably.

16 Q. Unfavorably amazed.

17 Had he been with Monsanto in Europe?

18 A. Yes.

19 Q. For how long?

20 A. Oh, twenty years or more.

21 Q. Okay.

22 Is he a European citizen or was he an
23 American citizen who went over to Europe to work?

24 A. He is a European citizen, who was brought

1 to the United States to learn more about
2 Monsanto's United States operations.

3 Q. And this was part of his continuing
4 education?

5 A. I believe so.

6 Q. Okay.

7 When he went to meet with Congressman
8 Ryan, had he been briefed on what Monsanto knew
9 about pcb environmental contamination up to the
10 time of the meeting?

11 A. Yes.

12 Q. And who briefed him?

13 A. There were several of us. He talked, of
14 course, to Mr. Bergen. He talked with me and
15 talked with Dr. Kelly and Elmer Wheeler.

16 Q. Okay.

17 And did the same or similar group debrief
18 him after he came back from Washington?

19 A. Yes.

20 Q. Okay.

21 Did you talk to him about the meeting
22 before he wrote this memorandum?

23 A. Yes.

24 Q. Okay..

1 If you know, is it customary for Monsanto
2 management employees to prepare memoranda such as
3 this whenever they have a contact with a
4 congressman or senator?

5 A. I don't know of it as a Monsanto
6 practice. This is the option of the individual
7 whether he wishes to write it up and communicate
8 with others or not.

9 Q. In the case of an employee who is
10 commissioned, I guess you could say, or assigned
11 to respond to a congressional inquiry, does that
12 person have a responsibility to let others in
13 management know what happened in the course of
14 that contact or that response?

15 A. Yes.

16 Q. Okay.

17 That can be either by an oral report or a
18 memorandum such as this?

19 A. That is correct.

20 Q. Okay.

21 Is it accurate to say that this
22 memorandum that has been marked as Exhibit 139 is
23 a record that is kept in the ordinary course of
24 business at Monsanto?

1 A. Yes.

2 Q. And it would be the ordinary course of
3 Monsanto's business to keep track of such
4 memoranda regarding contacts with Congress or
5 congressional staff people?

6 A. Yes.

7 Q. Okay.

8 Paragraph 3 on the second page of the
9 memorandum refers to a request from Congressman
10 Ryan, a repeated request, that Monsanto disclose
11 its total volume of pcb manufacturing both in the
12 United States and in the United Kingdom.

13 And apparently up to the time of this
14 memorandum, Monsanto had not done that.

15 Is there some particular reason why that
16 information wouldn't be disclosed, at least to
17 Congressman Ryan?

18 A. Well, it wasn't specifically intended to
19 ignore Congressman Ryan's request. It is
20 Monsanto's policy, that exists even today, that
21 customer lists and quantities of products
22 purchased are considered business trade secret and
23 we were willing to release them, if the recipient
24 would assure us that he would treat it as such.

1 Q. In other words, not give it to the
2 competition?

3 A. That is one misuse, yes.

4 Q. Okay.

5 Or I suppose there is also a concern that
6 one customer might find out another customer's
7 volume?

8 A. That is true.

9 Q. Okay.

10 Since I take it that at least with
11 respect to pcb's Monsanto sold those materials to
12 customers who were in competition with each other
13 in the electrical industry.

14 A. Very true.

15 Q. Okay.

16 So your position as the supplier to two
17 competitors, you have to be careful not to give
18 proprietary information about one competitor to
19 the other competitor?

20 A. Right.

21 Q. Is there anything that you discussed with
22 Mr. Mason in the oral debriefing after his meeting
23 with Congressman Ryan that is not covered in
24 Exhibit 139?

1 A. Not to my recollection, no.

2 Q. Okay.

3 Would you mark this as 140.

4

5 (The document above-referred to
6 was marked Bloomington Deposition
7 Exhibit No. 140 for identification.)

8 Mr. Papageorge, would you take a look at
9 the letter that the court reporter has marked as
10 Exhibit 140, which is dated August 17, 1970 to you
11 from Mr. Viland of Westinghouse.

12 I will ask you if you recall receiving
13 that letter?

14 A. Yes.

15 Q. Did you make a response to it?

16 A. I recall I did. Yes.

17 Q. Was it a written response?

18 A. Yes.

19 Q. In the letter he is essentially seeking
20 to enlist your assistance in convincing regulators
21 in Pennsylvania that it is okay to dispose of pcb
22 wastes in a sanitary landfill. Is that an
23 accurate summary?

24 A. Yes. .

1 Q. What was your response?

2 A. As I remember, I talked to the
3 Pennsylvania representatives. They would not
4 approve any disposal unless someone conducted
5 tests with soils from Pennsylvania. As I remember
6 my response was along those lines back to Mr.
7 Viland.

8 Q. What type of soil tests were they talking
9 about?

10 A. They were not specific. They were going
11 to allow whoever was interested to design the
12 tests. They were quite adamant that they would
13 not accept general geological data. It had to be
14 specific.

15 Q. They wanted to know that the Pennsylvania
16 landfills wouldn't leak?

17 A. That is correct.

18 Q. Okay.

19 And they wanted somebody to design some
20 test to convince them of that before they would
21 permit disposal of pcb wastes in their sanitary
22 landfill?

23 A. That is correct.

24 Q. Was such testing ever done?

1 A. Not to my knowledge.

2 Q. And this document, Exhibit 140, is
3 referring to disposal of solid wastes contaminated
4 with pcb's as opposed to liquid pcb wastes; is
5 that correct?

6 A. That is correct.

7 Q. Okay.

8 So at the time of this letter, the
9 Monsanto incineration program was not designed to
10 deal with solid wastes?

11 A. That's correct.

12 Q. In fact, I think I recall your testimony
13 yesterday being that because of economic
14 considerations, there never was a solid waste
15 incineration program at Monsanto?

16 A. That is correct.

17 Q. Okay.

18 Do you recall what the ultimate
19 resolution of Mr. Viland's problem was?

20 A. No.

21 MR. MC CONNELL: Let's mark it.

22 (The document above-referred to
23 was marked Bloomington Deposition
24 Exhibit No. 141 for identification.)

1 Q. Mr. Papageorge, would you take a look at
2 the memorandum that the court reporter has marked
3 as Exhibit 141, which is dated November 4, 1978,
4 to Dr. Richard concerning biodegradation testing
5 of 1242 and 1016.

6 I will ask you if you recognize that?

7 A. I do.

8 Q. One of the concerns, one of the
9 environmental concerns with regard to pcb's was
10 their persistence in the environment. Is that
11 correct?

12 A. That is correct.

13 Q. And in looking for substitute products
14 that the electrical industry could use, one of
15 Monsanto's considerations was to find a product
16 that was more biodegradable, is that a fair
17 statement?

18 A. That is true.

19 Q. Okay.

20 Did Monsanto as a result of testing, such
21 as the testing that is discussed in Exhibit 141,
22 ever conclude that it had sufficient data as a
23 basis for a public statement to the effect that
24 its 1016 product was biodegradable?

1 A. I don't think it was described in those
2 words. It is more biodegradable, not
3 biodegradable implying totally so.

4 Q. Okay.

5 More biodegradable or less persistent?

6 A. Exactly.

7 Q. In fact, there was a time when
8 Westinghouse asked Monsanto to state, or whether
9 Westinghouse could state to its customers that
10 1016 was biodegradable and Monsanto said they
11 shouldn't say that, do you recall that?

12 A. Yes.

13 Q. Okay.

14 Can you put a quantitative number on the
15 difference in either in persistence or
16 biodegradability between 1242 and 1016?

17 A. It can be described in those terms. I
18 don't personally recall the numbers.

19 But if one equates persistence with
20 Aroclor 1254, which was constantly being reported
21 as present, and the lack of any reports that refer
22 to 1242 as being out there, one can go back and
23 determine how many of the pcb's were removed from
24 1242 that would have looked like 1254.

1 And assuming the remainder would not
2 persist, one could make that calculation. I just
3 don't remember how much was removed.

4 Q. What kind of measurement do you use for
5 persistence, does the term half life make sense in
6 the context of environmental persistence of a
7 substance like pcb?

8 A. There are some investigators that use the
9 half life concept. Monsanto just reported the
10 absence or presence of the different pcb's after a
11 given period of time during the test.

12 Q. But from that information you could
13 calculate a half life, could you not?

14 A. One could, yes.

15 There is many a discussion involving the
16 interpretation of half life, the significance, its
17 usefulness. So the industry and the regulatory
18 people never did come up with a measure that was
19 acceptable to everybody.

20 Q. Okay.

21 Half life is a concept that is really
22 more applicable to radioactive materials; is that
23 correct?

24 A. Well, that is where the most common usage

1 is made. And it does imply that there is always
2 half of something remaining forever.

3 Q. That is the assumption?

4 A. Yes.

5 Q. Okay.

6 Now, as I understand it, in the series of
7 numerical designations for these various pcb
8 mixtures, at least in the 1200 series, where you
9 have 1221 and 1242 and 1254 and 1260, and perhaps
10 others that I don't know about, that the last two
11 digits essentially represent the percentage of
12 chlorine by weight in the mixture?

13 A. Yes.

14 Q. Okay.

15 That is not true, however, in the case of
16 1016?

17 A. That is true.

18 Q. Where did the number 1016 come from?

19 A. When this particular mixture was
20 undergoing laboratory testing, it was treated like
21 all other Monsanto test materials. It was entered
22 into a logbook, the next number on that logbook
23 was 1016. It started off then you will see some
24 literature referring to MCS 1016. That is

1 Monsanto Company Sample 1016.

2 Q. Okay.

3 A. It became so common amongst our customers
4 and ourselves to refer to it as 1016, calling it
5 an Aroclor with a percent chlorine would have lead
6 to confusion, because it was deliberately designed
7 to have about 42 percent chlorine.

8 We didn't want to confuse the new
9 material with the old. So we just stuck with the
10 1016 and added the word Aroclor.

11 Q. So MCS 1016 became Aroclor 1016 because
12 everybody knew it as 1016?

13 A. Correct.

14 Q. Okay.

15 And I take it that in the course of
16 developing the 1016 product, one of the things
17 that was done was that sample lots were supplied
18 to Monsanto customers so they could test it in
19 their applications?

20 A. Yes.

21 Q. To see if it was suitable?

22 A. Yes.

23 Q. Okay.

24 And some other things that were done were

1 animal tests and these biodegradability tests that
2 are referred to in Exhibit 141?

3 A. Correct.

4 Q. I guess you have already told me that the
5 percent by weight of chlorine in 1016 is actually
6 42 percent?

7 A. Very close.

8 Q. Give or take some small --

9 A. It is over 41.

10 Q. But it is a different mixture from 1242?

11 A. Yes.

12 Q. Okay.

13 And is there a document somewhere that
14 describes the differences?

15 A. Yes. There should have been several
16 documents. One is the narrative description of
17 the various properties of the two. One can
18 compare them.

19 The other document which more accurately
20 describes the difference chemically is a
21 comparison of the two gas chromatograph charts,
22 the two fingerprints. There is a difference in
23 those two.

24 Q. Is there a table, I know I have seen it

1 but I don't recall if it was a Monsanto document,
2 that describes, that compares, the side-by-side
3 comparison of 1016 and 1242 with respect to mono,
4 chloro, dichloro, trichloro isomers?

5 A. I have seen such a table. Yes. I don't
6 know if it still exists.

7 Q. All right.

8 As I understand it, what was done in
9 creating the 1016 product was to remove some
10 portion of the higher chlorinated isomers from the
11 mixture?

12 A. More accurately it is at both ends, to
13 keep the chlorine percentage, you had to remove
14 the higher to get rid of the persistent. But you
15 had to remove the lower to keep the chlorine
16 percent at 42 percent.

17 Q. So you kind of squeezed it towards the
18 middle from both ends?

19 A. We cut, yes.

20 Q. Was there any difference detected that
21 you can recall in the animal studies between 1242
22 and 1016 with respect to their effects?

23 A. No.

24 Q. So the basic achievement was less

1 persistence in the environment?

2 A. Correct.

3 MR. MC CONNELL: Do you want to mark this as

4 142.

5 (The document above-referred to
6 was marked Bloomington Deposition
7 Exhibit No. 142 for identification.)

8 Q. Do you recall seeing that document?

9 A. Yes.

10 Q. Off the record.

11 (Discussion had off the record.)

12 Do you recall receiving that memo that
13 has been marked as 142?

14 A. I do.

15 Q. That is another somewhat more detailed
16 discussion of the relative persistence or
17 biodegradability of 1242 and 1016; is that
18 correct?

19 A. Yes.

20 Q. And on the second page of the exhibit,
21 which is the first page of the typewritten memo,
22 there is a confidential stamp.

23 Was that stamped on there when it came to
24 you?

1 A. Yes.

2 Q. Why would that have been considered
3 confidential at the time it was written?

4 A. As a policy, formal reports out of our
5 research function are all considered confidential.

6 Q. It is just a regular part of the new
7 product development process?

8 A. Yes.

9 Q. Okay.

10 The second page of the exhibit indicates
11 that 1016 is at least ten times better than 1242
12 in terms of, it says, from an environmental
13 viewpoint.

14 I take it that means in terms of
15 persistence?

16 A. That is correct.

17 Q. Okay.

18 And 75 times better than 1254?

19 A. That is correct.

20 Q. What do those numbers mean, ten times
21 better?

22 A. It is Dr. Tucker's evaluation of the
23 persistence in the environment and when he says
24 ten times better, he is saying that it is apt to

1 disappear in the environment ten times faster.

2 Q. It could only last ten percent as long,
3 is another way of saying the same thing?

4 A. All right.

5 Or only ten percent of it will remain as
6 compared to the other.

7 Q. That is probably the best way to
8 understand it, isn't it, that at any given time if
9 you had in the same physical and environmental
10 situation 1242 and 1016, with the passage of time
11 there would be only ten percent as much 1016 as
12 1242 at any given time?

13 A. A ten-to-one ratio, ten percent, yes.

14 Q. Okay.

15 As of today, to your understanding, do
16 those ratios of ten times and 75 times still hold
17 up?

18 A. I have no information that says they
19 don't.

20 Q. And again, that is a measure of relative
21 persistence and not comparative toxicity; is that
22 correct?

23 A. That is correct.

24

1 (The document above-referred to
2 was marked Bloomington Deposition
3 Exhibit No. 143 for identification.)

4 Q. Would you look at the document that has
5 been marked as Exhibit 143. I will ask you if you
6 recognize that document?

7 A. I recognize it.

8 Q. Is that more or less of a status report
9 to Congressman Ryan as to the steps that Monsanto
10 has taken since the last discussion between Mr.
11 Mason and Congressman Ryan?

12 A. Yes.

13 Q. Okay.

14 And to your knowledge, is the
15 information -- was the information in that letter
16 accurate as of March 24, 1971?

17 A. Yes.

18 Q. In the second, page 2 of the letter, the
19 paragraph at the top of the page numbered 3, Mr.
20 Mason makes the statement:

21 "Excellent
22 cooperation from our customers
23 has enabled us to establish
24 collection, reclaiming and

1 "disposal of spent fluids,
2 which would make a significant
3 contribution towards avoiding
4 escape to the environment."

5 That is a reference both to the
6 reclamation programs and later the incineration
7 program for scrap liquid; is that correct?

8 A. Yes.

9 Q. The next paragraph, which isn't numbered,
10 refers to good progress in developing more
11 environmentally acceptable polychlorinated
12 biphenyl fluids and I take it that is a reference
13 to what ultimately came to be Aroclor 1016?

14 A. Yes.

15 Q. The third paragraph on that page in the
16 last sentence it says:

17 "In this area --"
18 referring to transformer applications

19 "-- we have concentrated our
20 efforts on closing the loop as
21 referred to above."

22 And I take it that is a reference back to
23 the reclamation and disposal program for spent
24 liquids?

1 A. Yes.

2 Q. Was there any program or attempt to
3 "close the loop" with respect to solid waste
4 contaminated with pcb's?

5 A. The only attempt, the only program that
6 would be called an attempt, was the testing in a
7 pilot unit, the destruction of some solid wastes.

8 Q. Okay.

9 In other words, the efforts continued to
10 demonstrate that that was feasible and then it was
11 demonstrated to be technically feasible and
12 determined to be economically unfeasible?

13 A. Correct.

14 Q. Okay.

15 The last paragraph of the letter which
16 begins on the third page and carries over to the
17 fourth page, there is a statement in the second
18 sentence:

19 "I can assure you
20 that we are continuing to do
21 everything possible to police
22 our own and our customers'
23 operations to prevent future
24 possibilities of the escape of

1 "polychlorinated biphenyls to
2 the environment."

3 Is there anything beyond what we
4 discussed yesterday that Monsanto was doing to
5 police its customers' operations?

6 A. No.

7 Q. Okay.

8 And what Mr. Mason is referring to in
9 Exhibit 143 as policing was a program of technical
10 assistance and advice, plant visitations and
11 discussions to assist Monsanto's customers in
12 whatever engineering changes were necessary to
13 control and contain pcb's within their own plants?

14 A. Yes.

15 But there were --

16 Q. And the collection and incineration of
17 scrap liquids and recycling what liquids could be
18 recycled?

19 A. Yes.

20 Q. Anything else?

21 A. I can't think of any.

22 Q. Would the contract clause that we looked
23 at yesterday regarding termination of a customer's
24 supply in the event that customer failed to

1 control discharges from its plant be part of a
2 policing program?

3 A. Well, it was not from my perspective.

4 At no time did my actions or those I
5 worked with reflect that kind of an approach.

6 Q. As I recall, you weren't even aware of
7 that until it was shown to you yesterday?

8 A. Well, recently.

9 Q. Okay.

10 In preparation for your testimony here?

11 A. Correct.

12 Q. All right.

13 And correct me if I am wrong, but I think
14 you testified yesterday that to your knowledge no
15 customer was ever cut off for that reason?

16 A. True.

17 Q. Okay.

18 In your view, would the indemnification
19 clause in the sale contract which we looked at
20 yesterday be part of a policing of customers, an
21 effort to police customers?

22 MR. FRUEHWALD: Just for a time reference,
23 this reference is as of '71 and this indemnity
24 agreement is in the next year.

1 So are you talking about what Mr. Mason
2 was referring to as policing?

3 MR. MC CONNELL: No. I am just talking about
4 policing generally.

5 Obviously, the earlier letter can't have
6 referred to something that was only put into
7 effect later.

8 MR. FRUEHWALD: Then I am going to object,
9 Jim, in the sense policing is a term that Mr.
10 Mason used, that Mr. Papageorge has said was not
11 his term. And you are having him define somebody
12 else's term in connection with later events.

13 I don't think that is either fruitful or
14 relevant. So, I object to that kind of a
15 question.

16 MR. MC CONNELL: Mr. Mason's letter, which we
17 have marked as Exhibit 143 says that the company
18 is continuing its policing efforts. That to me is
19 a reference to something in the future, and Mr.
20 Papageorge is here as a 30 (b) 6 witness, and I am
21 trying to find out if, in his view in that
22 capacity, one of the continuing policing efforts
23 that was promised by Mr. Mason in this letter to
24 Congressman Ryan was the indemnification clause.

1 MR. FRUEHWALD: I am not sure that the
2 continuation of efforts in March of '71 includes
3 promises as to future activities in '72. My
4 objection stands, but the witness can attempt to
5 answer, if he feels he can.

6 A. The indemnification clause was developed
7 and implemented before I was made aware of its
8 existence.

9 From my perspective and those that I
10 worked closely with, it never came up to affect
11 our approach regarding helping our customers and
12 sort of monitoring their activities and their
13 intent.

14 Even when it was implemented, it didn't
15 change anything as far as we were concerned. We
16 still did what we thought was appropriate. So I
17 don't know that I can respond to your question
18 directly.

19 Q. Okay.

20 Let me ask it in a different -- ask
21 essentially the same thing in a different way.

22 It seems to me that one thing that might
23 happen as a result of both the addition of the
24 indemnification clause and the addition of the

1 termination clause to the purchase contracts might
2 be an enhancement of the customer's efforts to
3 comply with your suggestions and recommendations.

4 Did you perceive that it had that effect?

5 A. I didn't personally see any change.

6 The representatives of the industry we
7 worked with on the various national committees and
8 individual plants, nothing appeared to change, in
9 terms of their involvement and commitment and
10 interest.

11 Q. Those things were something that lawyers
12 threw in there to make the lawyers more
13 comfortable, is that what happened?

14 A. I don't know. I can only speculate.

15 Q. Did your speculation agree with mine?

16 MR. FRUEHWALD: I am going to object to that
17 kind of speculating as to what lawyers want at a
18 certain time as being beyond the scope of this
19 witness' --

20 MR. MC CONNELL: I will withdraw the question.

21 Q. Yesterday you described the use of saw
22 dust at the Westinghouse plant in Bloomington as
23 unique.

24 And you also testified that you saw

1 boxcars of saw dust ready at the plant there.

2 Do you know how long before your visit
3 Westinghouse at Bloomington had been using boxcar
4 loads of saw dust to soak up the drips of pcb's
5 from their capacitor manufacturing process?

6 A. No.

7 Q. Did you ever discuss that with them?

8 A. Not in terms of when did you start.

9 I was left with the understanding that
10 this was a practice that had been ongoing for
11 quite some time. And it was their way of keeping
12 the material from getting down the sewer.

13 Q. It was their equivalent of the gravel
14 pits that you described -- well it wasn't
15 equivalent; it served the same function?

16 A. Well, our gravel pits at the plant were
17 intended to collect pcb's that was involved with
18 water.

19 In this case, I don't know that there was
20 a lot of water involved, on the factory floor.

21 Q. Did you see any water on the floor when
22 you were there?

23 A. Over in the washing area, where they
24 degrees had the units. But, not everywhere. No.

1 Q. Did you ever make inquiry as to how much
2 saw dust waste contaminated with pcb's they had on
3 an annual or monthly basis?

4 A. That was discussed with the group. I
5 didn't personally raise it. And an estimate was
6 offered, and I have forgotten.

7 Q. Was that ever committed to writing
8 anywhere?

9 A. Not to my knowledge. No.

10 Q. What were they doing with the saw dust?

11 A. It was with the understanding they were
12 taking it to a landfill somewhere.

13 Q. In drums or just loose?

14 A. I don't know.

15 Q. Would you mark that. I guess we are at
16 144.

17 (The document above-referred to
18 was marked Bloomington Deposition
19 Exhibit No. 144 for identification.)

20 Have you seen that document before,
21 Exhibit 144?

22 A. Yes.

23 Q. That reflects that Monsanto did an
24 analysis for pcb's of some water samples submitted

1 by Westinghouse; is that correct?

2 A. Yes.

3 Q. Was that a regular practice at Monsanto
4 to do that kind of water sample analysis for your
5 customers?

6 A. It was not regular. It was --

7 Q. Would you do it if the customer requested
8 it?

9 A. Within limits. As long as they did not
10 abuse that service.

11 Q. Okay.

12 And was one of the reasons for that that
13 not all customers were equipped to perform that
14 kind of analysis themselves?

15 A. That is one reason, yes.

16 Q. Okay.

17 What were the other reasons?

18 A. The laboratory they used may not have
19 been --

20 Q. Up to your standards?

21 A. May not have had the experience that was
22 necessary to get good results, and they wanted to
23 have Monsanto serve as a check.

24 And even the customers' laboratories that

1 were good on occasion would ask us to sample, so
2 they could compare our results with theirs.

3 Q. They would give you a split sample?

4 A. Yes.

5 Q. And compare your results with their own
6 analyst's results, just to see if everything was
7 working as it was supposed to?

8 A. That is correct.

9 Q. Okay.

10 Was there a charge by Monsanto for that
11 service?

12 A. Sometimes yes and sometimes no.

13 Q. How was that determined?

14 A. Case-by-case basis.

15 If a customer seldom asked for this
16 service and the laboratory had the time and could
17 do the work, we would not charge.

18 On the other hand, if the request began
19 to appear unreasonable and routine to us, we would
20 quote them a price and then they would make the
21 decision on whether they were interested any
22 further or not.

23 Q. Okay.

24 To your knowledge, was Bloomington

1 Westinghouse ever charged for water sample
2 analysis?

3 A. No.

4 Q. Did Monsanto's analytical laboratories
5 ever perform any pcb analysis of samples from
6 Bloomington Westinghouse other than water samples,
7 to your knowledge?

8 A. No.

9 Q. In connection -- did you ever --

10 A. May I correct myself on that?

11 Q. Sure.

12 A. When I said no, I am talking about
13 environmental type samples. Water effluent.

14 Q. Right.

15 A. Not product samples.

16 Q. That was what my question intended.

17 Obviously, in the course of purchase and
18 sale of the quantities you were dealing with, both
19 you and they would regularly perform analysis of
20 the product as you sent it to them.

21 A. Right.

22 Q. Okay.

23 I am talking about environmental-type
24 samples. So the record will be clear on that.

1 A. Okay.

2 Q. Would you mark that as whatever the next
3 one is.

4 (The document above-referred to
5 was marked Bloomington Deposition
6 Exhibit No. 145 for identification.)

7 Do you recognize that document the court
8 reporter has marked as 145 which for the record is
9 a memo dated June 8, 1971?

10 A. I do.

11 Q. Is that a further update on the
12 biodegradation testing program that Monsanto had
13 underway?

14 A. Yes.

15 Q. Okay.

16 And was Mr. Keller or Dr. Keller -- is it
17 Dr. Keller?

18 A. Dr. Keller.

19 Q. Was he in charge of that work?

20 A. Yes.

21 Q. And that particular memorandum refers to
22 elimination of pcb's by activated sludge?

23 A. Yes.

24 Q. Is that a bacterial process, essentially?

1 A. Yes. It mimics in the laboratory the
2 typical municipal sewage treatment plant.

3 Q. Was there some problem, do you recall a
4 problem in the course of that activated sludge
5 testing at one point with regard to errors that
6 arose because the pcb was adhering to the side of
7 the flasks?

8 A. Oh, yes.

9 Q. Was take resolved before the time of this
10 memo?

11 A. Yes.

12 Q. And how was that problem corrected, if
13 you recall?

14 A. I think agitation was the -- helped quite
15 a bit.

16 Q. Agitation of the water, pcb and sludge
17 mixture in the flask?

18 A. Right. In addition to the air bubbling
19 through the introduced mechanical agitation.

20 Q. By means of a magnetic stirrer or
21 something of that nature, if you know?

22 A. Yes, that's right, magnetic stirrer.

23 Q. So the results that are reflected in
24 exhibit 145 came after that agitation was

1 introduced into the testing process?

2 A. Right.

3 Q. Do you recall how much of a quantitative
4 difference that made in the results?

5 A. No. I don't. But it was significant.

6 Q. Presumably we could find that out just by
7 putting the two reports next to each other?

8 A. Yes. Yes. We had an early report.

9 Q. Would you mark this.

10 (The document above-referred to
11 was marked Bloomington Deposition
12 Exhibit No. 146 for identification.)

13 Looking at the letter the court reporter
14 has marked as Exhibit 146, which is from you to a
15 doctor Robert Jasper dated July 12, 1971, do you
16 recognize that?

17 A. I recall it now that I read it. Yes.

18 Q. And that is your response to Dr. Jasper's
19 request for some technical information on the use
20 of Aroclors in pesticide applications?

21 A. Yes.

22 Q. Does Monsanto maintain an archive of what
23 I guess it would be fair to describe as outdated
24 or discontinued technical literature?

1 A. That I don't know.

2 Q. Who would know that?

3 A. I don't know the specific individual.

4 But I would start with the Monsanto's research
5 library.

6 And I would also check with the people
7 responsible for our printing, printing department.

8 Q. You do your own printing of that type of
9 information?

10 A. Some of it we do our own. Most of it is
11 contracted, but there are people in Monsanto who
12 are the custodians of these documents, manage that
13 operation.

14 Q. Whether the actual printing is done
15 inside or outside, someone is responsible for
16 that?

17 A. That is true.

18 Q. Okay.

19 Is it the practice of Monsanto when a
20 product is discontinued, to recall from its
21 customers their copies of the technical literature
22 on the discontinued product?

23 A. I have never heard that done, no.

24 Q. Is it the practice of Monsanto when a

1 product is modified or substituted, such as the
2 change, let's say, from 1242 to 1016 to ask the
3 customers to return the old literature when they
4 receive the new materials?

5 A. No.

6 Q. Such a request would strike you as being
7 unusual?

8 A. Extremely so, yes.

9 Q. Okay.

10 Now, in response to Dr. Jasper's request,
11 did you provide him --

12 Well, let me ask you this.

13 I guess we have established that there
14 was no Monsanto literature that recommended pcb's
15 for use in pesticides, is that correct?

16 A. That's correct.

17 Q. So there was nothing you could have sent
18 him, in any event?

19 A. Correct.

20 Q. Other than the general material which you
21 did provide, in other words, you didn't send him
22 anything on pesticides, but you did send him
23 something on Aroclors, generally?

24 A. Yes.

1 Q. Okay.

2 This has already been marked, Mr.

3 Papageorge, as Exhibit 76 and recognizing that
4 that is difficult to read, I will ask you first if
5 you recall ever having seen that before?

6 A. I saw this recently in preparation for
7 this deposition.

8 Q. Okay.

9 But that was the first time you were
10 shown that document?

11 A. Yes, sir.

12 Q. This is for the record a letter dated
13 September 22, 1977 to Dick Jones of Westinghouse
14 from J. A. Alley of Monsanto.

15 Who was Mr. Alley or is Mr. Alley?

16 A. He is a Monsanto employee that at this
17 point in time was involved with the pcb dielectric
18 customers. Pcb dielectric products.

19 Q. As a --

20 A. Similar to the function Mr. Bryant served
21 in the early seventies.

22 Q. Technical advice and assistance?

23 A. Technical advice, yes, as part of the
24 marketing function.

1 Q. What is his background, if you know?

2 A. I don't know.

3 Q. Is he still with the company?

4 A. I don't know.

5 Q. In this Exhibit 76 in the first paragraph
6 of the letter the last sentence in parenthesis
7 says:

8 "May I suggest that
9 you destroy all copies in your
10 own files and offices so we
11 don't inadvertently supply
12 obsolete information to the
13 industry."

14 And the reference is to a publication
15 entitled, "Transformer, askarel inspection and
16 maintenance, guide bulletin TIC/FF-38R-2.

17 Do you see that statement?

18 A. I do.

19 Q. Had you ever been aware up until the time
20 you first saw this document, Exhibit 76, of any
21 request from Monsanto to its customers that
22 technical literature on Monsanto products be
23 destroyed?

24 A. This is my first awareness.

1 Q. Are you aware of a similar request in
2 connection with any other Monsanto product either
3 before or since September of 1977?

4 A. No.

5 Q. In September of 1977, was Mr. Alley in a
6 position where he could make that kind of a
7 request of Monsanto's customers on his own
8 authority and volition?

9 A. From my understanding of his assignment,
10 I would say no.

11 Q. So he wrote this letter at the
12 instructions of some superior?

13 A. Yes.

14 Q. To whom did he report in September 1977?

15 A. I don't know.

16 Q. At the time of this letter as I
17 understand your earlier testimony, you were in a
18 different assignment from the pcb problem; is that
19 correct?

20 A. Yes.

21 Q. And who had taken over that from you?

22 A. Initially?

23 Q. Right.

24 A. J. C. Webber.

1 Q. Was he still in charge of that function
2 in September of 1977?

3 A. No.

4 Q. Who was?

5 A. I believe it was David Wood.

6 Q. Okay.

7 And he has still got that responsibility
8 today; is that correct?

9 A. No.

10 Q. No.

11 Who has it now?

12 A. Dr. John Craddock.

13 Q. Dr. Craddock, that's right, you gave us
14 his name before.

15 Mark that as 147.

16 (The document above-referred to
17 was marked Bloomington Deposition
18 Exhibit No. 147 for identification.)

19 Looking at what the court reporter has
20 marked as Exhibit 147 for identification, do you
21 recognize that document?

22 A. Yes. I do.

23 Q. And that is a memorandum dated August 13,
24 1971 to Mr. Heisler from Mr. Buckley.

1 Who are Mr. Heisler and Mr. Buckley?

2 A. Yes. Mr. Buckley, both of these
3 individuals were employees at Monsanto's W. G.
4 Rummrich plant in Sauget, Illinois.

5 Q. Were they involved in some capacity with
6 the pcb incinerator?

7 A. Yes.

8 Q. Okay.

9 A. Mr. Heisler was the superintendent in
10 manufacturing, who had responsibilities for the
11 manufacture of pcb's, as well as the incinerator
12 associated with pcb's.

13 Mr. Buckley was an environmental engineer
14 at the plant concerned with environmental issues
15 throughout the plant, including those associated
16 with pcb's.

17 Q. And with the incinerator?

18 A. Yes.

19 If there were any environmental issues
20 with the incinerator, he would get involved. But
21 not with the operation of it on a day-to-day
22 basis.

23 Q. Right.

24 The incinerator as I understand it, the

1 process gives off among other things hydrochloric
2 acid?

3 A. Yes.

4 Q. Okay.

5 And that is scrubbed out of the whatever
6 you want to call it?

7 A. The stack gasses.

8 Q. Out of the stack gas?

9 A. Yes.

10 Q. Is that recovered in some way?

11 A. It is blended with the rest of the
12 Sauget's plant's waste, which are on the basic
13 side. So it helps neutralize the total effluent
14 leaving the plant.

15 Q. Okay.

16 Is there some kind of pretreatment at the
17 Sauget plant?

18 A. No.

19 Q. So that goes directly into the sewer?

20 A. It goes to the sewer.

21 Q. After the neutralization process?

22 A. Yes. This is sort of a fortuitous
23 neutralization.

24 Q. Okay.

1 What else is there that might be emitted
2 into the air as a result from that incineration
3 process?

4 A. The nitrogen that accompanies the air to
5 the unit will combine with oxygen at these
6 temperatures and get oxides of nitrogen.

7 If there is an excess of oxygen, as there
8 is normally, you can release free chlorine, in
9 addition to the chlorine that is tied up with the
10 hydrogen chloride acid, there is free chlorine, so
11 that is possible.

12 And, of course, you have water and carbon
13 dioxide.

14 Q. And those are the combustion products
15 from the organic material?

16 A. Yes. As well as the hydrogen chloride.
17 That is a combustion product.

18 Q. Right. Okay.

19 This I take it, this memorandum reflects
20 answers to some environmental concerns that were
21 raised by the EPA respecting the operation of that
22 incinerator?

23 A. Yes.

24 Q. And I take it that that incinerator had

1 all of the appropriate EPA permits for its
2 operation?

3 A. Oh, yes.

4 Q. Was it in use at the time of this memo,
5 August 18, 1971?

6 A. It had been in service about a month or
7 two. It was still in what I would call its
8 start-up phases.

9 Q. Okay.

10 And it is not uncommon for the EPA to
11 make this kind of an inquiry in the start-up phase
12 of an operation?

13 A. In fact, the regulations call for EPA to
14 come back and determine whether the permit
15 conditions are being met.

16 (The document above-referred to
17 was marked Bloomington Deposition
18 Exhibit No. 148 for identification.)

19 Q. Showing you a document that has been
20 marked as Exhibit 148, which is a memo dated
21 September 7, 1971 to John Mason from W. R.
22 Richard.

23 Do you recognize that?

24 A. I recall it now that I see it.

1 Q. Was there a meeting with the Food and
2 Drug Administration sometime around September of
3 1971?

4 A. We had several meetings with
5 representatives of FDA. I can't place this
6 specific date.

7 Q. Did you participate in any of those
8 meeting with the FDA?

9 A. Yes.

10 Q. To your knowledge, did you participate in
11 all of them?

12 A. No.

13 Q. Did Mr. Mason participate in some of
14 those FDA meeting?

15 A. I don't recall John participating in any
16 of them. I just don't recall the relationship of
17 this document to --

18 Q. It is not clear to me that Exhibit 143
19 necessarily means that he was at the discussion
20 with the FDA.

21 Might it be that in his capacity as the
22 emissary to Congressman Ryan, he was being kept
23 apprised of discussions with the FDA?

24 A. That is a possibility, yes.

1 Q. Presumably Monsanto would expect that
2 Congressman Ryan or his staff would also be in
3 contact with the FDA?

4 A. Certainly.

5 Q. Concerning pcb's?

6 A. Yes.

7 Q. The studies that are referred to in
8 paragraph 4 of the memorandum, are those studies
9 that were performed for Monsanto by Industrial
10 Biotest Laboratories in Northbrook, Illinois?

11 A. Yes.

12 Q. Okay.

13 A. They were underway at that time.

14 Q. As I understand it, the analysis of the
15 amount of pcb's in tissue samples that was done in
16 connection with those studies was done by Scott
17 Tucker at Monsanto?

18 A. Yes.

19 Q. Okay.

20 And he was supplied by Industrial Biotest
21 with the tissues for analysis?

22 A. Yes.

23 Q. Other than the fact that pcb's were
24 showing up in fish and other items that people

1 might eat, did the FDA have any other interest in
2 pcb's?

3 A. Yes.

4 Q. What other interest did they have?

5 A. Dairy products.

6 Q. Okay.

7 My question was meant to include all
8 kinds of food.

9 A. Well, their interest was --

10 Q. Their interest was the presence of pcb's
11 in food?

12 A. Presence in food and the source of that
13 pcb.

14 Q. Okay.

15 And as of this September 1971 time
16 period, what different food products had been
17 identified as possibly containing pcb?

18 A. I believe at that point in time, let me
19 think. At that point in time they had established
20 a guideline in -- presence in fish, poultry, milk,
21 and milk products. I believe that was it.

22 Q. Were there any others later added to the
23 list?

24 A. Yes. Later they added animal food that

1 went into domestic animals. Food for poultry and
2 cattle and pigs.

3 Q. Chicken feed and things like that?

4 A. Chicken feed and that sort of thing was
5 added. Baby food was added. And they revised
6 some of the previous guidelines. This was about
7 1973, as I recall.

8 Q. And the FDA's concern about levels of pcb
9 in food for human consumption arises out of the
10 FDA's concern for human health, is that a fair
11 statement?

12 A. Yes. That is their mandate.

13 Q. What are the possible --

14 In 1971, as I understand it, Monsanto had
15 discontinued sales of pcb's for use as heat
16 transfer liquids; is that correct?

17 A. At about that time. Yes.

18 Q. Okay.

19 So the materials should no longer be
20 getting into food in the food processing process?

21 A. That is true.

22 Q. In earlier incidents, that was one kind
23 of thing that happened, not necessarily in this
24 country, but elsewhere; is that correct?

1 A. That's right.

2 Q. Okay.

3 So the source in food would be the pcb
4 that was actually in the fish or in the milk as a
5 result of something the could you eat or in the
6 chicken as a result of something the chicken ate,
7 that would be one other source?

8 A. That would be a source or sources.

9 Q. Okay.

10 What other source might there be?

11 A. Well, it was found in recycle paper that
12 would end up as the cardboard containers of food
13 products. It was found in some of the still in
14 use adhesives and inks on food packaging. It was
15 still being phased out.

16 Q. It might get into the food from the
17 packaging?

18 A. That was one suspected source.

19 Q. Okay.

20 A. And I believe it was about '73 when the
21 FDA also referred to the proximity of electrical
22 equipment to the food processing operations;
23 transformers.

24 Q. In other words, electrical equipment

1 containing pcb's?

2 A. Yes.

3 Q. Could be a source?

4 A. Yes.

5 Q. Anything else?

6 A. I can't think of anything else.

7 Q. In the animal world, let's back up.

8 As I understand it, in fish the
9 persistent isomers of pcb tended to be the more
10 highly chlorinated isomers; is that correct?

11 A. That's right.

12 Q. Whereas in birds, the opposite was true;
13 is that correct? The lower chlorinated isomers
14 were the ones that were found more prevalently in
15 the bird tissues?

16 A. I don't have that understanding. The
17 lower chlorinated seemed to affect the birds.

18 Q. Okay.

19 They were more toxic to the birds?

20 A. Right.

21 Q. The higher chlorinated?

22 A. The presence in tissues was still the
23 higher chlorinated.

24 Q. Was that difference confirmed in the

1 studies that were done for Monsanto to your
2 knowledge?

3 A. Yes.

4 Q. Was there a shared concern in 1971
5 between -- well, strike that.

6 Was Monsanto concerned in 1971 that the
7 government might ultimately ban pcb's in the
8 United States?

9 A. There was a concern, but I don't know
10 that it was a deep concern.

11 The concern that I was aware of and
12 shared with others in Monsanto was a precipitous
13 decision that would affect the electrical
14 distribution in this country.

15 Q. Meaning that it was important to Monsanto
16 to maintain the ability to sell pcb's at least
17 until a substitute could be developed?

18 A. Yes.

19 I don't know that it was important to
20 Monsanto.

21 It was Monsanto's understanding that
22 unless an alternate material was available, the
23 power distribution in this country would be
24 adversely affected.

1 And since we were the only source of the
2 acceptable material, we felt we had to keep making
3 it until something else came along.

4 Q. And while you were continuing the
5 production of pcb's, you were also, you being
6 Monsanto, were also working on the development of
7 alternatives for the electrical industry, is that
8 correct?

9 A. Yes.

10 Q. And not only on your own, but with your
11 customers?

12 A. Yes.

13 Q. In the electrical industry?

14 A. Yes.

15 Q. As I understand it, however, the
16 presently used alternative was ultimately
17 developed by someone other than Monsanto?

18 A. That's right.

19 Q. Okay.

20 And that is isopropyl biphenyl or at
21 least that is one alternative?

22 A. I had heard it was one of the
23 alternatives.

24 Q. Do you know who developed that product?

1 A. No.

2 Q. During the entire time that Monsanto
3 continued to produce and sell pcb's, the company
4 was making a profit on those sales, was it not?

5 A. Yes.

6 Q. Would you mark that 149.

7 (The document above-referred to
8 was marked Bloomington Deposition
9 Exhibit No. 149 for identification.)

10 Showing you what has been marked as
11 Exhibit 149, Mr. Papageorge, which is a letter
12 dated April 11, 1972, do you recognize that
13 document?

14 MR. FRUEHWALD: First of all, it is dated
15 April of '72.

16 MR. MC CONNELL: Oh, April of 1972, I am
17 sorry.

18 A. I recognize it.

19 Q. Is that a letter from Monsanto to its pcb
20 customers?

21 A. Yes.

22 Q. Do you know if there has been preserved
23 somewhere a mailing list of customer to whom that
24 was sent?

1 A. No, I don't.

2 Q. Would it have been sent to the
3 Westinghouse Bloomington facility, if you know?

4 A. Yes.

5 Q. Is it fair to characterize this letter as
6 a warning to customers that Monsanto may
7 ultimately be compelled by the government to
8 disclose its customer list and volumes of sales?

9 A. That was one of the objectives.

10 Q. And the other objective is a reminder
11 that they must continue to be careful about how
12 pcb's are handled and used?

13 A. That is another objective.

14 Q. Okay.

15 Was there a third?

16 A. Yes. FDA's proposed rules were
17 published.

18 Q. You wanted them to be aware of that?

19 A. To be aware of this new development.
20 Yes.

21 Q. Did Monsanto ever request to your
22 knowledge any of its customers -- well, let me
23 back up a minute.

24 Monsanto ultimately commented to the FDA

1 on those proposed rules, did it not?

2 A. Yes.

3 Q. Okay.

4 Let's mark that as 150.

5 (The document above-referred to
6 was marked Bloomington Deposition
7 Exhibit No. 150 for identification.)

8 Looking at the document the court
9 reporter has marked as Exhibit 150, which is a
10 letter dated July 14, 1972. Is that Exhibit 150
11 the comments that Monsanto submitted in response
12 to the proposed Food and Drug Administration
13 regulations on pcb's?

14 A. Yes.

15 Q. And who was it that signed that?

16 A. I did.

17 Q. That was part of your job as the
18 coordinator at that time?

19 A. Yes.

20 Q. Okay.

21 Besides yourself, who participated in the
22 drafting of those comments?

23 A. In '72. It would include Elmer Wheeler,
24 Dr. Kelly, Dr. Keller, a public relations

1 representative and I don't know who had the
2 assignment in '72.

3 Q. Anybody from the legal department?

4 A. Dr. Richard. An attorney always looked
5 at these documents. It was routine. I can't
6 think of anyone else.

7 Q. Were there earlier drafts of that letter
8 circulated among the group that you have just
9 named?

10 A. Yes.

11 Q. Do you know whether they were preserved
12 for any period of time after the letter was sent?

13 A. If they were, it depends on the
14 recipient's style of keeping documents.

15 Normally they are discarded when the
16 final version is issued.

17 Q. That was your practice, in any event?

18 A. Yes. And others.

19 Q. To your knowledge, did anyone at Monsanto
20 ever request customers to also submit comments on
21 those proposed FDA regulations?

22 A. I don't know of any situation where a
23 customer was requested. It was encouraged and
24 suggested, but not in the form of a request.

1 Q. Okay.

2 Would it be accurate to state that
3 Monsanto made its pcb customers aware that
4 Monsanto was going to comment on the FDA
5 regulations?

6 A. Yes.

7 Q. Did you share with the customers at any
8 time before your comments were submitted
9 information concerning the nature of what your
10 comments would be?

11 A. Not that I recall.

12 Q. But you did encourage those customers
13 also to submit their own comments on this
14 regulation?

15 A. Yes.

16 Q. And I take it that was because the
17 customers as well as Monsanto would be affected by
18 the proposed regulations if they were put into
19 effect?

20 A. Yes.

21 MR. MC CONNELL: I want to mark this as 151,
22 this as 152.

23

24

1 (The documents above-referred to
2 were marked Bloomington Deposition
3 Exhibit Nos. 151 and 152,
4 respectively, for identification.)

5 All right.

6 Showing you what has been marked as
7 Exhibit 151, which is a letter dated August 30,
8 1972 to Dr. Myronb Mehlman from yourself, I ask if
9 you recognize that document?

10 A. I recall it. Yes.

11 Q. Do you recall for what purpose Dr.
12 Mehlman requested the samples of the three
13 Aroclors that are mentioned in Exhibit 151?

14 A. These samples were to be used as
15 standards in their analytical laboratory that was
16 analyzing food at the Food and Drug
17 Administration.

18 Q. Okay.

19 And that is in connection with the
20 double-checking process that you described in the
21 analytical process?

22 A. No. No.

23 Every laboratory that conducts pcb
24 analyses needs standards to compare the unknown to

1 the known.

2 Q. Okay.

3 So that was going to be their known?

4 A. Correct.

5 Q. Okay.

6 And I will show you what has been marked
7 as Exhibit 152, which is a letter dated August 30,
8 1972 from you to a Major Ralph Vosdingh.
9 V-o-s-d-i-n-g-h, of the Fifth Army Medical
10 Laboratory in San Antonio.

11 Do you recall for what purpose Major
12 Vosdingh requested this sample of pcb's?

13 A. He wanted a standard that he could use in
14 his laboratories as he analyzed for pcb's.

15 I don't recall what specifically he was
16 looking for. But this was again a laboratory
17 standard.

18 Q. I understand that.

19 I am just trying to find out what
20 knowledge you may have about what the Army was
21 doing with respect to pcb analysis?

22 A. I just don't remember.

23 Q. Okay.

24 Would you mark that.

1 (The document above-referred to
2 was marked Bloomington Deposition
3 Exhibit No. 153 for identification.)

4 Would you look at the memorandum dated
5 September 8, 1972 that has been marked as Exhibit
6 153.

7 Do you recognize that document?

8 A. Now that I read it, I recall it. Yes.

9 Q. And that is a summary of a meeting
10 between Monsanto representatives and Westinghouse
11 representatives at Westinghouse in Bloomington,
12 Indiana?

13 A. Yes.

14 Q. On August 7, 1972; is that correct?

15 A. Yes.

16 Q. Did you talk to Mr. Benignus about that
17 meeting before he went?

18 A. Yes.

19 Q. And what did you discuss with him about
20 the meeting?

21 A. The fact that he had arranged for a
22 meeting and he reviewed with me the topics that he
23 was going to share with them and wanted to make
24 certain that he had his facts accurate.

1 Q. Okay.

2 A. And I, of course, encouraged him to
3 report back to me his observations, his findings.

4 Q. And he did that in this memo I take it?

5 A. Well, he did it with this memo and prior
6 to the memo he personally talked to me about it.

7 Q. Okay.

8 In the discussion you had with him before
9 he wrote the memo, did he tell you anything in
10 addition to what is reflected in the memo?

11 A. No.

12 Q. The memo refers to a slide presentation
13 and I have seen what I take to be overhead
14 transparencies rather than 35 millimeter slides,
15 is that what that refers to?

16 A. Yes.

17 Q. Okay.

18 The second subject of the memo is leaky
19 tankcars that are use or had been used to deliver
20 pcb's to Westinghouse in Bloomington.

21 Do you recall there being a continuing
22 concern about the problem of leaks not only at the
23 point where the tankcars were received by
24 Westinghouse, but also enroute?

1 A. There was a period of time when that was
2 a problem, yes.

3 Q. And was there a change made in the
4 frequency of inspection of the cars by Monsanto as
5 a result?

6 A. Yes.

7 Q. From once every ten years to annually?

8 A. I forgot the frequency. But there was a
9 dramatic change in frequency.

10 Q. Okay.

11 Under the terms of the sales agreement,
12 Westinghouse was responsible for those cars from
13 the time they left your plant, is that correct?

14 A. Yes. Technically.

15 Q. So their concern was that you should ship
16 the cars out in a condition that they were willing
17 to undertake responsibility for?

18 A. Yes.

19 Q. Okay.

20 The next subject is discussion of what I
21 understand to be then ongoing negotiations over
22 the terms of the contract between Westinghouse and
23 Monsanto for the supply of pcb's. Is that a fair
24 characterization?

1 A. Yes.

2 Q. Was there ever put into effect a
3 long-term contract with an indexed sales price, if
4 you know?

5 A. Not to my knowledge.

6 (A short recess was taken.)

7 Q. Back on the record.

8 Based on our previous discussion with
9 your lawyers at other depositions, do you know
10 whether the date of the meeting that is reflected
11 there, August 7, 1972, was actually on September
12 7, 1972, as you sit here today?

13 A. No. I don't.

14 Q. Okay.

15 Would it have been common for Mr.
16 Benignus to take a whole month to write a memo
17 like this?

18 A. This can happen.

19 Q. Okay.

20 Would you mark that as the next exhibit.

21 (The document above-referred to
22 was marked Bloomington Deposition
23 Exhibit No. 154 for identification.)

24 Before we look at the next exhibit, who

1 is Mr. Shemley?

2 A. He was the field salesman who at that
3 time was selling pcb dielectrics.

4 Q. There any particular reason why you were
5 not included in the meeting in August or September
6 of 1972?

7 A. Normally they would invite me and it
8 depended on whether I was committed to some other
9 meeting.

10 Q. Taking a look at Exhibit 154, do you
11 recall that document, a letter dated September 14,
12 1972?

13 A. Yes.

14 Q. Did you ultimately receive a copy of the
15 study on pcb's in laying hens?

16 A. I remember it, yes.

17 Q. What did it reflect by way of results, if
18 you recall?

19 A. Very much like the results that we got
20 from Monsanto's studies.

21 Q. Thin shelled, low hatchability?

22 A. With the lower chlorinated pcb's, yes.

23 Q. Would you mark that, please.

24

1 (The document above-referred to
2 was marked Bloomington Deposition
3 Exhibit No. 155 for identification.)

4 Looking at what has been marked as
5 Exhibit 155, which is dated April 23, 1973, do you
6 recognize that?

7 A. Yes. I recognize it.

8 Q. That refers to some changes in the
9 labling of pcb drums and tankcars by Monsanto; is
10 that correct?

11 A. Yes.

12 Q. Is there preserved anywhere the versions
13 of the labels which were replaced by the labels
14 that are included in Exhibit 155?

15 A. There is a repository of labels in
16 Monsanto's labling section or department that
17 manages the label programs.

18 Q. So they could give us a history from
19 beginning when?

20 A. I think it goes all the way back to the
21 thirties on pcb's.

22 Q. Essentially to the beginning of
23 commercial production?

24 A. Yes.

1 Q. Do you know as you look at the three
2 different copies of labels that are part of
3 Exhibit 155, what part of the information was new?

4 A. At this point in time the change here was
5 a color change, not a message change.

6 Q. Okay.

7 From what color to what color?

8 A. It is in the write-up here. It talks
9 about a white and the yellow. Where did I see it?
10 The new product is a yellow background with black
11 printing. This replaces former, which were white
12 background and black or red writing.

13 Q. And what color were the drums before they
14 changed to yellow drums?

15 A. They were black drums.

16 Q. You go from a black and white or red and
17 white label on a black drum to a black on yellow
18 label on a yellow drum?

19 A. Correct.

20 Q. Was that for some communication reason or
21 was that for esthetics?

22 A. I really don't know. The yellow did
23 highlight the drum.

24 Q. But it would seem to me that a yellow

1 label on a yellow drum would be less visible than
2 a white one?

3 A. These drums were preprinted with the
4 label the black printing was on the yellow drum.

5 Q. Okay.

6 A. In addition to that, they had yellow
7 paper labels which could have been used and were
8 used in the tankcars. They would fold this label,
9 put it in a plastic envelope and tie it on the
10 dome of the car, where the seal is.

11 Q. So, anyone opening it --

12 A. It is the first thing they do is they see
13 the label. Take the label and then break the
14 seal.

15 Q. Were you involved in a discussion that
16 led up to that change?

17 A. Briefly. Yes.

18 Q. Was --

19 A. I was asked if I had any objections. And
20 I didn't have any.

21 Q. Did anybody advance any reason other than
22 esthetics for the change in color?

23 A. They probably did. But I just don't
24 remember.

1 Q. The big change was from black to yellow
2 drum?

3 A. Correct.

4 Q. Okay.

5 Do you want to mark that.

6 (The document above-referred to
7 was marked Bloomington Deposition
8 Exhibit No. 156 for identification.)

9 Do you recognize Exhibit 156, Mr.
10 Papageorge?

11 A. Yes.

12 Q. For the record that is a letter dated
13 February 21, 1974 to Dr. Sidney Galler of the
14 Department of Commerce.

15 Did you write that letter in response to
16 some proposed regulations on pcb discharges?

17 A. Yes.

18 Q. Okay.

19 Was that in the nature of comment on
20 published proposed regulations or was that in
21 response to a specific set of questions that were
22 asked by Dr. Galler?

23 A. This was in response to questions asked
24 by Dr. Galler, which in turn were based on EPA's

1 activities at that time in considering some
2 standards.

3 Q. Had they been -- had formal standards
4 been published in the Federal Register or were you
5 provided with an internal draft?

6 A. I believe at this point in time they had
7 been published.

8 Q. Okay.

9 Did Monsanto encourage its pcb customers
10 to respond to the publication of those proposed
11 effluent regulations?

12 A. Yes.

13 Q. Okay.

14 Why don't you mark this as Group Exhibit
15 157.

16 (The document above-referred to
17 was marked Bloomington Deposition
18 Group Exhibit No. 157 for
19 identification.)

20 What I have marked as Exhibit 157
21 consists of two letters dated March 7, 1974 and an
22 attached, I guess it could fairly be described as
23 a presentation.

24 Do you recognize those materials?

1 A. Yes.

2 Q. Did you or other people at Monsanto
3 invite some of your pcb customers to a meeting to
4 discuss proposed pcb effluent regulations?

5 A. Yes.

6 Q. When did the meeting take place?

7 A. In February of 1974.

8 Q. Did you share with your customers at that
9 meeting the contents of the information that you
10 had already submitted to the Department of
11 Commerce which we have marked as Exhibit 156?

12 A. I don't recall that specifically. No.

13 Q. In the course of that meeting, were the
14 pcb customers encouraged to submit their own
15 comments on those proposed regulations?

16 A. Yes.

17 Q. Do you know whether any of them did?

18 A. As I recall, several of them participated
19 as a group. They formed a pcb committee under the
20 electronic industries association and commented
21 through that group.

22 Q. Okay.

23 Was there subsequently some sort of
24 hearings on those regulations?

1 A. Yes.

2 Q. Do you know whether anyone at Monsanto
3 submitted either written or oral testimony at
4 those hearings?

5 A. I believe I was involved in, I know I was
6 involved in hearings, and I believe this was one
7 of them. Yes.

8 Q. Did you go to Washington and testify or
9 did you submit some sort of an affidavit?

10 A. I believe I testified and left a copy of
11 that document.

12 Q. Okay.

13 Do you know what form that document took?

14 A. It is a multi-page. It was not in letter
15 form. It was more of a report form.

16 Q. Do you know what the date of it was?

17 A. It had to be 1974.

18 Q. You think you also went and gave oral
19 testimony; is that correct?

20 A. Yes. I remember a meeting room and a
21 committee, a panel.

22 (The document above-referred to
23 was marked Bloomington Deposition
24 Exhibit No. 158 for identification.)

1 Q. Would you take a look at Exhibit 158,
2 which is the affidavit of James H. Wright, and the
3 heading on it is, "In re proposed toxic pollutant
4 effluent standards for --"

5 I have no idea what this is doing in my
6 book.

7 (Discussion had off the record.)

8 Q. The heading is, "In re proposed toxic
9 pollutant effluent standards for Aldrin/dieldrin,
10 et al."

11 And one of the et als was pcb's; is that
12 correct?

13 A. That's correct.

14 Q. All right.

15 Now, was that affidavit by the
16 Westinghouse employee discussed at the meeting
17 that is reflected in Exhibit 157?

18 A. I don't remember it. And I don't see
19 anything to refresh my memory on it.

20 Q. Do you know James Wright?

21 A. I recall the name. But I just don't
22 remember the person.

23 Q. Do you know whether anyone else other
24 than Westinghouse and Monsanto submitted

1 individually materials in response to those
2 proposed regulations other than the group
3 submission that you testified about earlier?

4 A. I do not know of any other.

5 Q. Let me ask you, looking at the cartoon
6 that is attached as part of Exhibit 158, and maybe
7 there is a better --

8 Let me get the other one, because that
9 one is even less legible than what we had before.

10 Let me show you what has previously been
11 marked as Exhibit 75, which is also one of the
12 attachments to the affidavit that is Exhibit 158.

13 Have you seen that before you started
14 getting ready for this deposition?

15 A. I don't recall seeing it before then.

16 Q. I note that the cartoon character at the
17 bottom of that exhibit bears the Monsanto logo on
18 his shirt.

19 Do you recall Westinghouse ever
20 requesting Monsanto's permission to use its logo
21 in connection with that cartoon?

22 A. I do not.

23 Q. Could such a request have been done
24 without your being aware of it?

1 A. Oh, yes.

2 Q. Okay.

3 Did you ever discuss with Westinghouse
4 their intent to publish such a cartoon to their
5 sales people?

6 A. No.

7 Q. In your estimation, is that a fair
8 depiction of your program for either recycling or
9 disposal of scrap, what you called Aroclor and
10 what they called Inerteen?

11 A. That is a good graphic way of
12 communicating that message, yes.

13 Q. Mark that the next one, will you please.
14 Before you mark the exhibit. Let me ask one more
15 question about 75.

16 Was it Westinghouse rather than Monsanto
17 that coined the term "dirty undesirable disposer"?

18 A. I don't know.

19 Q. Okay.

20 (The document above-referred to
21 was marked Bloomington Deposition
22 Exhibit No. 159 for identification.)

23 Do you recognize that document that has
24 been marked as Exhibit 159?

1 A. There are two documents in this
2 particular one.

3 Q. Okay. Let's separate them right now.

4 A. Okay.

5 I recognize Exhibit 159.

6 Q. That is a further update on the status of
7 the biodegradability studies or maybe that is not
8 what it is; that is on a different material?

9 A. Yes. This is a report on the
10 biodegradability of another Aroclor.

11 Q. 1221?

12 A. 1221.

13 Q. How did that compare with the ten times
14 figure and 75 times figure that we discussed
15 earlier?

16 A. I don't know that I come up with that
17 kind of number. But this is much more degradable.
18 You will note that on the first page, over 80
19 percent of the material disappeared in 28 hours.

20 Q. That was with the activated sludge?

21 A. Yes.

22 Q. 1221 was not a new product at the date of
23 that?

24 A. That is true.

1 Q. Is there any particular reason for the
2 fact that it was studied later than the 1016 and
3 1242?

4 A. Yes.

5 Initially there was little interest in
6 using 1221 by the electrical equipment people and
7 then an interest started to develop in its
8 possible use in capacitors.

9 And it has all the dielectric properties
10 required. We found out from this study that it
11 degrades rapidly.

12 What it didn't have was the equivalent
13 fire resistance. But in spite of that, some of
14 our customers were interested. This is why we did
15 this work.

16 Q. Okay.

17 That was 1221 may have been an additional
18 alternative, in addition to 1016?

19 A. That's right.

20 Q. All right.

21 A. And it was. Not may have been, it was.

22 Q. Would you mark this.

23

24

1 (The document above-referred to
2 was marked Bloomington Deposition
3 Exhibit No. 160 for identification.)

4 Do you recognize Exhibit 160?

5 A. I recall it now that I have read it.

6 Q. That was a letter from you forwarding
7 some questions to Westinghouse?

8 A. Yes.

9 Q. Okay.

10 What was the purpose for getting answers
11 to those questions?

12 A. Well, Mr. Kopp from EPA was attempting to
13 get information regarding pcb's from transformer
14 operations and he asked me if I could help get
15 those answers from General Electric and
16 Westinghouse, and this is my attempt to help him.

17 Q. Okay.

18 Do you know what he was going to do with
19 that information?

20 A. This was part of their effort to get a
21 better understanding of pcb's, the electrical
22 industry, the economic impact. The ability to
23 control, the feasibility of control. So that they
24 could come up with a standard that they could

1 support.

2 Q. And that was the ongoing regulatory
3 effort that we have been discussing, the initial
4 regulations that they published and you commented
5 on and Westinghouse commented on and this is a
6 continuation of the same process; is that correct?

7 A. Yes.

8 Q. Okay. SD

9 (The document above-referred to
10 was marked Bloomington Deposition
11 Exhibit No. 161 for identification.)

12 Would you take a look at Exhibit 161. Do
13 you recognize that?

14 A. Yes. I do.

15 Q. That is a request from Westinghouse to
16 you for answers to some questions about pcb's; is
17 that correct?

18 A. Yes.

19 Q. Did you respond to that?

20 A. I recall I did. Yes.

21 Q. Would you mark that.

22 (The document above-referred to
23 was marked Bloomington Deposition
24 Exhibit No. 162 for identification.)

1 Is Exhibit 162 a copy of your response to
2 Exhibit 161?

3 A. It appears to be, yes.

4 Q. Did anybody assist you in preparing the
5 responses which are attached to the letter that is
6 the first page of 161?

7 A. Yes. It would have to be Elmer Wheeler
8 over in the medical department.

9 Q. Anyone else that you recall?

10 A. Not that I recall, no.

11 Q. Is there anything in the questions on
12 Exhibit 161 that suggested to you at the time that
13 the Westinghouse plants were less than what we
14 described yesterday as bone dry?

15 MR. FRUEHWALD: You say plants plural?

16 MR. MC CONNELL: Plants plural.

17 This does not refer to the Bloomington
18 plant. I understand that.

19 A. The reference to shoes and their shoe
20 soles being contaminated would indicate that there
21 was a source of pcb's on the walking surfaces.

22 Q. Okay.

23 You had previously visited the South
24 Boston plant, had you not?

1 A. Yes.

2 Q. How long before this letter, if you
3 recall?

4 A. Four or five years.

5 Q. Okay.

6 Did it trouble you at all that in four or
7 five years they hadn't been able to get the pcb's
8 off the floor of the South Boston plant?

9 A. No.

10 Because I didn't have enough information
11 to tell me that this was a large area that was
12 covered or that the number of employees that were
13 wearing these shoes were many.

14 Or whether or not these employees had
15 gotten it from the plant per se or did they get it
16 outside in the unloading process, on the
17 platforms.

18 I just didn't have enough to make a good
19 judgment regarding its significance.

20 Q. Did you make any inquiry of the person
21 who sent you the letter or of anyone else?

22 A. No. I don't recall doing so.

23 Q. Okay.

24 During the time that you were visiting

1 the South Boston plant and the Bloomington plant,
2 did you arrive at any comparative evaluation of
3 the effectiveness of the controls between those
4 two facilities of Westinghouse, was one doing
5 better than the other?

6 A. Yes. South Boston was much cleaner.
7 Dryer looking than Bloomington.

8 Q. Okay.

9 Did that knowledge on your part enter
10 into the fact that the request didn't raise any
11 particular concern on your part?

12 A. It probably did.

13 If that plant, at least as I saw it, had
14 been one with obvious evidence of material, seeing
15 shoes contaminated I would have associated the
16 two. But this didn't fit what I saw the first
17 time around.

18 Q. In other words, if the same letter had
19 come to you from somebody at the Bloomington
20 plant, your response might have been different?

21 A. Very likely. Yes.

22 (The document above-referred to
23 was marked Bloomington Deposition
24 Exhibit No. 163 for identification.)

1 Q. Looking at Exhibit 163, which is dated
2 April 3, 1975, I will ask you if you recognize
3 that document?

4 A. I remember it. Yes.

5 Q. Was there ever any effort made to get the
6 analyses from other laboratories to compare with
7 your own?

8 A. Yes.

9 Q. Do you recall what the results of the
10 comparison were?

11 A. In general, the results were compared
12 favorably with Monsanto's results.

13 Q. When you say compared favorably, do you
14 mean that they were getting the same answers you
15 were?

16 A. Well, in analyzing pcb's, you don't get
17 the same answer, but you can numbers that can
18 relate to each other in a reasonable kind of way.

19 Q. Okay.

20 A. Order of magnitude kind of numbers.

21 Q. Okay.

22 When you said more favorable or compared
23 favorably, the other interpretation of that would
24 be that their numbers were always lower than

1 yours?

2 A. No. I am talking now about the quality
3 of the data.

4 Q. It appeared to you that your laboratory
5 and the other laboratories were doing an equally
6 good job of the analysis?

7 A. That is correct.

8 Q. Okay.

9 (The document above-referred to
10 was marked Bloomington Deposition
11 Exhibit No. 164 for identification.)

12 Q. Showing you Exhibit 164, which is dated
13 August 22, 1975, I will ask you if you recognize
14 that document?

15 A. Yes. I remember it.

16 Q. Do you recall whether Monsanto provided
17 to any of its pcb customers the assistance that is
18 referred to on the first page of the exhibit in
19 completing the questionnaire?

20 A. I do not recall.

21 Q. Who besides yourself would have been
22 involved in the providing of that assistance?

23 A. Dave Wood, the author of this request,
24 would have had access to Monsanto records of pcb's

1 that were sold to the customers' sites.

2 Q. That was part of what was under his
3 responsibility?

4 A. Yes.

5 Q. Was he by that memo, which is the first
6 page of that exhibit, asking your permission to
7 provide that help or just letting you know that he
8 had been asked for it?

9 A. He is informing me that this activity was
10 underway and ongoing.

11 Q. And providing you with a copy of the
12 questionnaire so you would know what was out
13 there?

14 A. Yes.

15 MR. MC CONNELL: Okay. It is about five of
16 one. I am done with most everything for the
17 moment.

18 (Whereupon the taking of the
19 deposition was continued sine
20 dine.)

21

22

23

24