

1 **IN THE CIRCUIT COURT OF THE TWENTIETH JUDICIAL CIRCUIT**

2 **ST. CLAIR COUNTY, ILLINOIS**

3 **FRANCES E. KEMNER, ET AL.,**)

4 **Plaintiffs,**)

5 **vs.**)

NO. 80-L-970

6 **MONSANTO COMPANY,**)

7 **Defendant.**)

8 **REPORT OF PROCEEDINGS**

9 **APRIL 18, 1985**

10 **Before the HONORABLE RICHARD P. GOLDENHERSH, Circuit Judge**

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13 **APPEARANCES:**

14 **MR. REX CARR and MR. JEROME SEIGFREID, Attorneys at Law,**
15 **On Behalf of the Plaintiffs; and**

16 **MR. JOHN R. MUSGRAVE and MR. JOSEPH NASSIF, Attorneys**
17 **at Law,**
18 **On Behalf of Defendant Monsanto Company.**

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22 **KAREN D. HOPKINS, CSR, RPR**

23 **OFFICIAL COURT REPORTER**

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6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

INDEX OF WITNESSES

PAGE

In Chambers

2

Called on behalf of the Plaintiffs:

MR. PHOCIAN PARK (Section 2-1102)

Recross Examination (Cont.)

(By Mr. Carr) 16

Redirect Examination (Clarification)

(By Mr. Musgrave) 126

INDEX OF EXHIBITSPLAINTIFFS'
EX. NO.MARKED FOR
IDENTIFICATIONADMITTED
INTO EVIDENCE

1312

Page 17

Page 20

1313

Page 27

1314

Page 76

Page 78

1315

Page 92

Page 92

1316

Page 109

Page 110

DEFENDANT'S
EX. NO.MARKED FOR
IDENTIFICATION

888

Page 145

889

Page 166

1 BE IT REMEMBERED AND CERTIFIED, that heretofore, on
2 to-wit: April 18, 1985, the matter as hereinbefore set forth
3 came on for hearing before the Honorable Richard P. Goldenhersh,
4 Circuit Judge in and for the Twentieth Judicial Circuit, and
5 the following was had of record, to-wit:

6
7
8 (The following proceedings were had in the Judge's
9 chambers outside the hearing of the jury:)

10
11
12 THE COURT: Okay.

13 MR. NASSIF: Do you want me to repeat?

14 THE COURT: Yes, please.

15 MR. NASSIF: Okay. I informed the Judge and Mr. Carr
16 and Mr. Seigfreid today that because of some documents I found
17 in Mr. Levinskas's file last night that I have learned that
18 other toxicologists were involved in the review of the presence
19 of dioxin in tetrathal and that I could not be sure that Mr.
20 Carr had received all of the documents pertaining to the Rashmi,
21 R-A-S-H-M-I, Nair, N-A-I-R, memo and the Section 8(e) meeting
22 held in January of 1985. I informed the Court and Mr. Carr
23 that I have someone this morning going through files of other
24 toxicologists and individuals who have been identified in

1 documents I received last night and will be providing that
2 information to Mr. Carr hopefully today, if possible, if not
3 possible, by tomorrow.

4 THE COURT: You named some individuals. Could you
5 put those names on the record?

6 MR. NASSIF: Yes. The names of the individuals were
7 Timothy Long, a Mr. Fuehrman, and a Mr. Farley. Judge, there
8 may be others, but to my recollection I'm not sure if that's
9 all or not. In terms of the Department of Medicine and Environ-
10 mental Health the only two that I am aware of are Mr. Long and
11 Mr. Fuehrman.

12 THE COURT: And Farley is the same Farley who was
13 mentioned in testimony yesterday?

14 MR. NASSIF: Right. And I don't know, Your Honor,
15 if Mr. Fuehrman is a toxicologist or not, but he was copied
16 in on a memo from a toxicologist.

17 MR. CARR: I think the record should also concede,
18 unless Mr. Nassif meant it to be an off-the-record comment,
19 that he acknowledges that these late documents, the way they
20 have been coming in a document at a time, have very greatly
21 hampered my cross examination of the witness that's currently
22 on the stand. I think the words Mr. Nassif used, that I had
23 been blindsighted with some of these documents, and while he
24 regreted it personally, nevertheless it's occurred, and I

1 still don't have-- Apparently Mr. Nassif is going through the
2 Levinskas files. He has had them now for some time, and I
3 could have used those Levinskas files. You told me yesterday
4 you were going to give it to me by Thursday, and I'm hoping
5 that this witness will be off the stand this morning. And if
6 there's anything that I could use with this witness I sure as
7 heck don't want to be put in the position of having to call
8 this witness back to the stand and continuing to prolong this
9 trial. If I had had the documents that I used yesterday after-
10 noon with this witness when I first called him to the stand,
11 I could have incorporated all that and most of what we did
12 yesterday wouldn't have had to take place. And all this is
13 is a prolonging the trial day after day after day because each
14 day I get another little document.

15 MR. NASSIF: Your Honor, I don't disagree with the
16 fact on this witness Mr. Carr has in fact been blindsided.
17 I made that statement and I'll stand by that statement. In
18 terms of the Levinskas information, I got the Levinskas infor-
19 mation, the first portion of it yesterday and brought with me
20 this morning the last portion of it. So I have not had that
21 information for any period of time. I reviewed it last night
22 after getting it yesterday and disclosed the information that
23 I thought, and I understand it is my opinion, but that I had
24 thought any application to this witness or was called for in a,

1 you know, under the prior request, and I would say to this
2 Court that the information I received today I have been informed
3 by the person who reviewed it is that it is not pertinent to
4 this witness, but I cannot certify that myself, Your Honor,
5 because as I said, I received it into my automobile at 8:00
6 this morning prior to coming over to Belleville. But I will
7 look at it at noontime. I have been told--

8 THE COURT: Where is all this information physically?
9 Do you have it now?

10 MR. NASSIF: I just brought it and dropped it off at
11 the Belleville office this morning. I mean, the last part.
12 The first part was just, was not very much, and I was able to
13 get through that last night. The last part is published
14 materials and some books and there's a few thin files in there.
15 And I'll review it over the lunch hour and bring the files up,
16 if there is anything in there pertinent to this witness, if
17 you want me to, Your Honor.

18 MR. CARR: Your Honor, there was something else that
19 developed night before last when we were at Coburn, Croft
20 offices going through these original files that, of Roush's
21 that had been ordered to be produced and that we had gone
22 through the original files of Roush's a week or two ago. There
23 was another file brought in of Roush's, his TSCA Section 8(e)
24 file, which had in it documents for the greater part that I had

1 already seen and not particularly important. But right on the
2 top of that file were two documents. One was a single-page
3 letter to Dr. Ellefeson in January 1984 at the very time that
4 they were taking the evidence deposition of Dr. Ellefeson.
5 The second was a letter of January 1984 sent to Dr. Ellefeson
6 two days before we concluded his cross examination in which he
7 had been sent, in which they discussed the fact that he had
8 been sent porphyrin analyses of Monsanto employees. These
9 porphyrin analyses, there were 26 abnormals in the porphyrin
10 analyses that had been sent to Dr. Ellefeson. Now, I knew
11 that Roush had been, because Newbold or somebody had inadvertently
12 mentioned that Dr. Roush had been visiting Dr. Ellefeson,
13 and I inquired of him at that time. The material that was
14 stuck in this TSCA file, Dr. Roush's-Ellefeson porphyrin
15 material, had absolutely nothing to do with the TSCA file.
16 It wasn't even remotely similar to it. Mr. Nassif assured me
17 that he delivered the file to me in the same fashion that he
18 got it, that those two documents were on the top. I have no
19 reason to doubt him and I believe him, certainly, but it
20 indicates to me very strongly that Dr. Roush or somebody at
21 Monsanto has entered into a-- Well, all this dribs and drabbles
22 of discovery that we're getting now that we should have had
23 months ago shows that they have entered and I have asked time
24 and again for sanctions. It shows that they have been deliberately

1 attempting to thwart the just end of this case. This Ellefeson
2 material is literally dynamite, Your Honor, and if I had not
3 just by accident insisted again upon seeing the original files
4 of Dr. Roush's relating to the TSCA, because of the dribbles
5 that we've been getting in on this TSCA file, very pertinent.
6 What is a marker of dioxin exposure. Very important as far as
7 porphyrins. And the jury knows it and the Court knows it,
8 everybody knows how important porphyrins is, and Monsanto has
9 to know it. And to have 26 abnormal results stashed away in a
10 different file and not given to me, well, I want it on the
11 record. I don't know who is responsible for it. I'm sure,
12 certainly believe Mr. Nassif that he's not, but somebody is,
13 and it's just by pure accident that we got that file.

14 THE COURT: Do you have the results?

15 MR. CARR: Yes, I have the results and I'm going to
16 use them now in examining Dr. Roush, but I could have had them
17 and used them in examining Dr. Ellefeson if I had known that
18 they had been delivered to Dr. Ellefeson. And there was also
19 a letter going along with these studies in which Dr. Ellefeson
20 is told by biostatistic analyses, five percent may be abnormal
21 here and five percent may be abnormal there, of which I
22 didn't know about and which I know they knew about, because I
23 remember Mr. Heineman cross examining Dr. Carnow months ago
24 about this five percent possibility that one out of, five out

1 of every 100 are going to have an abnormal result or something
2 of that sort, and I remember that. And they knew about it,
3 they had to know about it. It just, I just don't know what
4 else might be, quote, accidentally, end of quote, stuck in
5 the wrong file that they haven't produced, and that's again
6 a strong reason I think for requiring-- Well, the Court's
7 already ruled on that, and the president is going to be
8 required to sign it.

9 THE COURT: I have.

10 MR. CARR: But I just feel sometimes like I'm trying
11 this lawsuit with one hand tied behind my back.

12 MR. NASSIF: Your Honor, and I do not suggest that
13 Mr. Carr's misrepresented anything in his, what he's just put
14 on the record, but by way of explanation information that Mr.
15 Carr does not know, but may be aware of, the document, the two
16 documents pertaining to Ellefeson on their face do not mention
17 chlorophenols, the word dioxin or the toxicity of dioxin.
18 They are almost like an analytical table in nature. It just
19 has numbers with an attachment. Even the porphyrin biostat,
20 stat, whatever, porphyrin statistics that Mr. Carr referenced,
21 they don't identify dioxins or chlorophenols, and I have to
22 admit that I went through his file and I indicated to Mr. Carr
23 that I went through it one time. These were the three 8(e)
24 files I mentioned that Roush had stuck in his desk and Mr. Carr,

1 as he is quite aware of, did not have an opportunity to review
2 them. I went through those files and I told Mr. Carr that I
3 did not see these two Ellefeson documents and that I must have
4 went right over them. However, I was wrong. Those documents
5 were not in those three desk files when I looked at them,
6 because Mr. Heineman had gone through those three desk files
7 and he told me they were not in there either. So what happened,
8 according to Dr. Roush when I checked this with him, is that
9 he had stacked these three when he returned them to his desk,
10 the temporary secretary had these Ellefeson documents, appar-
11 ently Rex, somebody had requested copies of them or something,
12 she had stacked them on top. When I asked them to bring those
13 original files back so I could give them to you, he grabbed
14 what he thought was the document and shoved it into the file
15 and closed it and brought the three original files with him.
16 Now, I went through those files and I hadn't seen it the first
17 time. I believe that that's probably what took place, because
18 I think I would have recognized it. I apologized. I told Rex,
19 I apologize.

20 MR. CARR: Why weren't they in the first group of
21 documents brought to me, the original files brought from Roush,
22 because they were not TU TSCA files, and Heineman reviewed
23 them and pursuant to my request on them just recently they
24 weren't there.

1 MR. NASSIF: They weren't there.

2 MR. CARR: But I had asked for Roush's original
3 files on dioxin and the medical effects of dioxin prior to the
4 time I asked for these TSCA files, and they were not produced
5 then. So that means that somebody took those files deliberately
6 and did not give them to me and stashed them somewhere, and
7 then later on they surfaced and were put in the TSCA files.
8 There's no other explanation. Somebody deliberately took those
9 files out and put them away and you did not bring those files
10 to the office here two or three weeks ago when I reviewed all
11 the Roush, the original documents. They weren't there.

12 MR. NASSIF: Rex, I don't know where they were
13 originally filed. My only explanation, Judge, is they were not
14 in the file identified.

15 MR. CARR: Well, why don't you do this, because
16 there may be others, go to Dr. Roush's office and find out
17 where those documents were kept, because they apparently were
18 taken from a file, some file that you have not produced, some
19 file that you have not seen, go to his office yourself, go
20 through his files.

21 MR. NASSIF: I'll suggest to the Court that I had
22 Dr. Roush do that.

23 MR. CARR: You had Dr. Roush do that. I'm saying
24 you do it.

1 MR. NASSIF: Okay. And I will be glad to do that,
2 Your Honor.

3 MR. CARR: You guys are the ones that signed the
4 affidavit. You guys are the ones. Roush is not cooperating.
5 Park is not cooperating. There has not been a single witness
6 on that stand that has attempted to honestly answer my
7 questions and to give decent honest answers. And if the
8 conduct on the stand is any indication to the way they reply
9 to your-- Phocion Park, the documents you had asked him for,
10 the documents I got from him, you had asked him for these
11 things before. He didn't give them to you. He didn't give
12 them to you at all when you asked for them. Now, when you ask
13 for the original files I see all kinds of things that is
14 pertinent material that I could use, so I cannot depend upon
15 these people with cooperating on the law. They are not lawyers.
16 You are the guys that have to do it.

17 MR. NASSIF: Your Honor, I can only assure you that
18 we are making an effort to go beyond, when I say beyond, to
19 insure personally that a lawyer involved in this litigation
20 commands a discovery of all Monsanto information. We are doing
21 that posthaste. We are going to once and for all be able to
22 certify consistent with your order regarding Mr. Mahoney and
23 Mr. Heineman and we are doing that right now. And I will
24 personally be involved in that. I've been involved in meetings

1 both yesterday and today, lengthy meetings. I will be involved
2 in that through this weekend. The Monday that we're off I'll
3 be involved in that so that we can once and for all certify
4 full compliance with your order. I will personally go back with
5 Dr. Roush and recreate, if I can, where these documents were
6 before they got out of the file and placed on his desk, and I
7 will--

8 THE COURT: Well, let me make a suggestion: This is
9 ridiculous and this is disgraceful and I have never seen any-
10 thing like it. I thought I had seen some situations where things
11 weren't produced in discovery, but it's nothing compared to
12 this. You are in a position obviously where this witness is
13 going to be done sometime today, and I understand what you're
14 talking about about not wanting to bring back. My suggestion
15 would be, and if you don't want to do it, then we won't, but
16 you're in a position, a person who is really put in a bad
17 position as far as examining this person as if today you get
18 all of that stuff from Roush and everything personally, you get
19 Levinskas's, you get everything from these two new people,
20 Fushrman and--

21 MR. NASSIF: Long.

22 THE COURT: Long. And whatever Farley has. Bring it
23 over to this office and we go through everything today and we
24 can finish up Park tomorrow after you know what should have

1 been delivered to you, months ago is being charitable, probably
2 a year-and-a-half ago under discovery orders.

3 MR. CARR: Well, Judge, I'm more concerned that I have
4 material that I need on Roush than with this witness. The
5 document-- And if there's anything new we can call him back,
6 but I would, I would not like to lose any more court time.
7 This is work that I can do at night if they deliver the documents.
8 We've been doing it at night and I don't want to lose any
9 court time, and if something does come up that I think is signif-
10 icant to use with this witness, well, then I would ask the
11 leave of Court to call him back, but I wouldn't want to shut
12 down on this point at this point, because I'm very close to
13 being through with him and I want to move on to Dr. Roush. But
14 I do want--

15 THE COURT: Is Roush next?

16 MR. CARR: He's next. Well, we'll have a very short
17 witness in between, but he's next, and I do need this informa-
18 tion before we conclude with Roush, and probably-- Well,
19 depending-- I don't know what Roush has in his files, so there
20 may be a lot of things that I need. I would say this, Judge,
21 in all candor, is that we don't start with Roush, we finish up
22 Park and this other young lady and we don't start with Roush
23 until I've got all that discovery, because I think that Roush
24 material, him going through Roush's files in view of the

1 importance of this Ellefeson business that I got and it's
2 extremely important, I may be very crippled in examining Roush
3 without knowing that I've got everything that he's got. So
4 since we're going to be off, we are going to be off Monday?

5 THE COURT: We'll be off Monday.

6 MR. CARR: And it just occurred to me that that might
7 be the appropriate thing to do is to finish up with these
8 witnesses that we have now, shut down until we get all the
9 Roush material.

10 THE COURT: Fine. And I am available. I don't know
11 if there's anything in there that you would possibly want in
12 camera. You know my home number, you know where I am. I don't
13 want to find out Tuesday morning that I've got to look at
14 something in camera from all this stuff and then delay it even
15 more. Find me. Drop it off. I'll get back to you.

16 MR. NASSIF: Fine. If we have any in-camera--

17 MR. CARR: If we finish up as I think we will, early
18 this afternoon, I would like Joe to go directly to Roush's
19 office from the courthouse and do not give Roush an opportunity,
20 do not call him in advance and tell him that you're coming and
21 direct everybody not to call Roush in advance. Joe goes
22 directly to his office and goes through all the files in Roush's
23 office to discover what's in there. Not with Roush's coopera-
24 tion, but without Roush's knowledge what you're going to do in

1 advance. I trust you, Mr. Nassif, but I don't trust Dr. Roush.

2 MR. NASSIF: Your Honor, Dr. Roush is here, because
3 we thought he might be called today, and what I will do is I
4 will inform him while he's here that I'm going to his office
5 after court is over and I will go through his documents by
6 myself and I'll go through wherever I can find any files that
7 have his control or any other thing that I will certify to Mr.
8 Carr that he has in fact seen everything, and if he hasn't seen
9 everything I will pull it and make sure he sees it immediately,
10 sees it posthaste.

11 MR. CARR: All right. But I don't want Roush getting
12 to his office or calling the office before you get there. I
13 don't want him to know that you're going to go through his files.
14 I don't want him to be informed of that fact. I want you to be
15 over there before he knows or before he can tell anybody.

16 THE COURT: I think that's a good idea, and I would
17 extend that to these other people that are listed.

18 MR. NASSIF: Rex, I would only inform him to the
19 extent that I would want to make sure I can get access.

20 MR. CARR: Yes, but you can't be sure that he won't
21 call somebody and say, go to file drawer such-and-such and pull
22 it and put it someplace. I don't want that to take place.

23 MR. NASSIF: I'll make sure that he is not informed.
24 He won't be informed by me and he won't be informed before I get

1 there and I'll stay there and get it done.

2 THE COURT: That's fine, and I want that procedure
3 followed with the other people on this list, too.

4 MR. NASSIF: Their files without any notice to them
5 are being pulled right now by an attorney from Coburn, Croft
6 and Putzel.

7 THE COURT: Good. Let's keep it that way.

8 MR. NASSIF: That's why I started at 7:00 this morning,
9 so they walked in and saw a lawyer in their area pulling their
10 materials.

11 THE COURT: Good. Because this is ridiculous. Okay.
12 Let's see if we've got a juror.

13 * * * * *

14
15
16 (The following proceedings were had in the courtroom
17 within the hearing of the jury and the recross examination of
18 Mr. Phocion Park by Mr. Carr continued as follows:)

19
20
21 THE COURT: Good morning. Ladies and gentlemen, I
22 apologize for us starting late. As I've told you many times
23 there are certain matters that have to be done outside the
24 presence of the jury, and we had to take care of certain of

1 those matters this morning. I believe they are resolved for
2 now, so we will resume with testimony in the case.

3 Gentlemen.

4 MR. CARR: Yes, Your Honor.

5
6 (At this time Plaintiffs' Exhibit No. 1312 was marked
7 for identification by the court reporter.)
8

9 Q (Mr. Carr) Mr. Park, I'll hand you what's been marked
10 Plaintiffs' Exhibit 1312 and ask you to review that, please.
11 Mr. Park, this document was delivered to me at 8:30 this morn-
12 ing at our office here in Belleville. Have you seen it before,
13 sir?

14 A I saw it this morning, Mr. Carr.

15 Q Is that the first time?

16 A Yes.

17 Q Was your TSCA-- And it relates to the Dr. Nair memo
18 of January 1985, does it not, sir?

19 A Yes, it does.

20 Q And that memo is the one that stated that 250 parts
21 per billion of total dioxin in your tetrathal should be reported
22 to the EPA. Do you recall that, sir?

23 A She didn't state it quite that way, Mr. Carr.

24 Q Mr. Park, did she not state that it should be reported

1 to the EPA?

2 A The conclusion of her memorandum was that information
3 should be reported to the EPA.

4 Q Then the answer to my question is yes, is it not, sir?

5 A Not as you phrased it, Mr. Carr.

6 Q Did she say, "I feel this information should be
7 submitted to EPA under Section 8(e) of TSCA?"

8 A I don't have that memorandum before me. If that is
9 a quote from it, then I assume that that is in the memorandum.

10 MR. CARR: Would you give the witness Plaintiffs'
11 Exhibit 1296, please?

12 Q (Mr. Carr) The last clause on the last page of her
13 report right above her signature by Dr. Nair, "I feel this infor-
14 mation should be submitted to EPA under Section 8(e) of TSCA."
15 It says that, doesn't it, sir?

16 A That is correct.

17 Q And she is talking about a product that is contamin-
18 ated with 250 parts per billion of polychlorinated dibenzo-
19 dioxin, is she not, sir?

20 A Part of the information she considered is, would be
21 tetrathal with that, she assumes an average-- She says, "I'm
22 assuming an average amount of polychlorinated dibenzo-dioxin
23 contamination of 250 ppb."

24 Q Now, Doctor, she did not say-- Mr. Park, she said

1 that she's using that because that is the average, is it not,
2 sir?

3 A Well, she assumed it to be an average, as I read it,
4 Mr. Carr.

5 Q Did you or anybody else ever calculate that and show
6 that that was in fact an erroneous assumption?

7 A I did not. I do not know if anybody else did.

8 Q And she stated, did she not, that the average amount
9 of that contamination was 250 parts per billion?

10 A She stated that she assumed that, Mr. Carr.

11 Q Doctor, would you look-- Mr. Park, would you look at
12 the top of the page? Does she not say, "The average amount of
13 polychlorinated dibenzo-dioxin-PCDD contamination is 250 parts
14 per billion?

15 A It does say that. That's one of the indented portions
16 after she says, "I've calculated that based upon using the
17 following assumption." Near the bottom of the first page.

18 Q And that assumption, so far as you know, is based
19 upon facts and she finds that the ranges go from 5.1 to 530
20 parts per billion?

21 A I don't really know how she came to that assumption.

22 Q Neither you nor anyone else has ever contradicted
23 that statement, have you, sir?

24 A I don't know whether anyone else has.

1 Q To your knowledge, Mr. Park, neither you nor anyone
2 else has ever contradicted that statement, isn't that correct,
3 sir?

4 A I just cannot recall, Mr. Carr.

5 Q And I'm asking you to your knowledge.

6 A Not to my recollection.

7 Q That means that which you can recall, Mr. Park.

8 A Yes.

9 Q Is there any document that you know of from your
10 TSCA file that contradicts the statement that the average
11 contamination for tetrathal is 250 parts per billion for poly-
12 chlorinated dibenzo-p-dioxin?

13 A No, there is not.

14 Q Now, Mr. Park, the memo that I've just handed you
15 dated January 23rd-- I haven't offered-- Have I offered that
16 in evidence yet, do you know?

17 MR. SEIGFREID: No.

18 MR. CARR: Offer this document into evidence, if it
19 please the Court. Number 1312.

20 MR. MUSGRAVE: Same objection, Your Honor, as to
21 these prior documents dealing with this January meeting on
22 tetrathal.

23 THE COURT: Fine. I'll incorporate them and I will
24 admit it over objection.

1 MR. CARR: And ask leave to pass copies of 1312 to
2 the jury.

3 THE COURT: Leave is granted.

4 MR. CARR: Miss Clerk, would you also give the witness
5 Plaintiffs' Exhibit 1297 and 1299?

6 Q (Mr. Carr) Now, Mr. Park, the reason Dr. Nair gave
7 us for believing that this information should be submitted to
8 the EPA is the fact that according to her calculations this
9 may be carcinogenic, isn't that correct, sir? That is, can
10 cause cancer?

11 MR. MUSGRAVE: Your Honor, may my objection be
12 continuing now that he is back on this document to, regarding
13 this document with any question of this witness asking for him
14 to comment, to speculate, to pass conjecture on the reasons
15 and the beliefs of Dr. Nair in her memorandum. The objection
16 being beyond that that the document can only speak for itself
17 since this man was not the author of the document.

18 THE COURT: It will be a continuing objection.

19 MR. MUSGRAVE: Thank you, Your Honor.

20 A Not being a toxicologist, Mr. Carr, I really don't
21 know.

22 Q Mr. Park, are you again telling this jury that you
23 served as an attorney for Monsanto for twenty years, served as
24 legal advisor to this committee since 1977 or '78 and that you

1 do not know that this memo that Dr. Nair gave you and gave to
2 your committee or gave to Papageorge, Farley, Johannsen and
3 Levinskas, if not to your committee certainly your committee
4 got a copy of it, that it shows that she is concerned that this
5 substance may cause cancer? Are you telling us that, Mr. Park?

6 A Mr. Carr,--

7 Q Are you telling us that, Mr. Park?

8 A As you phrased the question, no.

9 Q She was concerned that this polychlorinated dibenzo-
10 dioxin contaminated the level of 250 parts per billion might
11 cause cancer? That is and was her concern, isn't it, sir? x

12 A It's impossible for me to determine that based upon--
13 She makes one little hypothetical reference on lack of data
14 on carcinogenicity. I have no way of looking into her mind and
15 determining what she had in her mind when she wrote that.

16 Q Did she use the words "carcinogenicity data"? Is
17 there any other health risk that's even mentioned in this docu-
18 ment other than cancer?

19 A None that I've seen with a quick perusal here.

20 Q Now, Mr. Park, she's made these calculations because
21 she is concerned as to compare the toxicity of these dioxins
22 to the toxicity of 2,3,7,8-TCDD, the most toxic dioxin, isn't
23 that correct, sir? She compares this toxicity to dioxin,
24 doesn't she, to 2,3,7,8 dioxin, doesn't she, sir?

1 A She does appear to be comparing different dioxins,
2 right.

3 Q And you gave us the other day, rather we discovered
4 it in your files-- No, I'm sorry. After we brought up the
5 Nair memo pointing out that 250 parts per billion should be
6 reported, you came forward with another document by Dr.
7 Levinskas, Plaintiffs' Exhibit 1299, did you not, sir?

8 MR. MUSGRAVE: I believe you showed it to him, Mr.
9 Carr, in your examination of him.

10 MR. CARR: No. You handed it to me, Counsel. It
11 was delivered to my office after I notified you all that I was
12 going to refer to the Nair memo. I pointed out to the witness
13 two or three times that I'm going to refer to the January 24th
14 TSCA meeting. Then and only then did I get this document.

15 MR. MUSGRAVE: You delivered, you showed this to the
16 witness in your first initial direct examination of the witness
17 is my point, Mr. Carr.

18 MR. CARR: But it was delivered to me after I let you
19 know that I was going to use the Nair memo.

20 Q (Mr. Carr) Now, Mr. Park, your attorney has delivered
21 to me in a separate set of papers the January 16th memo by
22 Dr. Levinskas, which, according to you, takes away from the
23 Nair memo, isn't that correct, sir? You said, I think your
24 words was, that she was overruled by her boss, Dr. Levinskas.

1 Isn't that correct, sir?

2 A It does appear that way, yes.

3 Q And that's what you said, didn't you, sir?

4 A If you say so, Mr. Carr.

5 Q Now, this morning I'm delivered another document
6 relating to the same subject written by another toxicologist,
7 isn't that correct, sir?

8 A I don't know Mr. Long myself, Mr. Carr.

9 Q Do you know that he is a toxicologist? Have you been
10 told that by your attorneys or by God or by the devil or by
11 anybody that he is a toxicologist?

12 A No, I have not, Mr. Carr.

13 Q And you don't know that, sir? You haven't been told
14 that by anybody?

15 A That's correct.

16 Q Do these calculations appear to be, to your mind, sir,
17 appear to be the calculations of a toxicologist? And I've
18 been told by your attorney this morning that Long is a toxi-
19 cologist, and assuming that your attorney is representing
20 correctly to me, would you also assume that Long is a toxicol-
21 ogist?

22 A All right.

23 Q Now, if I understand you correctly, this information
24 was never given to your TSCA committee. You've never seen it

1 before today, isn't that correct, sir?

2 A That's correct.

3 Q And this memo does deal with tetrathal, doesn't it,
4 sir?

5 A Yes, it does.

6 Q And it does deal with polychlorinated dibenzo-p-
7 dioxin in your tetrathals, doesn't it, sir?

8 A Yes.

9 Q And it deals with the Nair memo to Levinskas, doesn't
10 it, sir?

11 A Yes, it does.

12 Q And it deals with cancer, doesn't it, sir? Sir?

13 A Yes, it does.

14 Q And all of these things are of importance to your
15 committee in determining whether or not you should report the
16 fact that dioxin is in one of Monsanto's products to the EPA,
17 isn't that correct, sir?

18 A They would be considered by our medical experts.

19 Q Could you answer that question, please, Mr. Park,
20 the way I posed it, the way I framed it, the way I intended
21 for you to answer it?

22 A As a non-toxicologist I would assume that these,
23 this information would be considered.

24 Q And as the legal advisor to this committee you know

1 the importance of dealing with a full deck, giving all the
2 facts to those people, giving all the facts to either the
3 Judge or the jury or the committee that's going to make a
4 decision? You know that's important as an attorney, don't you,
5 sir?

6 A All relevant information is to be considered at
7 these meetings.

8 Q And this information is indeed relevant, is it not,
9 sir, the information contained in Plaintiffs' Exhibit 1312?

10 A I'm looking at the memo, Mr. Carr.

11 Q My question is, sir, it is relevant, isn't it, sir?

12 A I do not know, Mr. Carr. Not being a toxicologist.
13 I see it is addressed to the director of our medical department.
14 It is signed by an individual whom you say is a toxicologist.
15 Another toxicologist would be in a better position than I to
16 determine how relevant this information is.

17 Q Well, Dr. Roush is on this committee. This is a
18 memo directed to him dated one day before you meet and deter-
19 mine whether or not this is a substantial risk, isn't that
20 correct, sir?

21 A That's correct. And it would be--

22 Q It deals with the subject that your committee was
23 going to discuss. It talks about cancer. It talks about the
24 Nair memo. It talks about the Levinskas memo. You had the

1 Nair memo. You had the Levinskas memo that took away from the
2 Nair memo. You did not have this memo. And isn't this memo
3 relevant, Mr. Park?

4 A We did have Dr. Roush himself at the meeting.

5 Q My question is, you did not have this memo, did you,
6 sir?

7 A I do not recall having this memorandum.

8 Q Is it in the file that you delivered to me yesterday
9 and I delivered to you in the courtroom?

10 A I do not recall it being in there.

11 Q Do you have that file? Would you look at your file
12 and see if it's in there?

13 A Yes.

14 This is the wrong file. Let's see. We need the--

15 MR. NASSIF: Rex.

16 MR. CARR: Would you mark this as an exhibit.

17
18 (At this time Plaintiffs' Exhibit No. 1313 was
19 marked for identification by the court reporter.)
20

21 Q (Mr. Carr) I hand you now what's been marked
22 Plaintiffs' Exhibit 1313 and ask you, first of all, if that
23 is your file?

24 A Yes, it is.

1 Q And would you look at it and see if this memo of
2 Timothy J. Long is contained therein?

3 A No, it is not in the file.

4 Q And I take it so far as you know, and this was a
5 meeting that just took place a few months ago, as far as you
6 know this memo was not read to the committee and Dr. Roush?
7 You have no-- You took notes at that meeting, didn't you, sir?

8 A Yes.

9 Q Did you make any reference to these findings of Dr.
10 Long or Mr. Long in your notes, sir?

11 A Let me look and see, Mr. Carr.

12 No, I see no reference to this memo.

13 Q Now, this memo, first of all what Mr. Long does is
14 correct a mathematical error in the memo, makes it eighteen
15 femtograms rather than 1.8 femtograms in making the calcula-
16 tions, but the ultimate end result calculation is not affected
17 by that error, isn't that correct, sir? You don't have the
18 attachments. Let me-- May I have that again, Mr. Nassif?
19 The one that has the attachments to it.

20 I'll hand you the memo as it was given to me, and in
21 order to shortcut some time you see it's referring to an error
22 that was noted on page two, and he says, "I have corrected
23 on the attached copy"?

24 A Yes.

1 Q And this is the attached copy of her memo, and there
2 is on page two the number eighteen put in place, eighteen
3 picograms rather than 1.8 picograms?

4 A Yes.

5 Q But it's just a misprint in the calculations and
6 the end result remains the same, that is, 12,800 femtograms
7 per kilogram per day, isn't that correct, sir?

8 A He didn't make any changes on that.

9 Q So the error that was corrected was simply a typo-
10 graphical error and not a mathematical error, which did not
11 effect the end result, isn't that correct?

12 A That would be the way I would read it.

13 Q All right. And the end result, the end calculation
14 of Dr. Nair's memo of January 14 remained the same, and
15 thereafter Mr. Long made various calculations, did he not, sir?

16 A Yes.

17 Q Based upon water criteria, CDC risk assessment and
18 the fish criteria for 2,3,7,8-TCDD? Now, isn't that correct,
19 sir?

20 A That's what it appears to be here.

21 Q And the fg there, that stands for femtogram, does
22 it not, sir?

23 A I believe so.

24 Q And a femtogram is so small that its size cannot even

1 be imagined, isn't that correct, sir?

2 A I don't know.

3 Q You don't know that?

4 A No, I don't know that. I suspect it can be imagined.

5 Q Well, it goes from microgram, which is parts per
6 million, to nanograms, which is parts per billion, to picogram,
7 which is parts per trillion, to femtogram, which is parts per
8 quadrillion. Now, I don't know about you, but I can't imagine
9 something so small as to be one quadrillionth of a gram, and
10 that's what it is, one quadrillionth of a gram, isn't that
11 correct, sir?

12 A I leave that up to our toxicologists and analytical
13 chemists, Mr. Carr. If you say so, I will accept it.

14 Q Again, Mr. Park, you have been reading these documents
15 for twenty years, or strike that. At least since 1977. These
16 people, toxicologists refer to femtograms per gram or femtograms
17 per kilogram. You know what they mean, sir, and I don't intend
18 to get into fencing with you to demonstrate that you do know.

19 MR. MUSGRAVE: Well, I object to that then if it's
20 not a question. It's a statement by counsel and it's argumen-
21 tative, and I request that it be stricken and the jury instructed
22 to disregard it.

23 THE COURT: Overruled.

24 Q (Mr. Carr) Now, Mr. Park, using the criteria, Mr.

1 Long comes up with a conclusion that the virtually safe doses
2 are similar using the EPA and the CDC criteria, does he not, sir?

3 A Mr. Carr, I'm really not qualified to interpret this
4 document.

5 Q Can you interpret the words, "As can be seen"?
6 Second page, Mr. Park. Do you know what those words mean, sir?

7 A Yes, Mr. Carr, I do.

8 Q And do you know what the words in the category he's
9 using, virtually safe doses?

10 A I have no idea what he means by that.

11 Q You have no idea what the words virtually safe doses
12 mean? Do you know what the word virtually means, sir?

13 A I know what the individual words mean, Mr. Carr. I
14 have no idea what a toxicologist means when he puts those
15 words in quotes like that.

16 Q The toxicologist is putting these words in quotes
17 because that's the same words used by Dr. Nair. Same words
18 that she used in her memo of January 14th, 1985. That's the
19 reason they're in quotes and you know that.

20 MR. MUSGRAVE: Well, I object to that, Your Honor, as
21 a statement of counsel. It's not even a question, and I request
22 that the jury be instructed to disregard and it be stricken.

23 MR. CARR: Your Honor, the witness has for days been
24 making this courtroom procedure a mockery by his refusal to

1 admit that he understands the meaning of the English language,
2 and I must confess that I'm getting impatient with it and I'm
3 perhaps getting short with the witness when I shouldn't be.
4 But it astounds me that a man that's gone through law school
5 that can hold this responsible position that he holds doesn't
6 know what virtually safe dose means when used by a toxicologist
7 after his years of experience.

8 WITNESS: That's unfair, Mr. Carr.

9 MR. MUSGRAVE: Just a moment. Just a moment. Just a
10 moment. I again object. That is a speech by counsel. It's
11 totally uncalled for. I request that the Court strike it from
12 the record and instruct the jury to disregard it.

13 THE COURT: Overruled. I think it was a proper
14 response to your objection. Your objection is overruled. I
15 think it is proper cross examination within the context of this
16 examination.

17 You may proceed, Mr. Carr.

18 A Mr. Carr,--

19 Q Mr. Park, if you refer to Plaintiffs' Exhibit 12--

20 MR. MUSGRAVE: Are you going to let the witness
21 respond to your speech, Mr. Carr?

22 THE COURT: You gentlemen were arguing an objection
23 and the witness does not have the standing to respond to an
24 argument over an objection.

1 Mr. Carr, you may proceed with your interrogation.

2 Q (Mr. Carr) To help you, Mr. Park, please refer to
3 Plaintiffs' Exhibit 1296, Dr. Nair's memo of January 14th,
4 1985.

5 A I have it, Mr. Carr.

6 Q And refer to the last paragraph on the second page,
7 Mr. Park. She says, the virtually safe dose for one in a
8 million cancer risks, doesn't she, sir?

9 A Yes, she does.

10 Q So now do you understand what the words virtually
11 safe dose means, sir, as used by the toxicologist? It means
12 that dose which they believe will only cause one case of cancer
13 in a million. That's their definition of a virtually safe dose,
14 just one out of a million going to die from cancer?

15 A Okay. I see that use in this sentence, Mr. Carr.

16 Q And as the amount is increased so will the number of
17 persons that die from cancer increase. You know that, too,
18 don't you, sir?

19 MR. MUSGRAVE: Object, Your Honor. Calls for con-
20 clusion, speculation. The witness is not qualified as an expert
21 in that area to so testify on this topic.

22 THE COURT: Overruled.

23 MR. MUSGRAVE: May my objection be a continuing
24 objection based upon his qualifications to state the conclusions

1 of a toxicological or epidemiological nature or medical nature
2 with regard to this document.

3 THE COURT: The objection is overruled. It will be
4 noted as a continuing objection to this line of questioning.

5 MR. MUSGRAVE: Thank you.

6 Q (Mr. Carr) If you put out something that's 2,000
7 times more powerful than the virtually safe dose, you know
8 that according to Dr. Nair that's going to be 2,000 cases of
9 cancer out of a million. If you put out something that's
10 20,000 times more potent, you know that's going to be 20,000
11 cases of cancer out of a million according to Dr. Nair's memo.
12 You know that, don't you, sir?

13 A I don't know that, Mr. Carr.

14 Q Can you calculate that, Mr. Park, with your educational
15 background?

16 A I don't know that that would be an appropriate
17 calculation, Mr. Carr.

18 Q You don't know that?

19 A No.

20 Q If a virtually safe dose is only going to cause one
21 case of cancer out of a million, isn't a simple calculation
22 to just multiply that by whatever factor you've increased the
23 "virtually safe dose" by, Mr. Park?

24 A I say that may or may not be an appropriate way of

1 going at it, Mr. Carr. There may not be a straight line
2 relationship.

3 Q Oh. Do you know that there is not a straight line
4 relationship, sir?

5 A No. Nor that there is.

6 Q And you simply have to rely upon the expertise of
7 this toxicologist who tells you that the, the dioxin that you're
8 sending out with this tetrathal exceeds the virtually safe dose
9 by a factor of a thousand. You do understand what that says,
10 don't you, sir?

11 A I rely on all of our toxicologists, Mr. Carr.

12 Q Don't you understand that she is communicating to you
13 that this product going out may cause 1,000 times more cancer
14 than the virtually safe dose?

15 A No.

16 MR. MUSGRAVE: Object. That's a mischaracterization
17 of the document and an attempt to do so. That's not what the
18 document says.

19 THE COURT: Overruled.

20 Q (Mr. Carr) Now, back to Plaintiffs' Exhibit 1312,
21 if you would, sir, where we got hung up on the use of the words
22 virtually safe dose on the second page. Mr. Long says, does he
23 not, that, "The virtually safe doses are similar using both
24 the EPA and the CDC criteria?"

1 A That's what he says.

2 Q But that was related to the FDA criteria for eating
3 fish that it's drastically different?

4 A Yes.

5 Q So that would suggest that either the EPA and the
6 CDC is wrong, are wrong, or the FDA fish criteria is wrong,
7 isn't that correct, sir?

8 A Mr. Carr, I'm not qualified to say either one is
9 wrong.

10 Q I'm not asking you to say that, sir. I'm asking you
11 the plain meaning of this statement.

12 A I'm not qualified to interpret a statement by a
13 toxicologist. He says that the results are drastically differ-
14 ent.

15 Q Mr. Park, again, you are required and every time you
16 serve on that committee and cast a vote, you're required to
17 use your judgment and to interpret these documents. These
18 documents are directed to you. Not this particular one, but
19 others are. Isn't that correct, sir? And do you have to be a
20 toxicologist to--

21 A You said this document was directed to me, Mr. Carr.

22 Q Not this one, Mr. Park, but others like it. And you
23 review these documents. You reviewed the Nair memo at your
24 meeting, you reviewed the Levinskas memo at your meeting, but

1 you did not review this one at your meeting. Now, Mr. Park,
2 clearly you do not have to be a toxicologist to understand,
3 you don't even have to be, have any expertise in toxicology.
4 All you have to be able to do is to read and understand the
5 English language. You're not required to be a toxicologist to
6 understand the meaning of that sentence, isn't that correct, sir?

7 A I think he meant exactly what he said here.

8 Q And what he's saying is that these three criteria
9 are different?

10 A Drastically different.

11 Q Two put the safe dose much lower and one puts the FDA
12 safe dose much higher, isn't that what he is saying?

13 A That appears to be his calculation.

14 Q Now, you can't have all three criteria being right
15 if they're in conflict, can you, sir? Now, your logic tells you
16 that, doesn't it, sir? If you've got two that says one thing
17 and one that says the opposite, either two have to be wrong or
18 the one has to be wrong, isn't that correct, sir? Doesn't your
19 logic tell you that, sir?

20 A Mr. Carr, these are calculations by a toxicologist.

21 Q Mr. Park,--

22 A No, not necessarily so, Mr. Carr.

23 Q I'm saying--

24 A I'm trying to answer your question here. Not

1 necessarily so at all. It depends upon the context in which the
2 calculations are made and in which the, the limits, if that's
3 what they are, proposed are established by these three different
4 agencies were developed.

5 Q You don't understand this toxicologist to be saying
6 that the EPA and CDC are in agreement as to what is a virtually
7 safe dose? Do you understand this document as saying that, sir?

8 A No, I do not, Mr. Carr.

9 Q You can't see that, "As can be seen the virtually
10 safe doses are similar using the EPA and CDC criteria?"

11 A I see "Are similar."

12 Q Doesn't that communicate to you that they're in
13 agreement, Mr. Park?

14 A No, it doesn't, Mr. Carr.

15 Q What does the word similar mean to you, Mr. Park?
16 Similar means the same or very nearly the same, doesn't it?

17 MR. MUSGRAVE: Just a moment, Mr. Carr. You asked
18 him what it means to him, now will you let him answer the
19 question before you pose another one or before you make a speech?
20 May I request--

21 MR. CARR: I'm afraid I might get from him an answer
22 that he doesn't know that several is--

23 MR. MUSGRAVE: Well, I don't care what you're afraid
24 of, Mr. Carr. When you pose a question the witness is entitled

1 to answer it.

2 THE COURT: All right. Gentlemen. Gentlemen, the
3 question's been posed. Mr. Park, please answer the question.

4 A Your Honor, I'm sorry. Would you repeat the question,
5 please?

6 Q (Mr. Carr) Do you know what the word similar means?

7 A Yes. I started to answer and you interrupted me.
8 I understand the word in a Webster dictionary context.

9 Q And it means the same or nearly the same, doesn't it?

10 A No, it doesn't mean the same.

11 Q It means the same or nearly the same, doesn't it, sir?

12 A No, Mr. Carr.

13 Q It doesn't mean that, sir? What does it mean then
14 in your judgment?

15 A Something that is similar to something else in a
16 different context. In a Webster dictionary context, in my
17 opinion, would be something that had some similar characteris-
18 tics to something else.

19 Q Now, Mr. Park, you know from long study you can't use
20 the word you are defining in defining the word. You just got
21 through using the word similar in defining the word similar.
22 You can't do that. Now, please define the word similar for me
23 without using the word similar. Will you accept the definition
24 that similar means nearly the same, alike, close to identical?

1 A I will accept that. I have a little difficulty, Mr.
2 Carr, because again--

3 Q Mr. Park, let's not go to the next problem. I can
4 only solve one problem at a time with you. If you bring in
5 another one before we solve the last one, we'll never get through.

6 Now, you do understand the word similar to be as I've
7 stated it, don't you, sir? Don't you, sir?

8 A I guess I do not understand the word similar to be,
9 necessarily to mean very nearly the same.

10 Q Well, then tell me how you would differ with that
11 definition.

12 A Obviously something that's similar, something differs
13 from something else because they are not the same.

14 Q Well, you're still using the word similar in defining
15 it. Please tell me what your understanding of the word similar
16 is. Two twins are similar, aren't they, sir? They're not the
17 same, but they are similar. They are close to the same.

18 A They could be identical. A brother and sister could
19 be similar.

20 Q Indeed they could, but they won't be the same.

21 A That's right.

22 Q So we do understand what it means. It means they are
23 close to the same, but not the same, and you do understand what
24 that sentence means?

1 A I would accept that definition, Mr. Carr.

2 Q So the CDC and the EPA criteria are close to the same,
3 aren't they, sir?

4 A I'm not going to accept that.

5 Q Now, Mr. Park, you just got through saying that you
6 would accept that definition of similar. Now, you can't back
7 off from that, Mr. Park. You just got through saying that this
8 means that the EPA and the CDC are very nearly the same. Mr.
9 Park, you can't do this.

10 Your Honor, again, I hesitate to ask the Court to hold him
11 in contempt, but I think he is clearly contemptuous of the
12 process we are going through here.

13 THE COURT: Gentlemen, could I see you up at the
14 bench for a minute, please?

15 (The following proceedings were had at the bench out-
16 side the hearing of the jury:)

17 THE COURT: I've never held a lawyer in contempt
18 before and he's about half-an-inch away from it. We're going
19 to take a five-minute recess. Go talk to your client and tell
20 him how close he is. Now, just wait a second and listen to me.
21 I've listened to this evasion, this refusal to answer and
22 refusal to follow my direct orders for as long as I'm going to.
23 This man is admitted in two states. I know that he would be
24 held in contempt in Missouri. I'm admitted there, too, and I

1 know that. Take this man into one of the conference rooms and
2 explain some of the facts of life to testifying in a courtroom
3 and following the judge's orders. You have shown yourself to
4 be a competent, responsible attorney in this trial and I would
5 trust you to advise him. I think you better advise him.

6 MR. MUSGRAVE: Well, may I speak, Your Honor? I'm a
7 little confused as to what this man has said in this courtroom
8 in response to Mr. Carr's questions with regard to what similar
9 means to him or in a particular context of this document that
10 resulted in this Court feeling that he was very close to being
11 held in contempt. So with all due respect to the Court, I would
12 like the Court to explain to me what with regard to this series
13 of questions--

14 THE COURT: The record is clear when he says one thing
15 and turns around and denies it that it is one of a very long
16 series of saying one thing, then switching to another, which
17 shows a clear pattern of refusal to answer, evasion and delay.

18 MR. MUSGRAVE: Okay.

19 THE COURT: That is the answer since you want it on
20 the record. That is as clear and graphic as it can be, and the
21 record is even clearer. We'll take a short recess. Talk to
22 your--

23 MR. MUSGRAVE: That is the extent of the explanation
24 that the Court will give me at this time?

1 THE COURT: I think that summarizes everything.

2 (The following proceedings were had within the hear-
3 ing of the jury:)

4 THE COURT: Ladies and gentlemen, we are going to take
5 a very short recess and then resume with testimony. I would
6 remind you now, and this will go for any other breaks that we
7 take in these proceedings, that you are not to discuss this
8 matter among yourselves, with anyone outside the jury panel, or
9 as of yet form any opinions or conclusions about the matters on
10 trial.

11 Court's in recess.

12 (Whereupon a brief recess was had.)

13 * * * * *

14
15
16 THE COURT: Okay. Mr. Carr.

17 MR. CARR: Yes, Your Honor.

18 Q (Mr. Carr) Now, Mr. Park, the toxicologist long after
19 saying that the EPA and the CDC criteria are similar but
20 drastically different from the FDA's criteria, he says one
21 additional thing about that, quote, "If one compares the calcu-
22 lated daily exposure to PCDD's in tetrathal, 12,800 femtograms
23 per kilogram per day, with these numbers the calculated PCDD
24 calculation exceeds all of these values." Do you see that, sir?

1 A Yes, I do.

2 Q And all of these values that Long is referring to is
3 the EPA, the CDC and the FDA values, isn't that correct, sir?

4 A That's correct.

5 Q Now, what this means then is that the exposure to the
6 worker to the tetrathal is going to have greater exposure to
7 dioxin than if they drank the water posed by the EPA or had the
8 CDC risk assessment for 2,3,7,8 exposure or ate fish that con-
9 tained 25 parts per trillion, isn't that correct, sir?

10 A That was based upon her calculations, yes.

11 Q And those calculations compare this way: The water
12 criteria is .37 femtograms. That is not even one femtogram,
13 but a little over a third of a femtogram per kilogram per day
14 versus 12,800 femtograms, isn't that correct, sir? The exposure
15 to the dioxin in the tetrathal would be 25,000 times, 30,000
16 times greater than what the EPA says is safe, isn't that correct,
17 sir? Better than 30,000 times greater?

18 A It would divide those numbers out about that way.

19 Q Now, this toxicologist is telling you that this
20 tetrathal is going to expose somebody to the risk 30,000 times
21 greater than what the EPA says is safe for water. 30,000 times.
22 Now, that means, if this criteria is equivalent, there's going
23 to be 30,000 cases of cancer if this is equivalent?

24 MR. MUSGRAVE: Which question are you asking him, Mr.

1 Carr?

2 Q Isn't that correct, sir?

3 MR. MUSGRAVE: Well, I object to it. It's a multiple
4 question. He first says this toxicologist is telling you some-
5 thing, then he goes on and makes another statement. It's a
6 multiple question, Your Honor.

7 MR. CARR: Well, maybe I can rephrase it.

8 THE COURT: Okay.

9 MR. CARR: Isn't this toxicologist saying that this
10 dose is 30,000 times what the EPA has said is a safe level of
11 femtogram per kilogram per day?

12 A Mr. Long does not say that, Mr. Carr.

13 Q Isn't that what these calculations mean, Mr. Park?

14 A They can be divided out. He simply says the calcu-
15 lated PCDD exposure exceeds all these numbers.

16 Q Mr. Park, I'm directing your attention now to the
17 numbers to determine just what the numbers mean in real life
18 figures. The 12,800 femtograms per kilogram per day is over
19 30,000 times higher than what the EPA sets as a safe standard,
20 virtually safe dose, isn't that correct, sir?

21 A As expressed by Mr. Long.

22 Q As expressed by Mr. Long in this document?

23 A Yes.

24 Q And if Mr. Long is correct in this document and if

1 Dr. Nair is correct in her document, this means that the cancers
2 that will result from it will be 30,000 times greater than if
3 the document, if the people were not exposed to it?

4 A I don't know that.

5 Q I know you don't know that, Mr. Park, and I'm not
6 asking you to know that for a certainty, but that's what these
7 calculations and these assessments add up to if true, isn't
8 that correct, sir?

9 A The exposures would be much higher. Now, what that
10 would mean in terms of increased cancer risk, I simply do not
11 know.

12 Q Well, they describe virtually same dose as one case
13 in a million. A virtually safe dose is that dose that will only
14 cause, only, and if you're that one person in a million then
15 it's not at all safe, but it will only cause one case of cancer
16 in a million. That's their definition of virtually safe dose,
17 and we went through that, Mr. Park.

18 MR. MUSGRAVE: Just a moment. I object to that.
19 That's their? Are you talking about all of these, Mr. Carr, or
20 just one of these? Which calculation are you talking about,
21 sir, because I don't see that in these other calculations as
22 being referenced to a virtually safe dose. In fact, one of
23 them talks--

24 Q (Mr. Carr) Mr. Park, you understand, however, the--

1 THE COURT: Objection is overruled.

2 Q --that a virtually safe dose is talking about one
3 case of cancer in a million? You do understand that, don't
4 you, Mr. Park, that that's what they're talking about?

5 A Apparently Dr. Nair is using what is apparently a
6 Canadian criteria here, which is--

7 Q And that is one case of cancer in a million?

8 A In a million, which calculated, I guess, theoretically
9 out to be this number.

10 Q I understand that, Mr. Park, but now I'm trying to
11 apply Mr. Long's calculations and using the same words virtually
12 safe doses. We're talking about 30,000 times greater risk of
13 cancer, aren't we, sir, if these documents are true, if Mr.
14 Long's calculations are correct?

15 A Mr. Carr, in my opinion that's an entirely different
16 thing. The numbers are considerably different. I agree with
17 that. The exposure would be much different. I will not agree--

18 Q I'm not quarreling with that. All I'm directing your
19 attention to is that Mr. Long is pointing out to you that this
20 risk, if the exposure is equivalent, and, of course, that's a
21 given, if the exposure is equivalent, if they're going to take
22 in that, if they're going to work in this dust, if they're
23 going to be exposed to this product, talking about that exposure
24 and this calculation by Mr. Long shows that it's 30,000 times

1 greater than a virtually safe dose, isn't that correct, sir?

2 Those other things being equal, sir?

3 A Mr. Carr, the exposures can't be equivalent, because
4 we're talking about different substances.

5 Q I said if the exposures are equivalent, assume that
6 the toxicologists are assuming in this document and the exposures
7 are equivalent. That's the reason they put it down. They're
8 comparing these exposures and they're saying that the CDC and
9 the EPA virtually safe calculation is the same. Now, Mr. Park,
10 let's not fence about this. You know the context in which I'm
11 asking these questions. And isn't it that this toxicologist
12 is saying that it's a 30,000 time greater risk of cancer?

13 A No, Mr. Carr. In my opinion he is not.

14 Q Well, let's back up a bit. Is the-- Does the toxicologist
15 say that the virtually safe dose describing in the
16 virtually safe dose for the EPA calculation?

17 MR. MUSGRAVE: Is that a question?

18 MR. CARR: Yes.

19 A As I read what he has here, he says that the EPA
20 limit for TCDD in water, okay, I guess consumed per day by a
21 man would be 0.37 femtograms per kilogram per day.

22 Q And then on the next page that dose is described as,
23 "The virtually safe dose," isn't it, sir?

24 A That's the term he uses, yes.

1 Q Yes. And virtually safe dose, he's referring to,
2 he got that, we showed that from the Nair memo, and he refers
3 to it in the first paragraph, "calculated by R. S. Nair was
4 the virtually safe doses determined by the EPA, CDC and FDA."
5 He's using the same words just the same way that Dr. Nair used
6 those words, isn't he, sir?

7 MR. MUSGRAVE: May my objection to this question now
8 go that he is asking the witness to go into the minds of both
9 Dr. Nair and Mr. Long to speculate and conjecture as to how
10 either one of them used these words.

11 MR. CARR: No. Your Honor, what I'm asking is that
12 the witness take the evidence in front of him and use that
13 intelligence that he has and the education that he has and
14 tell us that it's not true that a reasonable reading of these
15 documents would show that Mr. Long, Dr. Nair are talking about
16 the same thing.

17 MR. MUSGRAVE: Well, my objection stands, Your Honor.

18 THE COURT: Objection is overruled.

19 MR. MUSGRAVE: Thank you.

20 A From my reading, Mr. Carr, I do not know. I see that
21 they do use the same words, virtually safe dose, but I do not
22 know that they are using that term in the same way.

23 Q Well, doesn't Long tell you that he is, in the very
24 first paragraph, the following is a comparison of the potential

1 exposure of workers to PCDD in tetrathal as calculated by R. S.
2 Nair with the, "virtually safe doses determined by CDC, FDA
3 and the EPA for 2,3,7,8-TCDD?" Isn't Long connecting the two?
4 As an intelligent person reading these documents, wouldn't you
5 conclude that, Mr. Park?

6 A First he does say--

7 Q Wouldn't you conclude that, Mr. Park? That Mr. Long
8 is talking about the same virtually safe dose that he said Dr.
9 Nair was talking about?

10 A Their calculations differ.

11 Q Excuse me. Would you answer that question?

12 A I do not know, Mr. Carr.

13 Q I'm not asking you whether or not you know. Wouldn't
14 you conclude as a reasonably intelligent person reading these
15 documents that the people are talking about the same subject,
16 that is, virtually safe dose?

17 A They use the same terms.

18 Q And by using the same terms and directing the atten-
19 tion to PCDD's in tetrathal and their referring by date to
20 the memo, wouldn't it be a safe assumption by a person perhaps
21 in the third grade that they're talking about the same thing?
22 Can't you deduce that, Mr. Park?

23 A By using the terms--

24 Q And by referring to the same memos and referring to

1 the calculations and showing how I corrected the mathematical
2 error in one memo, can't you deduce logically, Mr. Park, that
3 they are, they just might very well be talking about the same
4 thing?

5 MR. MUSGRAVE: May the witness now answer the ques-
6 tion, Mr. Carr?

7 A They might be.

8 Q They might be?

9 A Yes.

10 Q And you can't conclude that they are talking about
11 the same thing, Mr. Park?

12 A Since they are--

13 Q Mr. Park, you can't conclude that, sir?

14 A That's correct.

15 Q And you are under oath in this courtroom and you are
16 saying that as a person, the lawyer for that committee to make
17 these important decisions, that if you got these memos on your
18 desk in front of you, you would not conclude that they're
19 talking about the same thing? Are you telling us that, Mr.
20 Park?

21 A That's correct, Mr. Carr. As you phrased the
22 question.

23 Q And they have-- Then I take it that Long is talking
24 about some other safe dose other than what's calculated by

1 Dr. Nair, is that correct, sir?

2 A I didn't say that, Mr. Carr.

3 Q Well, then tell me what you are saying, sir?

4 A I don't know.

5 Q No. I'm asking you-- I know you don't know in your
6 definition for certainty. You don't know anything for cer-
7 tainty, but I'm telling you to use your legal training, Mr.
8 Park. Use your years of experience, Mr. Park, and tell me
9 that you're swearing under oath that you can't conclude that
10 this memo is talking about the same virtually safe dose, Mr.
11 Park. And I'll remind you, you are under oath, Mr. Park.

12 MR. MUSGRAVE: Your Honor, this question has been
13 asked and answered.

14 THE COURT: Overruled.

15 A I'll repeat, Mr. Carr. Looking at the two memoranda
16 by two different persons dealing with different calculations
17 on different bases, I cannot conclude that they are speaking
18 of the same thing.

19 Q Well, doesn't Long tell you they're talking about
20 the same thing?

21 A Where, Mr. Carr?

22 Q In the very first sentence on the first page isn't
23 he saying, "The following is a comparison," and then, "The
24 comparison," and then, "The comparison with virtually safe

1 doses as determined"?

2 A Yes, he does say that.

3 Q And he's connecting it to Nair, isn't he, sir?

4 A Mr. Carr,--

5 Q He's connecting it with Nair, isn't he, sir?

6 A Yes.

7 Q He's telling you he's talking about the same thing
8 in the very first sentence, isn't he, Mr. Park?

9 A He may be.

10 Q Mr. Park, not maybe. He's telling you that, isn't
11 he, sir?

12 A He says he's comparing.

13 Q He's telling you that he's comparing these same
14 things, isn't he, sir, in the very first sentence?

15 A He's comparing the potential exposure of workers
16 to PCDD's in tetrathal.

17 MR. CARR: Your Honor, would you direct the witness
18 to answer that question?

19 THE COURT: Mr. Park.

20 A He's comparing them, yes.

21 THE COURT: Okay.

22 Q (Mr. Carr) And in this comparison that he's making
23 he's telling you by the calculations that the .37 is 30,000
24 times--I'm sorry, the 12,800 femtograms per kilogram per day

1 is 30,000 times higher than what the EPA calculates is safe
2 for dioxin in water, isn't he, sir?

3 A His calculation appears to indicate that.

4 Q And I'm not satisfied with the words, "Appears to
5 indicate that," Mr. Park. I want an affirmative response from
6 you, sir.

7 A He does not state what you just said, Mr. Carr.

8 Q Can one conclude that from these calculations
9 reasonably?

10 A The .37 femtograms per kilogram per day that he
11 calculates is the EPA water criteria for 2,3,7,8-TCDD would be
12 about one, around one thirty thousandth of the number calculated
13 by Dr. Nair for exposure to other dioxin isomers based on her
14 assumptions.

15 Q And if virtually safe dose is defined as that dose
16 which will cause one case of cancer out of a million, then you
17 can also deduce that this may cause 30,000 cases of cancer
18 out of a million?

19 MR. MUSGRAVE: Object. It's been asked and answered.
20 The witness does not know, Your Honor.

21 THE COURT: Overruled.

22 MR. MUSGRAVE: He has testified to that four times.

23 THE COURT: Overruled.

24 A I would not conclude that at all, Mr. Carr.

1 Q I didn't ask you whether you would conclude it, but
2 wouldn't one might conclude that? Couldn't one just possibly
3 conclude, Mr. Park?

4 A I don't know.

5 MR. MUSGRAVE: Speculation and conjecture, Your Honor.

6 THE COURT: Overruled.

7 A No.

8 Q (Mr. Carr) If this dose is 30,000 times greater than
9 that dose which causes one case of cancer in a million, does
10 it not follow logically, other things being equal, sir, that a
11 dose that's 30,000 times larger would cause 30,000 times the
12 number of cases of cancer?

13 MR. MUSGRAVE: Object to the vagueness of the ques-
14 tion, other things being equal.

15 THE COURT: Overruled.

16 A I don't think so, Mr. Carr. There could be many
17 other factors involved.

18 Q Well, tell us the other factors, sir, because I gave
19 you that other things were equal.

20 A I don't know what that means.

21 Q Are you accepting the assumption that I've given you
22 that everything else is equal?

23 A I don't know what that means, Mr. Carr.

24 Q You don't know what that means? That means you're

1 not to give consideration to another factor. Assume the
2 exposure by drinking the water. Assume the exposure by working
3 in the product. Assume the exposure. Assume that human beings
4 that have weight are being exposed to these chemicals that's
5 being put into the community by Monsanto and that if that
6 chemical goes out as it's posed that way, that it can cause
7 30,000 cases of cancer out of a million, if people are exposed
8 to it. Now, they may never be exposed to it, Mr. Park. I'm
9 not telling you that they are. I'm giving you, if they're
10 exposed to it in the way these toxicologists have calculated,
11 can you not conclude that it will cause, if their calculations
12 are correct and if there is exposure, given the calculations
13 they've made, can you not conclude that it will cause according
14 to their calculations 30,000 cases of cancer out of a million?

15 A I would not--

16 MR. MUSGRAVE: Object. It assumes facts not in
17 evidence.

18 THE COURT: Overruled.

19 MR. CARR: Can it not be concluded by others from
20 that information? Perhaps not by you, but by others, sir?

21 MR. MUSGRAVE: Object. Speculation and conjecture.

22 THE COURT: Overruled.

23 A As you phrased the question, perhaps it might.

24 Q Yes.

1 Now, Mr. Park, the next calculation, the CDC risk calcula-
2 tion that this toxicologist gave you in which your committee
3 never considered was, came up with a 28 femtogram per kilogram
4 per day, didn't it, sir?

5 A That's correct.

6 Q And that 28 is about 400 times greater thereabout
7 than the 12,800, correct, sir?

8 A That's right. This is the one that Long said was
9 similar to the EPA criteria.

10 Q Yes. There's something else you want to say about
11 that, Mr. Park?

12 A No. I'm just pointing that out. They seem to differ
13 by--

14 Q I understand that. The toxicologist believes that
15 they are similar using the criteria, doesn't he, and, of course,
16 you accept what a toxicologist says, you don't go behind it.
17 You've testified to that under oath before that you accept what
18 the toxicologist says?

19 A Unless I knew it to be wrong, of course.

20 Q Well, do you know that it is wrong?

21 A The two figures, one of the numbers that he says is
22 similar to another one is about, looks like about 75 times as
23 much as the other one.

24 Q And you've made that calculation as a toxicologist,

1 Mr. Park?

2 A As a witness, Mr. Carr.

3 Q Do you know the criteria that the CDC set up? Do
4 you know all those other considerations that your toxicologist
5 knows but didn't necessarily set down on the piece of paper?
6 Do you know those things, Mr. Park?

7 A (Indicated no)

8 Q Then you will indeed accept the conclusions of the
9 toxicologist from these figures, won't you, sir? And be that
10 as it may, Mr. Park, that calculation will cause 400 times
11 what's called one case in a million, won't it, sir?

12 A It would seem roughly about that, yes.

13 Q Well, about 500 actually. I'm a little off. A little
14 low. About 500 cases, correct, sir?

15 A Well, let me just divide it, Mr. Carr. 457.

16 Q And the other, if it all got in the fish and people
17 ate the fish, the 2320 femtograms is about five, the 12,800
18 is about five times greater than that, isn't it, sir?

19 A Yes.

20 Q And--

21 A Four to five.

22 Q The toxicologist makes that clear in that second
23 sentence on the second page. If one compares the calculated
24 daily exposure to PCDD's with these numbers, the calculated

1 PCDD exposure exceeds all these values, doesn't it, sir?

2 A Yes.

3 Q Now, your committee had a memo from Dr. Levinskas
4 in which he said the risk was greatly exaggerated by Dr. Nair.
5 Do you remember that memo, Plaintiffs' Exhibit 1299?

6 A Yes.

7 Q And here is, Long comes along and says, in fact, that
8 it's not greatly exaggerated, says that there is indeed, that
9 this calculated exposure exceeds all of the values. Now, this
10 is an important piece of evidence for your committee to have.
11 Now, whether this calculation--

12 MR. MUSGRAVE: Mr. Carr, are you going to ask him
13 that question? Is that a question or a statement that you just
14 made before?

15 MR. CARR: I'm asking him a question.

16 MR. MUSGRAVE: Well, I would then object, Your Honor,
17 to the statement, the speech by Mr. Carr that immediately
18 preceded what he is now asking him because he did not allow
19 the witness to answer it, so obviously it wasn't a question,
20 so obviously it was a speech and it was Counsel's testimony,
21 and I submit that it is inaccurate and a misrepresentation of
22 what the document says; and I request that the Court strike the
23 speech and instruct the jury to disregard it.

24 THE COURT: Overruled on both. You may continue, Mr.

1 Carr.

2 Q (Mr. Carr) This is an important piece of evidence,
3 whether it is right or whether it is wrong, that your committee
4 should have before it makes a decision, isn't that correct, sir?

5 A You're talking about the Long memorandum?

6 Q Yes, I am.

7 A I would leave that up to Dr. Roush.

8 Q For him to decide whether or not you should have all
9 the facts?

10 A Well,--

11 Q Is that correct, sir?

12 A No. I'm sure he provided us with all the facts he
13 felt were relevant to our discussions, Mr. Carr.

14 Q He provided you with the Nair memo, which, or, no,
15 rather the Nair memo--

16 A I think that came to me from Dr. Levinskas.

17 Q Yes. It didn't go to Dr. Roush, did it? Dr. Roush
18 didn't have a chance to shortcircuit it, did he, sir?

19 A The Nair--

20 MR. MUSGRAVE: I object to that comment by Counsel as
21 being improper, Your Honor. Request that the jury be instructed
22 to disregard it.

23 THE COURT: Overruled.

24 A The Nair memorandum, as I recall, went to Dr. Levinskas.

1 Q And Dr. Levinskas distributed it to you?

2 A Yes.

3 Q If you look at the Nair memo it went to Papageorge,
4 Farley and Johannsen, as well as Levinskas, all of whom are
5 members of your, not all of whom, but Farley and Papageorge
6 were members of your committee, weren't they, sir?

7 A That's correct.

8 Q But the Long memo went to Levinskas, who is not a
9 member of your committee. It went to Fuehrman, who is not a
10 member of your committee, and it went to Roush, who is a member
11 of your committee, but did not bring it forward, according to
12 your files, isn't that correct, sir?

13 A I do not remember discussing it at the committee
14 meeting.

15 Q The Levinskas memo is in your file and you do
16 remember discussing that and we've gone at some length on that,
17 have we not?

18 A Yes. Levinskas did send his memorandum.

19 Q And this piece of evidence should have been considered,
20 shouldn't it, sir?

21 A I assume it was considered by Dr. Roush, Mr. Carr.

22 Q But he is not your committee, is he, sir?

23 A Dr. Roush?

24 Q Yes.

1 A Yes, he is.

2 Q He is your committee?

3 A He is on the committee.

4 Q Well, then why did the rest of you even meet?

5 A I'm sorry, I misunderstood.

6 Q Why didn't you just submit everything to him?

7 A I thought you were asking is he on the committee.

8 Q No. He is not the committee, is he, sir? He's one
9 member of the committee, isn't he, sir?

10 A That's correct. That's correct.

11 Q And he has one vote, doesn't he, sir?

12 A He represents toxicology.

13 Q He has one vote, doesn't he, sir?

14 A That's correct.

15 Q Doesn't have two or five and he cannot dictate the
16 results of that committee meeting, can he, sir?

17 A That's correct.

18 Q And if three vote one way and Roush votes another
19 way, the three will prevail, won't they, sir?

20 A I can't imagine that we would disagree.

21 Q That's not my question, sir. Could you answer my
22 question, sir?

23 A It's inconceivable that we would vote against--

24 Q Assume that three vote one way and Dr. Roush votes

1 another way. Three vote to report and Roush votes not to
2 report. Will the report take place?

3 A Yes, it would.

4 Q All right. Now, if he withholds evidence that could
5 conceivably persuade the three that Dr. Nair was right, then
6 the committee doesn't really vote intelligently, does it, sir?

7 A I assume with his experience, background and train-
8 ing--

9 Q That's not what I'm asking you, sir. I'm asking you
10 whether or not the committee votes intelligently if it doesn't
11 have all the evidence. If one member of the committee arrogates
12 unto himself that this should not be known by the committee
13 and doesn't even give it to the lawyers who is charged with
14 the responsibility of interpreting the law and determining
15 whether or not a report should be made, the committee cannot
16 make an intelligent decision, can it, sir?

17 A As long as we have the counsel of Dr. Roush we can
18 make an intelligent decision.

19 Q You are not voting on all the evidence, are you, sir?

20 A All the evidence considered relevant and worthy of
21 consideration.

22 Q And what you're doing is placing the fate of your
23 reputation as an attorney, the fate of people who might be
24 exposed to this material in the hands of one person who may

1 be prejudiced against human health effects. Now, Dr.-- Isn't
2 that correct, sir? He may be prejudiced?

3 A Dr. Roush is a man of high integrity.

4 Q Is it possible, is it not, that Dr. Roush may believe
5 in all sincerity and all honesty that the only bad result that
6 comes from exposure to dioxin, no matter how much you are
7 exposed to it, the only bad result is going to be chloracne?
8 It's possible that he believes that, isn't it, sir?

9 MR. MUSGRAVE: Your Honor, may my objection to now
10 Counsel asking this witness to speculate as to what somebody
11 else may believe and go into the mind of someone else continue
12 to run to this course of questioning about now speculating and
13 conjecturing as to conclusions or beliefs of another person,
14 specifically Dr. Roush?

15 THE COURT: The objection is overruled. It is a
16 continuing objection. Excuse me. And so noted in the record
17 as continuing.

18 A I don't know, Mr. Carr.

19 Q Well, Mr. Park, you've met with Dr. Roush on a number
20 of occasions. He served on the same committee with you. You've
21 had a necessity to discuss the health effects of exposure to
22 these chemicals with Dr. Roush. You must have done that, did
23 you not, sir? If you're going to serve on this committee
24 intelligently you must have discussed it with Dr. Roush.

1 A I have discussed things with Dr. Roush over years.

2 Q The health effects you've discussed, haven't you, sir?

3 A Mr. Carr, I cannot recall Dr. Roush's view of the
4 toxicology of 2,3,7,8 or any other specific isomer.

5 Q You can't recall then. Would you accept from me,
6 and Dr. Roush will be here in a few days, that he has sworn
7 under oath that the only bad effects that you're going to get
8 from exposure to dioxin is chloracne? And he swore that rather,
9 well, not recently any more, but before this case started.
10 Before that. He may have changed his mind now, but neverthe-
11 less at the time you were meeting at these various committee
12 meetings that was his view. Did you know that that was his
13 view, Mr. Park?

14 A I will accept his view, Mr. Carr.

15 Q Now, you would accept his view?

16 A Yes.

17 Q Now, if that view is correct, then Monsanto then
18 need never notify the EPA of the dioxin content, because that's
19 not one of these bad health effects from a product that EPA,
20 the law says that you've got to notify us about, is it, sir?
21 And chloracne has been, your workers were told by Monsanto that
22 chloracne is similar to an adolescent case of teenage acne.
23 Now, that's not-- There's children in this courtroom that have
24 got teenage acne, and that's not, I submit, and I had teenage

1 acne, it's not a bad health effect. It's unpleasant and it's
2 not cosmetically the best thing, but it really isn't a bad
3 health effect, is it, sir?

4 A I would not consider it bad.

5 Q And, therefore, if Dr. Roush's view prevailed at
6 that committee, then you indeed were not required to report
7 whatever the levels of TCDD, then your review that you could
8 have a tank car full of 2,3,7,8-TCDD go out from the plant and
9 you wouldn't have to report it to the EPA, then you would be
10 correct, wouldn't you, sir?

11 MR. MUSGRAVE: Object. Speculation and conjecture.
12 Assumes facts not in evidence.

13 THE COURT: Overruled.

14 Q (Mr. Carr) You would be correct, wouldn't you, sir?

15 A I think you asked me two questions, Mr. Carr. I'm
16 trying to--

17 Q Well, answer whichever one you feel like answering,
18 Mr. Park.

19 A I guess we're back to the reporting requirements of
20 Section 8(e).

21 Q Yeah, health effects. Serious health effects.
22 Cancer, death, incapacitating illnesses, death. Things of that
23 sort.

24 A In as much as whatever they actually are or speculated

1 to be I think the EPA is fully aware of all those. I think
2 that a reading of Section 8(e) and the policy statement would
3 not require, I think, that it would not be a legal requirement
4 that that tank car be reported under Section 8(e).

5 Q Well, certainly if all it is going to cause is
6 chloracne, and I'll agree with you, you're absolutely right,
7 but that brings up the point that, if other toxicologists have
8 a different view, let's just suppose hypothetically that some
9 toxicologists believe that dioxin exposure can cause cancer and
10 that the EPA believes that and the CDC believes that and the
11 FDA believes that, at different levels to be sure, but they
12 believe, these agencies believe that it causes cancer. A
13 toxicologist employed, two toxicologists employed by Monsanto
14 believe that to be the case. If Dr. Roush, however, that
15 doesn't believe it to be the case, if the memos go to him and
16 never gets to the committee, then the committee doesn't have
17 the benefit of dealing with a full deck of cards, does it, sir?

18 MR. MUSGRAVE: Is that a question, Mr. Carr?

19 MR. CARR: Yes, it is.

20 MR. MUSGRAVE: Is it a hypothetical? Then I object
21 to it. It assumes facts not in evidence and assumes facts
22 that are also contrary to the documentation Mr. Carr himself
23 was produced.

24 THE COURT: Overruled.

1 A Mr. Carr, I think we would consider Dr. Roush to be
2 our most eminent authority on medical effect.

3 Q And I certainly accept that, sir.

4 A And I think with his presence at any meeting we have
5 a full deck of cards.

6 Q Well, not if Dr. or Mr. Long's report to you, which
7 supports the Nair memo and takes away from the Levinskas
8 memo, if you don't have that you don't have a full deck of
9 cards, do you, sir? You're relying upon one man. You become
10 a one-man committee and there's no need for you all to meet.
11 And if that is a fact, you're not really fulfilling the obliga-
12 tions of the law to consider these things, are you, sir?

13 A I don't see Long's memo as taking away from Levinskas's.

14 Q And perhaps you don't see that, Mr. Park, and maybe
15 that's the reason they didn't give it to you. But for what-
16 ever reason you didn't have it and you didn't have the ability
17 to conclude that, and you might have concluded that, I'm sure
18 you would have concluded that, the point is the EPA law and
19 the regulations that Monsanto set up itself requires that these
20 facts be considered by a committee, doesn't it, sir?

21 A The question as to whether there is an 8(e) report
22 requirement--

23 Q Yes.

24 A --be considered by the committee.

1 Q And that means that that committee must consider all
2 relevant facts, mustn't it, sir?

3 A That's right.

4 Q And the opinions of toxicologists are relevant
5 facts, aren't they, sir?

6 A Whatever Dr. Roush--

7 Q Excuse me, Mr. Park. That isn't what I'm asking you.
8 I'm saying the opinions of Dr. Nair, Dr. Levinskas, Dr. Long
9 are relevant opinions, aren't they, sir?

10 A I don't know. It might not be. If our toxicologist--

11 Q You're speculating again, aren't you?

12 A Yes.

13 Q These are things that is in the function of your
14 committee to decide. You have not accepted a dictatorship on
15 that committee, have you, sir?

16 A Mr. Carr, that's not true.

17 Q Oh, then you have accepted a dictatorship?

18 A I was answering your first question, Mr. Carr.
19 You'll have to allow me to answer each question as you go along,
20 because it's difficult for me to remember all of them.

21 Q Well, Mr. Park, let's go one at a time. Is it the
22 full committee that's supposed to have the obligation of making
23 these decisions?

24 A The full committee considers the information.

1 Q And does the law require that the full committee get
2 all relevant opinions from toxicologists?

3 A The law requires that we consider relevant informa-
4 tion.

5 Q And are opinions from toxicologists relevant informa-
6 tion?

7 A Toxicological information is relevant and we obtain
8 that from Dr. Roush.

9 Q Are opinions from toxicologists relevant information?

10 A Some might or might not be, as Dr. Roush would
11 determine. I'm not going to sit here, Mr. Carr, and say that
12 Dr. Roush might not evaluate different thoughts that come to
13 him from different people, and some he will perhaps agree with,
14 some he may not agree with. But it's his responsibility. He
15 is the head of the medical department. He is the representative
16 on the committee to provide us with information, relevant
17 information on health effects.

18 Q Did he put any toxicological opinion in writing that
19 we could compare it with other toxicologists?

20 A I don't recall.

21 Q Is he a toxicologist?

22 A He certainly appears to be well-qualified.

23 Q Is he a toxicologist?

24 A I'm not certain as to his qualifications, Mr. Carr.

1 I would consider him well-qualified in toxicology.

2 Q Well, how can you consider that if you don't know
3 that he's a toxicologist? Does he belong to any toxicological
4 organizations?

5 A If you press me, I would consider him to be a toxi-
6 cologist.

7 Q And you know what a toxicologist is from your years
8 of work. I thought he was a man that was an M.D. and had no
9 speciality in toxicology. Now, you can be a M.D. and a toxi-
10 cologist. I'm not suggesting you can't wear two hats. But my
11 question is, is Dr. Roush a toxicologist?

12 A If you press me, I believe I would consider him as
13 such.

14 Q I'm not asking you if you would consider him as such.
15 I asked you whether or not he was one, sir.

16 A Okay. To the best of my knowledge, I would say he
17 is a toxicologist.

18 Q And he's told you that?

19 A I believe I have heard him use the term clinical
20 toxicologist. Now, I am not familiar myself, deeply familiar
21 with that term.

22 Q He didn't give you a memo taking away from or contra-
23 dicting any of these people that you know are toxicologists,
24 did he, sir?

1 A I do not have a memorandum.

2 Q And your committee voted not to notify the EPA with-
3 out having the opinions of Mr. Long, did you not?

4 A That would appear to be the case.

5 Q And Mr. Long concluded, did he not, that to assume
6 that the carcinogenic potential of all PCDD's is equivalent to
7 2,3,7,8-TCDD without test data may not be appropriate, didn't
8 he, sir?

9 A Just a moment, Mr. Carr.

10 Q Second page of his report of January 23rd, 1985 to
11 Dr. Roush.

12 A And you were reading-- Ah. The next to last-- I'm
13 sorry, where were you reading?

14 Q The next to last, third from last sentence, "To
15 assume that the carcinogenic potential of all PCDD's is equiva-
16 lent to 2,3,7,8-TCDD without test data may not be appropriate."
17 He says that, doesn't he?

18 A That's correct.

19 Q But he just says that it may not be appropriate,
20 doesn't he, sir?

21 A That's correct.

22 Q He doesn't tell you that it is inappropriate. He's
23 giving this information to you, isn't he, sir?

24 A That's what he says.

1 Q And it could be appropriate, couldn't it, sir?

2 A He says it may not be.

3 Q And what he tells you finally, probably the most
4 important thing in the whole document, is the last sentence,
5 "The actual risk is currently impossible to calculate." He
6 says that, doesn't he, sir?

7 A He says it's impossible to calculate.

8 Q That means that the risk may be greater, it may be
9 less than the calculations that both he and Dr. Nair have made
10 and that Dr. Levinskas have made, isn't it, sir? Isn't that
11 what that means?

12 A I would not read that sentence that way.

13 Q Sir, you would not read it that way?

14 A No, I would-- He's not saying it cannot be evaluated
15 or considered or an assignment made.

16 Q I didn't say that. I said it can't be calculated.

17 A That's right.

18 Q It may be a greater risk than what these gentlemen
19 have calculated or may be a lesser risk than what has been
20 calculated, isn't that correct, sir?

21 A I don't read his statement as implying that, Mr. Carr.

22 Q Isn't it exactly what he says, it's impossible to
23 calculate?

24 A That's correct.

1 Q If it is impossible to calculate, that means it can't
2 be known by calculation?

3 A But it can be estimated, I would assume.

4 Q You would assume that. Well, of course, you are not
5 a toxicologist.

6 A That's correct.

7 Q So how can you assume that, Mr. Park? You've told us
8 a dozen times that you're not a toxicologist, so how can you
9 assume that?

10 A Right. I can assume if it cannot be calculated it
11 could be--

12 Q You can assume that?

13 A Yes.

14 Q Then you are exercising judgments relating to toxi-
15 cology, aren't you, sir? All this time you've been telling us
16 that you're not a--

17 A I'm just trying to answer your questions, Mr. Carr.

18 Q No, Mr. Park. What you do is you show that you have
19 knowledge of toxicology when you believe it in the interest of
20 Monsanto to demonstrate it, but when you don't believe that
21 it's in the interest of Monsanto to demonstrate it, you feign
22 absence of knowledge, you feign ignorance, you suggest to us
23 that you haven't learned anything in these six years. That's
24 what you do, Mr. Park.

1 MR. MUSGRAVE: Object to Counsel's speech. Request
2 that it be stricken from the record and the jury instructed to
3 disregard it.

4 THE COURT: Overruled.

5 Q (Mr. Carr) Mr. Park, the end result is is that
6 Monsanto lets go without notifying the EPA a substance upon
7 the American public, the risk of which cannot, it's impossible
8 to calculate the risk, isn't that correct, sir?

9 A I don't know that that's--

10 Q And that dioxin, Mr. Park, 250 parts per billion, and
11 we've already gone through perhaps a hundred times, no, a
12 thousand, a hundred times less than the 20,000. Any number of
13 times less. Here's one with 48,000 parts per billion of dioxin.
14 You've corrected me, you said it was 50,000. Now, that's, in
15 February of '79 that's dioxin that went out to be put in either
16 oil well additives for oil well workers or on the lawn. Not
17 250 parts per billion that they can't calculate the risk of,
18 but 50,000 parts per billion. Mr. Park, do you conceive that
19 your committee has done its duty under the law?

20 MR. MUSGRAVE: Object, Your Honor. That's an improper
21 representation of the evidence.

22 THE COURT: Overruled.

23 Q (Mr. Carr) Do you conceive that Monsanto has played
24 fair with the people of Sturgeon, its workers and the public?

1 MR. MUSGRAVE: Object to the question. Improper
2 question.

3 A Certainly, Mr. Carr.

4 THE COURT: Overruled.

5 MR. CARR: Your Honor, I'm ready to go to the next
6 point.

7 THE COURT: Okay. Then we'll break for lunch at this
8 time.

9 Ladies and gentlemen, we'll break for lunch at this time.
10 The admonishments that I give you during the other breaks will
11 apply during this one also. We'll resume again at 1:30.

12 Court's in recess for lunch.

13 (Whereupon noon recess was had.)

14 * * * * *

15

16

17 THE COURT: Mr. Carr.

18

19 (At this time Plaintiffs' Exhibit No. 1314 was marked
20 for identification by the court reporter.)

21

22 Q (Mr. Carr) Mr. Hicks, or Mr. Park, I'll hand you
23 what's been marked Plaintiffs' Exhibit 1314, which purports to
24 be a memo from a G. D. Stevens, dated November the 2nd, 1981

1 to R. C. Richardson, and I'll ask you to look at that, please.
2 Do you recognize that as discussing the question of, at least
3 among other things, the question of dioxin in the product
4 2,4-dichlorophenol that Monsanto was engaged in selling to
5 Diamond-Shamrock?

6 A Mr. Carr, this is the first time I've seen it. Could
7 I take just one or two minutes to read it, please?

8 Q Sure you can.

9 MR. CARR: And while he's doing that, Your Honor,
10 since it is a Monsanto Exhibit, I would like to offer it into
11 evidence and pass it to the jury so we cannot waste any more
12 time with it.

13 THE COURT: Any objections?

14 MR. MUSGRAVE: Your Honor, we would object again.
15 It is 2,4-dichlorophenol. It is a document that's not authored
16 by this witness, nor was he copied in on it. We would object
17 to the document on the basis that it is not the product in
18 question, the subject matter of the lawsuit and lack of founda-
19 tion for interrogation of this witness.

20 THE COURT: Mr. Carr, do you have anything you wish
21 to add?

22 MR. CARR: Your Honor, it is relative to the chlorin-
23 ated phenol. It is clearly one of their documents and Dr.
24 Wilson is the recipient of the memo.

1 THE COURT: Okay. It will be admitted over objection.

2
3 (At this time Plaintiffs' Exhibit No. 1314 was
4 admitted into evidence by the Court over objection.)
5

6 MR. MUSGRAVE: He was copied.

7 THE COURT: You may pass it to the jury.

8 MR. CARR: Thank you, Your Honor. Did I give the
9 Court a copy?

10 THE COURT: No. Thank you.

11 A Okay, Mr. Carr. I've finished reading the document.

12 Q I'm waiting for the jury to finish reading it.

13 A Sure.

14 Q Mr. Park, the document refers to a telephone call
15 that Mr. Stevens had with a Mr. Frank Hicks, who was the works
16 manager for Diamond-Shamrock at Tuscaloosa, Alabama?

17 MR. MUSGRAVE: Your Honor, may my--

18 Q Is that correct, sir?

19 MR. MUSGRAVE: May I object to the questioning of
20 this witness about what, interpreting this document, again a
21 document he did not author, and that the document speaks for
22 itself, and this gentleman did not author it, did not receive
23 a copy of it. There is no foundation that he participated in
24 any of the subject matter or the discussions that might be the

1 content of it, and also object to the hearsay that is contained
2 in the document and add the hearsay objection, but I'd like
3 the other objection, if overruled, be a continuing objection
4 to the examination of this witness on that basis.

5 THE COURT: Fine. Those objections are overruled.
6 They will be continuing objections to the entire course of
7 questioning.

8 A Mr. Carr, I see where it says subject. It says,
9 "Call report." Is that what you're referring to? I don't
10 know. I don't know whether this was a telephone call or what.
11 It's not clear to me, unless I missed something in my reading,
12 my first reading.

13 Q Well, whether it's a telephone call or what it is,
14 it refers to a contact with a Mr. Frank Hicks, who is the
15 Tuscaloosa works manager for the Diamond-Shamrock Company
16 located at Tuscaloosa, Alabama. You understand that, sir,
17 don't you, from reading this?

18 A It appears to be what it said in the memo.

19 Q And you, of course, know that Diamond-Shamrock is
20 a major customer of Monsanto, purchases 2,4-dichlorophenol and
21 uses it to make 2,4-D? You know that, too, don't you, sir?

22 A I can see that in the memorandum.

23 Q You know that without seeing it in the memo, don't
24 you, sir?

1 A I think I've heard references to it, Mr. Carr. I
2 don't deal with that part of the company.

3 Q Well, Mr. Park, you had an important meeting on
4 January the 7th, January the 6th, 1981 in which you discussed
5 at a TSCA meeting the fact that Diamond-Shamrock was a major
6 purchaser of 2,4-dichlorophenol. Surely you remember that, sir.
7 That was the subject of that meeting. Refer to Plaintiffs'
8 Exhibit 1241, if you will, sir.

9 A Would you bring that?

10 Q That's your signature on that exhibit, isn't it, sir?

11 A That's correct.

12 Q And you discuss there, do you not, you state, do you
13 not, "That the major purchaser of dichlorophenol is Diamond-
14 Shamrock and uses it in the manufacture of 2,4-D?"

15 A That's correct.

16 Q Now, does that refresh your recollection, sir, as to
17 what you know about Diamond-Shamrock?

18 A Yes, it does.

19 Q All right. Now, Mr. Carr, this memo discusses the
20 fact that Diamond-Shamrock is, has used your DCP, your dichloro-
21 phenol in the past, doesn't it, sir?

22 A Let me find that, Mr. Carr. It appears to me to be
23 contemplating future supply of 2,4-dichlorophenol.

24 Q Could you look at the second paragraph, sir, where it

1 tells you that it can't use your product in making 2,4-D because
2 it's got too much dioxin in it? That they have to use it for
3 making something called amine or amine or whatever it is.

4 A Which--

5 Q Paragraph number two.

6 A Yes. Which sentence, Mr. Carr?

7 Q The last one-fourth of paragraph number two.

8 A All right.

9 Q In 1981 Diamond was able to use Monsanto 2,4-DCP only
10 in the production of amine products.

11 MR. MUSGRAVE: Object to Counsel's mischaracteriza-
12 tion, because he added because it had dioxin in it. It doesn't
13 say that in the sentence.

14 MR. CARR: Well, if you read a little bit farther
15 you will see it.

16 Q (Mr. Carr) It goes on to say, does it not, "In 1982
17 Diamond will be able to use Monsanto product to make amine,
18 ester and dry 2,4-D formulations. This is contingent on our
19 ability to consistently provide 95 percent low dioxin material."
20 Doesn't it say that, sir?

21 A Yes, it does.

22 THE COURT: Objection is overruled.

23 Q (Mr. Carr) Now, the paragraph numbered three talks
24 about the fact that, brought up at your examination by Mr.

1 Musgrave the other day, that 2,4-D has got to meet certain
2 requirements in Canada and that Diamond says their 2,4-D has
3 been approved for sale in Canada. You see that, sir?

4 A Yes, sir, I see that.

5 Q And they've upgraded their label to read dioxin-free.
6 Do you see that also?

7 A I see that.

8 Q And it discusses how they made changes in their plant
9 in order to avoid the possibility of dioxin production?

10 A I see that.

11 Q And you know from earlier exhibits that Dr. Wilson
12 discussed that change that they were going to use a toluene
13 method of making 2,4-D that would prevent the formulation of
14 dioxin, or do you know that?

15 A I don't recall that, Mr. Carr.

16 Q You don't recall that. Well, it's not important at
17 this point that you do recall. But in any event, they tell
18 you Dow's material has been, and that's the material that we
19 discussed in this memo 1302A, that Dow's material has been
20 certified to be within acceptable dioxin minimums. You see
21 that, too, don't you, sir?

22 A I don't think they're talking about the same thing,
23 Mr. Carr. Their placard here, I think, deals with the labora-
24 tory samples.

1 Q Well, that's what you're suggesting, but this talks
2 about 2,4-dichlorophenol, doesn't it, sir, and they're talking
3 about a purity of a special lab distilled lot by the manufacturer.
4 They're talking about six one-gallon pails?

5 A Yes, apparently.

6 Q They're talking about the presence of 2,4-dichloro-
7 phenol, and I won't even insist that you agree to that, sir.
8 They're talking about that Dow's material has been certified
9 to be within acceptable dioxin minimums, aren't they, sir?

10 A Yes.

11 Q And the next sentence says that they analyzed one of
12 your 2,4-DCP tank cars and found that it was high in dioxin.
13 Do you see that, sir?

14 A Right. He says that that's what Mr. Harwell of the
15 Diamond-Shamrock plant reported.

16 Q And as far as you know that's true, isn't it, sir?

17 A I have no idea whether it's true or not, Mr. Carr.

18 Q Well, you know that the past 2,4-dichlorophenol
19 produced by Monsanto is shown by this Exhibit 1301A is indeed
20 high in dioxin. You know it from this evidence, don't you, sir?
21 You know that it had 48,000, 50,000 parts per billion of dioxin
22 in it? You saw the document, your own company's report that
23 said it, didn't you, sir?

24 A You showed me a document. I see the number on there,

1 Mr. Carr.

2 Q It was your company's analysis. It wasn't mine. It
3 wasn't Diamond-Shamrock. It was your company's analysis, wasn't
4 it, sir?

5 A Sir, I don't know more than what you have put on the
6 exhibit here.

7 Q Well, you do know more than that, because you saw
8 the document. I gave the exhibit to you.

9 A You did give me the exhibit.

10 Q And it was Monsanto's analysis that I gave you, wasn't
11 it, sir? Each of those exhibits that I gave you were analyses
12 performed by Monsanto's employees, Monsanto's analytic chemists,
13 weren't they, sir?

14 A Mr. Carr, I can't recall, but if you state they were
15 I will accept that.

16 Q No. No, Mr. Park. Do you need to see the memo that
17 was produced?

18 A If you tell me that that was--

19 Q Mr. Park, I'm not willing to have you take it on my
20 word.

21 A I don't recall.

22 Q You don't recall seeing an exhibit?

23 A I do recall seeing exhibits.

24 Q Prepared by Monsanto for each and every one of these

1 except the exhibit prepared by the University of Nebraska that
2 found a higher content than any of your exhibits found. You
3 don't recall me showing you an exhibit for each of those, Mr.
4 Park?

5 A Mr. Carr, I said I do recall seeing some exhibits.
6 I don't recall who performed the analytical--

7 Q Do you recognize the numbers here MB541 as being
8 Monsanto's numbers, sir?

9 A No, I don't, Mr. Carr.

10 Q Do you need to see these documents again?

11 A No. If you are counsel to state that those numbers
12 are correct--

13 Q No, Mr. Park. I'm not willing to go on that basis.
14 I want you to remember that you saw the documents. I want you
15 to testify to the truth, because you know you saw those docu-
16 ments.

17 A Mr. Carr, I'm simply stating--

18 MR. MUSGRAVE: I object, Your Honor, to this badger-
19 ing. I object to Counsel's badgering the witness. He has
20 asked the witness the question. He has answered to the best
21 of his ability. Mr. Carr insists now that he should answer the
22 question differently.

23 Q (Mr. Carr) Let me refresh your recollection.

24 MR. MUSGRAVE: Just a moment, Your Honor.

1 THE COURT: Objection is overruled. You may continue.
2 Mr. Carr.

3 Q (Mr. Carr) Do you see the document 1135B? Do you
4 remember seeing that before? Do you remember seeing the smaller
5 part of it, sir? The one that wasn't blown up from which it
6 was taken. Now, is your memory refreshed, Mr. Park?

7 A I can dimly remember that. You've shown me a great
8 many documents that I have not seen before I came here, Mr. Carr,
9 and I'm trying to recall that. That was part of a Monsanto
10 document?

11 Q Yes.

12 A I'm simply stating I don't know who performed the
13 analyses, Mr. Carr, in response to your question.

14 Q No, Mr. Park, because what you said before, you
15 challenged what they said. You challenged their finding.
16 That's the only reason I brought it up, because you said, well,
17 that's what Diamond-Shamrock said, and if you had not challenged
18 it, Mr. Park, I would not have brought this out to remind you
19 that your company found high dioxin levels in your 2,4-DCP.
20 You challenged it, and that's the reason I brought it out, so
21 that's a challenge to that statement. You are suggesting that
22 somehow Diamond-Shamrock is not telling the truth?

23 A I wasn't challenging anything, Mr. Carr. I was just
24 pointing out that it was Diamond-Shamrock that had reported it.

1 Q And that's exactly what I read to you, that it was
2 Diamond-Shamrock that analyzed it?

3 A That's right.

4 Q And indeed these exhibits show that Monsanto has
5 2,4-dichlorophenol that's high in dioxin content, don't they,
6 sir?

7 A I wouldn't say it was high. It contains dioxin.

8 Q But you don't say that 50,000 parts per billion is
9 high? If you don't say that, that's your privilege, Mr. Park.

10 A Well, now he doesn't--

11 Q Are you saying that 50,000 parts per billion is not
12 high?

13 A Mr. Carr,--

14 MR. MUSGRAVE: Objection, Your Honor, to Counsel's
15 reference to that document, which I previously objected to
16 because of my basis of the misrepresentation about the levels
17 also being noted in connection with Mr. Carr's question which
18 now assumes the correctness of that, and I object to Counsel's
19 statement to that effect.

20 THE COURT: Your objection is noted.

21 MR. MUSGRAVE: I assume it's overruled.

22 THE COURT: It is.

23 MR. MUSGRAVE: Thank you.

24 THE COURT: As were the prior objections, yes.

1 A As one who is not an analytical chemist, let's see,
2 that would be 50 parts per million. I would not consider that
3 high.

4 Q And that, of course, is the philosophy that followed,
5 that you've been consistently following at Monsanto? Could
6 you accept for a moment--

7 MR. MUSGRAVE: Just a moment, Mr. Carr. Is that a
8 question? If it is not a question--

9 MR. CARR: Yes, it is a question.

10 Q (Mr. Carr) That is the philosophy that you have been
11 following in behalf of Monsanto in the job that you've been
12 performing for Monsanto in making the determination of whether
13 or not the EPA should be notified of the dioxin levels of your
14 products, isn't that correct?

15 A No, Mr. Carr, that was simply a response to your
16 question.

17 Q You haven't been following that philosophy? Didn't
18 we establish yesterday, Mr. Park, that you believed you were
19 not obligated to report to the EPA if your 2,4-dichlorophenol
20 contained 50 percent of dioxin and spilled in--no, it didn't
21 spill--and was shipped out to be made into Lysol? Didn't we
22 go through all that yesterday and didn't you say that you
23 believed you were under no obligation to report that to the EPA
24 under Section 8(e)? Did I dream that up?

1 A And it did not spill.

2 Q Yes, it did not spill.

3 A Yes, that's correct. Under 8(e).

4 Q And, Mr. Park, do you accept that other person's,
5 the people making the product that's going to be sprayed on the
6 people's lawns might disagree with your definition of whether
7 it is high dioxin content or not?

8 MR. MUSGRAVE: Well, I object to that as calling for
9 speculation and conjecture and the state of mind of others
10 as to what they believe and don't believe.

11 THE COURT: Objection's overruled.

12 A Mr. Carr, anyone can disagree with you.

13 Q Mr. Park, and you see that Diamond-Shamrock when
14 they discovered that your product had what they called high
15 levels of dioxin in it, they didn't use it for 2,4-D. They
16 said, we're not going to put that in the bottles that people
17 are going to spray on their lawns and their dandelions and
18 they're going to walk on and they're going to sit on. They had
19 information and they acted accordingly, didn't they, sir?

20 A Well, they don't say that in the memorandum, Mr. Carr.

21 Q Oh, they don't say that? You don't see that, sir,
22 in there?

23 A Not all that you just stated, Mr. Carr.

24 Q You don't see that they said before in the earlier

1 paragraph that they were able to use your 1981 production only
2 in the production of amine product?

3 A I do see that.

4 Q And isn't this memo talking about that they analyzed
5 one of your 2,4-DCP tank cars and found it high in dioxin?

6 A Yes.

7 Q And they didn't use it then except for the amine
8 product, isn't that correct, sir? Doesn't that follow, Mr. Park?

9 A Mr. Carr, I'm in no position to go beyond the words
10 of this memorandum.

11 Q And that's perfectly fine with me. That's all I'm
12 asking. Doesn't this--

13 MR. MUSGRAVE: Object. You're asking him more, Mr.
14 Carr. You're asking him to go beyond that and to speculate
15 and draw conclusions as to what the document says beyond what
16 the words say, Mr. Carr, and I object that Counsel is in fact
17 asking him to go beyond that, and if he hasn't asked him to go
18 beyond that then my objection should have been sustained.

19 THE COURT: Objection is overruled. You may continue,
20 Mr. Carr.

21 Q (Mr. Carr) Doesn't this document tell you that they
22 used the 2,4-DCP of Monsanto only in the production of amine
23 product?

24 A I don't see that in here, Mr. Carr.

1 Q Look in the second paragraph, the second to last
2 sentence in the paragraph.

3 A Uh huh. Okay. It says in 1981 Diamond was able to
4 use Monsanto 2,4-DCP only in the production of, and I believe
5 that's amine product.

6 Q Exactly what it says, isn't it, sir?

7 A I tried to read it.

8 Q Now, is it fair reading of that to say that since they
9 used it only in amine product that they did not use it in 2,4-D?

10 A In 1981?

11 Q Yes. Is that fair?

12 A I would accept that.

13 Q And, of course, you notified them in following your
14 January the 6th, 1981 meeting that there was dioxin in your
15 product, didn't you, sir? Look at the memo 1241 that I gave
16 you, sir.

17 A Right. The memorandum ends with a recommendation
18 that customers be advised of the above-described analytical
19 result.

20 Q And you know that Diamond-Shamrock was advised,
21 don't you, sir? You don't know that?

22 A That would be beyond my area of responsibility, Mr.
23 Carr. I would assume that it was done.

24 Q If it wasn't done it should have been done, shouldn't

1 it, sir?

2 A It was recommended by the committee that it be done.

3 Q Would you mark this as an exhibit?

4
5 (At this time Plaintiffs' Exhibit No. 1315 was marked
6 for identification by the court reporter.)

7
8 Q (Mr. Carr) Handing you what's been marked Plaintiffs'
9 Exhibit 1315. I'll ask you to take a look at that, sir.

10 MR. CARR: Ask leave while he's looking at it, Your
11 Honor, I'll offer it into evidence and ask leave to pass copies
12 to the jury.

13 MR. MUSGRAVE: Same objection as before, Your Honor.
14 It deals with the 2,4-dichlorophenol. It doesn't deal with the
15 product in question in the lawsuit.

16 THE COURT: Okay. It's admitted over objection. You
17 may pass it to the jury.

18
19 (At this time Plaintiffs' Exhibit No. 1315 was admitted
20 into evidence by the Court over objection.)

21
22 A I've read the memoranda, Mr. Carr.

23 Q I'm waiting for the jury to read it, Mr. Park.

24 Now, Mr. Park, to put it in proper time frame of reference,

1 on January the 7th, 1981 your committee meets and you say that
2 the major purchaser of dichlorophenol, Diamond-Shamrock, uses
3 it in the manufacture of 2,4-D, correct, sir?

4 A Correct.

5 Q You notified them that-- And that clearly says that
6 they are using it theretofore in the manufacture of 2,4-D,
7 doesn't it, sir? They're saying they use it in the present
8 tense, sir?

9 A That's correct.

10 Q And you write them a letter in March 17th, 1981 and
11 you tell them that your 2,4-dichlorophenol has dioxin in it,
12 don't you, sir?

13 A That's correct.

14 Q And then you learn in November 2nd, 1981 that in 1981
15 Diamond was able to use Monsanto 2,4-DCP only in the production
16 of amine product, correct, sir?

17 A They don't say why they only used it there, but they
18 do say--

19 Q Mr. Park, would you please respond to my question?

20 A They say--

21 Q They say that they were-- You were able to use it,
22 was able to use it only in the production of amine product,
23 doesn't it, sir?

24 A Yes.

1 Q Now, they were informed that it had dioxin in it, and
2 they determined and it was not used thereafter in 1981 in using
3 on 2,4-D, in making 2,4-D, is that correct, sir, so far as you
4 can see from these documents?

5 A The document indicates that in 1981 Diamond used
6 Monsanto 2,4-DCP only in the production of amine product.

7 Q It also says they were only, was able to use it only
8 in the production of it, doesn't it, sir?

9 A Yes.

10 Q Yes. And they opted not to put it in a product, not
11 to use it in making a product that's sprayed on people's lawns,
12 didn't they, sir, because they, or whether they did it because
13 or not, they had information indicating that it had dioxin in
14 it, isn't that right, sir?

15 MR. MUSGRAVE: Object. Speculation and conjecture.

16 THE COURT: Overruled.

17 A There's no indication here as to why, in 1981, Diamond
18 used the Monsanto 2,4-DCP only in the production of amine
19 product.

20 Q Is there any indication that they wanted to use it
21 in 1981 in making 2,4-D formulations?

22 A Well, they may have expanded their facility.

23 Q Excuse me. Could you answer that question, please?

24 A No. It says, "In 1982 Diamond will be able to use

1 Monsanto product to make amine, ester and dry 2,4-D formulations."

2 Q Contingent upon what occurring, Mr. Park?

3 A "This is contingent on our ability to consistently
4 provide 95 percent low dioxin material." End of quote.

5 Q Now, Mr. Park, does that lead you to the conclusion,
6 this document lead you to the conclusion that they were able to
7 use it in 1981 only in making amine product and that they would
8 be able to use it in 1982 only if Monsanto is able to give them
9 low dioxin material? Isn't that a fair reading of the document,
10 Mr. Park?

11 A May I deal with the two parts of your question
12 separately, please? Looking at the November 2nd memorandum,
13 Mr. Carr, it gives no reason why Diamond used Monsanto 2,4-DCP
14 only in the production of amine product, but then it goes on to
15 say, to indicate, and I can paraphrase this, that Diamond's
16 use of Monsanto product in 1982 to make amine, ester and dry
17 2,4-D formulations was, is contingent upon Monsanto ability to
18 consistently provide 95 percent low dioxin material.

19 Q Yes. And there's additional little bit of informa-
20 tion that you can use in coming to your conclusion. Turn to
21 the second page. Page two of this report, paragraph five.
22 See if that doesn't help you in making that conclusion, Mr.
23 Park.

24 A I was paraphrasing what was in the memorandum.

1 Q You didn't paraphrase the second page, paragraph five
2 though, did you, Mr. Park?

3 A No.

4 Q Paragraph five tells you that Monsanto presently has
5 a tank car right now of 2,4-dichlorophenol, 93 percent 2,4-di-
6 chlorophenol loaded and ready to ship, but that the material
7 would have to be segregated and used only in amine production.
8 What does that mean to you, Mr. Park?

9 A That this car could be shipped to Diamond, but they
10 would use this material only in amine production.

11 Q And they would not be able to use it in the production
12 of 2,4-D, isn't that correct?

13 A I don't know whether they would or not.

14 Q Sir?

15 A Here it says--

16 Q Could you answer that question, please, Mr. Park?
17 And not be able to use it-- Sir?

18 A That requires speculation on my part as to what was
19 in the mind of the author.

20 Q You have to speculate where they say the material
21 would have to be segregated and used only in amine production?
22 The word only means exclusively, doesn't it, Mr. Park?

23 MR. MUSGRAVE: Maybe he doesn't know what amine
24 production is, Mr. Carr.

1 MR. CARR: Sir?

2 MR. MUSGRAVE: Maybe he doesn't know what amine
3 production is. Do you know?

4 MR. CARR: I don't care what it is. It's not 2,4-D
5 production.

6 MR. MUSGRAVE: It figures you don't.

7 MR. CARR: As long as it's not going to go to the
8 public and be exposed to it, I really don't care, Mr. Musgrave.
9 Monsanto makes a lot of good chemicals.

10 MR. MUSGRAVE: There's other reasons you don't care,
11 Mr. Carr. They'll come out.

12 MR. CARR: Oh?

13 MR. MUSGRAVE: Yes.

14 MR. CARR: You mean I'm going to learn something
15 else that you haven't disclosed to me? I thought the rules
16 required you to disclose to me that information that you had.
17 Could we approach the bench?

18 MR. MUSGRAVE: It's right in the document, Mr. Carr.

19 THE COURT: Okay, gentlemen. Let's go to the question,
20 gentlemen.

21 MR. MUSGRAVE: Very plain words.

22 MR. CARR: Nothing new? You're not going to come up
23 at 8:30 tomorrow morning with another document?

24 MR. MUSGRAVE: Right in the document, Mr. Carr.

1 THE COURT: Okay. Gentlemen, let's go to the docu-
2 ment.

3 Q (Mr. Carr) Now, Mr. Park, you do know what the word
4 only means, don't you, sir?

5 A I think so.

6 Q It means used for nothing else except?

7 A Yes.

8 Q All right. Now, Mr. Park, the customer, your customer
9 was informed, and whether you believe that it's associated with
10 the information that you gave and whether you believe that it's
11 because the product is high in dioxin content, nonetheless
12 for whatever purpose the information that you gave them they
13 ended up not using it in 2,4-D, didn't they, sir? Your entire
14 1981 production.

15 A I don't know if it was Monsanto's entire 1981 pro-
16 duction.

17 Q Oh, I'm sorry. You're correct. The production, your
18 entire production that you sent to them?

19 A Yes. Diamond used our, Monsanto 2,4-DCP in 1981 only
20 in the production of amine products.

21 Q Now, given that information in '81, do you reckon
22 if you'd given them the information that you had in 1979,
23 March 1st, 1979, do you think that they might react, just
24 barely might have reacted in 1979 the way they did in '81 if

1 you had advised them that it contained 16,000 parts per billion?

2 MR. MUSGRAVE: Object. Speculation and conjecture.

3 THE COURT: Overruled.

4 A I have no idea, Mr. Carr.

5 Q Well, Mr. Park, you do know that the information that
6 you gave them in '81 about the dioxin content according to the
7 Exhibit 1315, is it, that--

8 A Yes.

9 Q --what was there is they only had five to fifteen,
10 one lot only had five to fifteen parts per billion in it of
11 tetra-dioxins and that other lots had well below the five parts
12 per billion limit? You see that, don't you, sir?

13 A Yes, I do.

14 Q So they reacted-- And you don't even call it 2,3,7,8
15 in this memo, do you, sir? This letter to them you tell them
16 that we've got one lot out of thirteen that had five to
17 fifteen parts per billion of TCDD in it, and coincidentally
18 they quit using it. The lots that were shipped to them or to
19 whoever bought these lots of DCP, 2,4-DCP in 1979 had, by your
20 calculations, 3,000, I'm sorry, 360 parts per billion of
21 tetra-dioxins in it, isn't that correct, sir?

22 MR. MUSGRAVE: Object to that multiple question,
23 Your Honor. If it was a question, it was a multiple question.
24 He started out making a speech and now this last portion is a

1 question. I request that the prior portion of it, which was a
2 speech and which was inaccurate and which was a misrepresenta-
3 tion, be stricken.

4 THE COURT: Overruled on all points. You may answer
5 the question.

6 Q (Mr. Carr) Isn't that correct, Mr. Park?

7 A I'm sorry, Your Honor. I just can't recall the last
8 part of that question.

9 Q The 2,4-dichlorophenol that was sold and shipped out
10 in March of 1979 or thereabouts contained 360 parts per billion
11 of tetrachlorodibenzo-p-dioxin, did it not, sir, according to
12 this Exhibit 1301A?

13 A According to that exhibit.

14 Q And that is approximately 24 times higher tetra
15 concentration than mentioned in this Exhibit 1313 dated March
16 17th, 1981, isn't it, sir?

17 A I guess. The 450--

18 Q The 360, sir.

19 A I'm sorry. The 360, right, would be twenty times
20 fifteen.

21 Q Twenty-four times higher than--

22 A Than--

23 Q --the information you passed to Diamond-Shamrock in
24 March of '81, isn't that right, sir?

1 A It appears so from these documents.

2 Q To your knowledge did you ever tell Diamond-Shamrock
3 prior to March 17th, '81 that the product, the 2,4-dichloro-
4 phenol you were shipping out contained levels of tetrachloro-
5 dibenzo-p-dioxin higher than fifteen parts per billion?

6 A Not to my knowledge, Mr. Carr, but as I've stated
7 I would not have knowledge of that.

8 Q And do you-- Well, again, I've been, the Monsanto
9 is under orders, court orders to produce to me all letters
10 that they sent to customers, and this is the only, this is the
11 earliest dated letter that we have dealing with this--

12 A I understand.

13 Q --subject. Would it be fair then, assuming that
14 Monsanto has obeyed the orders of Court, that no others were
15 sent?

16 A Mr. Carr,--

17 Q Is that a fair assumption, Mr. Park?

18 A I'm not prepared to say that, Mr. Carr.

19 Q Then you either are assuming that Monsanto is with-
20 holding evidence contrary to the orders of this Court? That's
21 the only alternative, isn't it, sir?

22 A It is not at all, Mr. Carr.

23 Q What's the other alternative, Mr. Park?

24 A Monsanto is a large company with many different

1 departments, divisions, different parts of the company, all
2 involved in different aspects of producing products, distribut-
3 ing them, marketing them. I have no way of, and I'm sure all
4 of our people who have been informed have diligently tried to
5 produce documents. I'm sitting here. I have no way of knowing
6 the extent to which this has been accomplished. All I can tell
7 you is that I have no knowledge of such contact.

8 Q Well, you understand the importance of the Court
9 order in this case. It doesn't just order you or Mr. Nassif or
10 Mr. Musgrave or Mr. Heineman or Mr. Ryder or Mr. Cornfeld or
11 Mr. Thiess to obey the orders of the Court, it's from the
12 president of your company, Mr. Mahoney, all the way down to
13 the lowest employee. That's the way the American system is.
14 They're all obligated to search all of their files diligently
15 and send us this information. We have to assume, we have to
16 depend upon the integrity, however, of you people to obey.
17 We cannot go into your offices and dig under your floorboards
18 to find what may be there. You understand that. Will you,
19 therefore, assume that your company has followed the constraints
20 of the law and has searched every place they could possibly
21 search for such a letter and that none has been forthcoming?
22 Will you assume that, sir?

23 A I can assume that, but then why do you ask me the
24 question, Mr. Carr, as to whether I am aware of any such--

1 Q Because that's exactly what I'm asking you, whether
2 or not you are aware of any, sir?

3 A I am not.

4 Q All you have to say is no, you're not aware. You
5 don't have to add that there may be some of which you are
6 aware. See, if you would just respond to the question we
7 could move right along, Mr. Park.

8 A I am not aware, Mr. Carr.

9 Q And, Mr. Park, and what you did see from this informa-
10 tion is that once they learn they changed their actions,
11 didn't they?

12 A Once they?

13 Q Once Diamond-Shamrock learned they quit using your
14 product in the manufacture of 2,4-D?

15 MR. MUSGRAVE: Well, Your Honor, I think this has
16 been asked about two or three times now and I object to it as
17 just repetition.

18 MR. CARR: Well, Your Honor, I never get quite the
19 same answer though.

20 THE COURT: Objection is overruled.

21 A No. Where is that in here?

22 MR. CARR: You see?

23 THE COURT: Mr. Park, answer the question.

24 A I don't know. I don't see it in the document. I'm

1 sorry. You say they changed. All I see in here, Mr. Carr, is
2 that in 1981 Diamond was able to use Monsanto 2,4-DCP only in
3 the production of amine product. Is that what you're referring
4 to?

5 Q No. I'm referring to the fact that your memo in
6 January of 1981 says that Diamond-Shamrock uses 2,4-dichloro-
7 phenol in making 2,4-D. They get your notice in March.

8 A Yes.

9 Q And then we get a November 2nd memo saying that
10 they're able to use it only in making amine. The only informa-
11 tion so far as we know, the only fact that we have to deduce
12 why they quit using it in 2,4-D if they were using it in
13 January, the only new information we have is that you told them
14 that it contains five to fifteen parts per billion of dioxin.
15 Unless you have some other information, Mr. Park, that's the
16 only evidence that we have to show why they were able to use
17 it only in making amine in 1981, isn't that correct, sir?

18 MR. MUSGRAVE: I object to Counsel's statement. It's
19 the only other evidence that he has. That's his opinion and
20 that's a speech.

21 MR. CARR: That we have. Not that he has, that we
22 have.

23 MR. MUSGRAVE: Just a moment, Mr. Carr. Let me finish.
24 And I further object, Your Honor, again to the interrogation of

1 this witness about a document which he did not author that he's
2 now being asked to interpret. He is trying to do his best, and
3 Mr. Carr keeps insisting on answers that the man can't give
4 because he doesn't know what the document says.

5 THE COURT: Objection is overruled on both points.

6 A I don't know why Diamond--

7 Q Would you answer the question that I gave to you, sir?

8 A Okay. If I remember the question correctly, and it
9 was, did Diamond stop using the Monsanto 2,4-dichlorophenol in
10 the production of 2,4-D, my answer--

11 Q That's not what I asked you at all, Mr. Park. Would
12 you read the question again?

13 (The following question was read back by the court
14 reporter: "And then we get a November 2nd memo saying that
15 they're able to use it only in making amine. The only informa-
16 tion so far as we know, the only fact that we have to deduce
17 why they quit using it in 2,4-D, if they were using it in
18 January, the only new information we have is that you told them
19 that it contains five to fifteen parts per billion of dioxin.
20 Unless you have some other information, Mr. Park, that's the
21 only evidence that we have to show why they were able to use
22 it only in making amine in 1981, isn't that correct, sir?)

23 A I think there could be other reasons why they would.

24 Q Mr. Park, did you understand that question to mean

1 that's the only evidence we have? There could be a million
2 other reasons, and I didn't ask you that. What I asked you is,
3 is the only evidence we have is as I've stated it, isn't that
4 correct, sir?

5 MR. MUSGRAVE: Well, Mr. Carr, you went a little
6 bit beyond that in stating a three paragraph question, and I
7 object, Your Honor. The question has just been read back.
8 It was about three paragraphs long. It contained multiple
9 questions, and this witness is now trying to answer it and Mr.
10 Carr wants to change it on him, and I object and I request the
11 Court to permit the witness to answer the three paragraph
12 question if he can as stated.

13 THE COURT: Objection is overruled.

14 A As I recall the question and as you stated it, I
15 would say no.

16 Q You would say that's not the only evidence we have?
17 What other evidence do we have then, Mr. Park?

18 A Mr. Carr, I don't know what other evidence.

19 Q My question is, is what other evidence do we have?
20 If you don't know of any, then we don't have any, do we, sir?
21 We have to have it to know of it, don't we, sir? My question is,
22 what other evidence do we have, sir, other than this evidence
23 that we have right here?

24 MR. MUSGRAVE: Object to that, Your Honor. Now Mr.

1 Carr is asking this witness what other evidence do we have.
2 Is he talking about Mr. Carr, is he talking about in this
3 courtroom, is he talking about within the confines of Monsanto,
4 or is he talking about what this witness has personal knowledge
5 of, Your Honor? He can't ask this witness what other evidence
6 there is that may have been in the courtroom if the man has
7 no knowledge of what's going on in this courtroom or what other
8 documents there are. This is obviously beyond this witness's
9 capability to know and it's an unfair question.

10 THE COURT: Objection is overruled.

11 MR. MUSGRAVE: If he wants to ask him what his
12 knowledge is, I have no problem with that.

13 THE COURT: The objection is overruled.

14 MR. MUSGRAVE: And you are going to require him--

15 THE COURT: I'm requiring him to answer the question
16 that's asked of him. It's clear. It has been repeated. I'm
17 expecting an answer over your objection.

18 MR. MUSGRAVE: I wanted to be sure I understood.
19 Thank you.

20 Q (Mr. Carr) The question is, what other evidence do
21 we have here in this courtroom of which you are aware that
22 would give some other reason why they quit using 2,4-dichloro-
23 phenol made by Monsanto in the manufacture of 2,4-D other than
24 the notification that we have here that it contains dioxin?

1 A I don't know, Mr. Carr.

2 Q Then, Mr. Park, do you know whether or not Lehn and
3 Fink, Sterling Drug Company continued in '79, in '80, in '81,
4 '82, '83, '84, continued to use Santophen in the manufacture
5 of Lysol?

6 A I don't know.

7 Q Do you know whether or not they were ever notified
8 that Santophen contained dioxin?

9 A I do not know.

10 MR. MUSGRAVE: Been asked and answered, Your Honor.

11 THE COURT: Overruled.

12 Q (Mr. Carr) Is it possible-- If you will assume
13 with me, Mr. Park, that they are continuing to use or have
14 used during this period of time Santophen in making their
15 Lysol, but they were never told, as Diamond-Shamrock was told,
16 that Santophen contained or that the chlorinated phenol they
17 were using from Monsanto contained dioxin, assume that, do you
18 think it's possible that if they had been told that they, too,
19 would have quit using Monsanto's manufactured chlorinated
20 phenol in its Lysol?

21 A I have no idea.

22 Q You have no idea?

23 MR. MUSGRAVE: Object. It calls for a conclusion,
24 speculation.

1 THE COURT: Overruled.

2 Q (Mr. Carr) Have you ever seen a memo, Mr. Park, or
3 was it ever discussed with you as an attorney for Monsanto
4 the clear statement, broad, cannot be misconstrued, if Lehn
5 and Fink learned that this product has got dioxin in it they
6 will immediately quit using it in manufacture of Lysol? Did
7 you ever see such a thing, sir?

8 A No.

9 Q And as far as you know-- Well, strike that.
10

11 (At this time Plaintiffs' Exhibit No. 1316 was marked
12 for identification by the court reporter.)
13

14 Q (Mr. Carr) Hand you now what's been marked Plaintiffs'
15 Exhibit 1316 and ask you to look at it, Mr. Park. Do you
16 recognize that as another memo signed by Dr. J. D. Wilson
17 dated December 7th, 1981 dealing with the 2,4-DCP for Diamond-
18 Shamrock?

19 A Yes.

20 MR. CARR: Offer that into evidence and ask leave--
21 I haven't prepared a, it doesn't have all the attachments
22 that I'm passing to the jury, because the jury has previously
23 received it. The table that is attached to it, Your Honor.

24 THE COURT: Okay. Any objections?

1 MR. MUSGRAVE: What are you passing them, Mr. Carr?

2 MR. CARR: I'm passing them the correspondence
3 section.

4 MR. MUSGRAVE: Well, we would object, Your Honor,
5 to the first page of the exhibit, Plaintiffs' Exhibit 1316.
6 Again it deals with the 2,4-dichlorophenol. Secondly, it
7 contains hearsay. Not from Monsanto personnel, but other
8 personnel, I believe, outside the company. Object to the
9 next two pages on the same basis, dealing with 2,4-dichloro-
10 phenol. And let me just be sure to see if it's got-- That's
11 the only reason I would object to that, Your Honor.

12 THE COURT: Admitted over objection.

13
14 (At this time Plaintiffs' Exhibit No. 1316 was
15 admitted into evidence by the Court over objection.)

16
17 MR. CARR: Ask leave to pass it to the jury.

18 THE COURT: Yes, you may.

19 MR. MUSGRAVE: And just so it's clear on the record,
20 Your Honor, I think the tables that are attached to the exhibit
21 have already been identified.

22 THE COURT: Right.

23 MR. MUSGRAVE: Offered into evidence and my objections
24 that I made to those--

1 THE COURT: I'll incorporate them.

2 MR. MUSGRAVE: All right. Thank you.

3 THE COURT: Sure.

4 Q (Mr. Carr) Mr. Park, we had yesterday when you were
5 asked questions, or day before yesterday, by Mr. Musgrave as
6 to the Canadian requirement of the ten parts per billion for
7 dioxin. You recall he suggested to you that the Canadian
8 requirement was ten parts per billion per isomer of dioxin and
9 that since there are 72, 75, 70 isomers that that means you
10 could have up to 700 parts per billion total, and although not
11 more than ten for each isomer, do you recall that line of
12 testimony, Mr. Park?

13 A Yes.

14 Q And this Exhibit 1316 talks about a ten part per
15 billion, per dioxin compound, doesn't it, sir?

16 A It does mention that, yes.

17 Q And the letter to Harwell that's dated December the
18 7th, 1981 talks about 100 part per billion limit on any
19 chlorodibenzo-dioxin, doesn't it, sir?

20 A It mentions, it says, "Proposed Canadian requirement."

21 Q And also talking about whether or not you can
22 guarantee a one part per billion limit, that no one can and
23 that we're skating on very thin ice attempting to guarantee
24 a ten part per billion limit. Do you see that, sir?

1 A Let me read. I haven't read that paragraph yet, Mr.
2 Carr.

3 Q I thought you had.

4 A Yes. Okay. I read that bottom paragraph.

5 Q And you see the memo, 1316, talks about ten parts
6 per billion dioxin compound. Do you see that, sir?

7 A Yes, I do see that.

8 Q And do you have Monsanto Exhibit 885 here? And Mr.
9 Musgrave handed you, when he was trying to suggest that they're
10 talking about isomers, he handed you Monsanto Exhibit 885,
11 did he not, sir?

12 MR. MUSGRAVE: This is the one that Mr. Carr objected
13 to, Your Honor.

14 MR. CARR: No, it's not the one I objected to, Counsel.

15 MR. MUSGRAVE: It's not? Oh. That was 886. I take
16 that back. I'm sorry.

17 Q (Mr. Carr) And it discussed also the, in the third
18 paragraph talking about maximum concentration of any chloro-
19 dibenzo-dioxin compound will be .01 part per million, which
20 again is ten parts per billion, isn't it, sir?

21 A Yes.

22 Q Do you understand what the word compound means?

23 A No, I don't, Mr. Carr.

24 Q You don't understand what the word compound means,

1 Mr. Park?

2 A Not in this context, Mr. Carr.

3 Q In any context, do you know what it means?

4 A Yes.

5 MR. MUSGRAVE: Object to the relevancy. I object to
6 the meaning in any context, and I again, Your Honor, would
7 object to Mr. Park being asked to interpret the words and
8 thoughts of a document he did not author. The document speaks
9 for itself.

10 THE COURT: Overruled.

11 MR. MUSGRAVE: On all counts, I take it? All of my
12 objections?

13 THE COURT: Yes.

14 A Okay. I would then hazard a suggestion that this
15 compound means each different dioxin isomer.

16 Q What do you believe that a compound question is which
17 your counsel has objected to on the grounds before that I've
18 asked a compound question? I think you've been here and you
19 went through law school and I'm sure you took a course in
20 evidence and you heard about compound questions. Does the
21 word compound to you mean one, just as you've suggested it,
22 sir?

23 A I believe you're using it as an adjective and here
24 it's a noun, Mr. Carr.

1 Q And when it's used as a noun what does it mean to you?

2 A I just answered your question a moment ago.

3 Q It means one isomer?

4 A One item, yes.

5 Q One item is a compound to you?

6 A That would be-- I'm not an analytical chemist.

7 Q You don't have to be an analytical chemist. A com-
8 pound is something that's made up of more than one thing.

9 MR. MUSGRAVE: Objection. He's arguing with the
10 witness. He's asking questions; he's getting answers.

11 MR. CARR: You know that, Mr. Park?

12 MR. MUSGRAVE: He's now arguing with the witness.
13 Object to the question.

14 THE COURT: Overruled.

15 Q (Mr. Carr) You know the definition of the word com-
16 pound?

17 MR. MUSGRAVE: Same objection.

18 Q Don't you, Mr. Park?

19 THE COURT: Overruled.

20 A I said I did, Mr. Carr.

21 Q And you know that compound means more than one thing.
22 It means it's made up of something composed of more than one
23 thing. It could be a number of things, but certainly more than
24 one. You understand that, don't you, sir?

1 A This says any dioxin compound. You've asked me,
2 I've tried to answer you, Mr. Carr.

3 Q Sir?

4 A You've asked me the question, I've tried to answer
5 you.

6 Q But I'm suggesting to you that maybe you really
7 don't understand what I'm asking you. I'm giving you an oppor-
8 tunity to withdraw from your statement that compound means one
9 thing, sir.

10 MR. MUSGRAVE: Well, I object to Counsel's graciously
11 giving him an opportunity. If he's going to reask the same
12 question, it's been asked and answered, Your Honor. The
13 question's been asked, it's been answered. Obviously Mr. Carr
14 is not satisfied with it, so he's going to keep badgering the
15 witness to try to get him to say something else he'll like
16 maybe.

17 THE COURT: Objection is overruled. It is proper
18 cross examination.

19 Q (Mr. Carr) Mr. Park, are you standing by your defin-
20 ition of the word compound meaning one substance?

21 A In this context, yes.

22 Q And have you ever used the word or heard the word
23 compound used to mean more than, less, I'm sorry, mean just
24 one substance or one ingredient?

1 MR. MUSGRAVE: Object. This is now irrelevant and
2 immaterial. He is asking him about his understanding of the
3 meaning of the word in this document, and out of that context,
4 Your Honor, it's irrelevant and immaterial.

5 THE COURT: Overruled.

6 A I think I have, Mr. Carr.

7 Q And in what context? In the drug store when you go
8 in and make up this compound, or what context have you used it?
9 Tell me how you've heard it used?

10 A Compound for use in repairing holes in walls, for
11 example, in the interior of a house.

12 Q And, please, use the word the way you used it in the
13 materials in the house.

14 A A spackling compound.

15 Q Uh huh. And a spackling compound is made up of how
16 many substances?

17 A I have no idea, Mr. Carr.

18 Q Sir?

19 A I have no idea, Mr. Carr.

20 Q You know it's made up of lime. You know it's made
21 up of perhaps sand. You know it's made up of water. You know
22 it's made up of a lot of different things, don't you, sir, a
23 spackling compound? Don't you, sir? Excuse me. Would you
24 answer that question?

1 A I don't know what it's made up of, Mr. Carr.

2 Q You know it's made up of more than one substance,
3 don't you, sir?

4 A It may be.

5 Q Yes. So that definition of compound means it's more
6 than one substance. Could you give me another example of
7 where it's used to suggest just one ingredient?

8 MR. MUSGRAVE: May my objection be a continuing
9 objection to this witness now being asked to give different
10 examples of compound in context totally unrelated to a letter
11 that he did not author, that he has been asked to speculate
12 about.

13 THE COURT: Objection is overruled. I will note it
14 as a continuing objection.

15 MR. MUSGRAVE: Thank you, Your Honor.

16 A I can't recall any other uses, Mr. Carr.

17 Q All right. Then directing your attention back to
18 this exhibit, ten part per billion dioxin compound or chloro-
19 dibenzo compound, is it your belief that they're talking about
20 an isomer of dioxin?

21 A If you're requiring me to construe this,--

22 Q I am.

23 A --I would construe it to be per isomer.

24 Q You would construe that to mean per isomer, is that

1 right, sir?

2 A If I was required to construe that. I would rather
3 contact the author.

4 Q Okay. Now, let's just explore that for a moment.
5 If it meant per isomer there are how many isomers, sir? You
6 knew when Mr. Musgrave asked you the question.

7 MR. MUSGRAVE: No. I had to tell him, Mr. Carr.
8 Asked him to assume it.

9 Q Well, he told you how many isomers. How many isomers
10 did he tell you?

11 A I don't recall. I think there are over a hundred.

12 Q I think he suggested to you 70.

13 A All right. 70.

14 Q Now, do you know how many isomers that Monsanto has
15 the standards and are able to differentiate one from another?

16 A If I understand your question, I do not.

17 Q All right. Now, if they're going to guarantee a
18 ten part per billion per isomer, then in order to guarantee
19 that they've got to know that each of those 70 isomers is
20 present in not greater than ten parts per billion, don't they,
21 sir?

22 A That would be correct, I believe.

23 Q And the only way you could guarantee that would be
24 to analyze the product and determine whether or not there are

1 70 different isomers, wouldn't that be correct, sir?

2 A Well, you can guarantee, I assume, Mr. Carr, without
3 analyzing for each one.

4 Q Well, let's just suppose here. We've got only eight
5 lines up here. These are compounds. These are all consist of
6 more than one isomer and all of these have more than one dioxin
7 isomer in it. There are 22 separate isomers alone for the CL-4,
8 you know that, too. Well, I suppose you know that. Now, how
9 can one guarantee that there is not more than ten parts per
10 billion of each of those isomers without breaking it down and
11 analyzing for each isomer?

12 A Mr. Carr, I don't know. I didn't author these memoranda.
13 I was not sent copies of them.

14 Q But you do know by talking to your analytical chemist
15 that all they ever hope to do, all they've ever done in the
16 CL-4, Monsanto just a year or so ago got all 22 isomers, just a
17 year or so ago got all 22 isomers, all of the CL-4, and absol-
18 utely no testimony that they got any more isomers than that
19 or these others.

20 MR. MUSGRAVE: Just a year or so you're representing
21 that, Mr. Carr? A year or so ago from today?

22 MR. CARR: My memory is it's something like that, Mr.
23 Musgrave. I could be off a couple of years.

24 MR. MUSGRAVE: Oh, your memory might have some

1 fallacy, too, then?

2 MR. CARR: Of course, it does.

3 MR. MUSGRAVE: Oh, I'm glad to hear.

4 THE COURT: Okay. Gentlemen, we don't need to go
5 into that. I think it's time for a break. We'll take a short
6 recess at this time and we'll resume testimony.

7 Court's in recess.

8 (Whereupon a brief recess was had.)

9 * * * * *

10
11
12 THE COURT: Mr. Carr.

13 Q (Mr. Carr) Mr. Park, referring if you will to
14 Monsanto Exhibit 885.

15 A Yes.

16 Q Dr. Wilson makes a statement there, does he not, that
17 he will guarantee that the maximum concentration of any chloro-
18 dibenzo-dioxin compound will be ten parts per billion, that is,
19 .01 parts per million.

20 A He says we can provisionally guarantee that.

21 Q Well, that means for the time being you are guarantee-
22 ing it, does it not?

23 A Mr. Carr, I don't know exactly what it means. He
24 says we can provisionally guarantee that the maximum concentration.

1 Q Surely I don't have to go through the business of
2 having you define what provisionally means or what guarantee
3 means, Mr. Park. Aren't we talking in the same language?
4 Aren't we using the English language here?

5 A But I don't know what Mr. Wilson, Dr. Wilson meant
6 when he wrote this, Mr. Carr.

7 Q Well, just believe that you're Mr. Harwell and you're
8 getting this from Tuscaloosa, you're getting it from Monsanto
9 and you are in Tuscaloosa, Alabama. Just make believe that
10 you are the recipient of the letter and not the author of it.
11 What do you understand this letter means as far as the guarantee
12 is concerned?

13 MR. MUSGRAVE: Objection again, Your Honor, on the
14 same basis of this witness being asked to interpret documents
15 that he did not author continue to run through examination as to
16 this doctor.

17 THE COURT: It will be noted as a continuing objection.
18 It is overruled.

19 A I would take it there is not a full guarantee, that
20 it is a provisional guarantee.

21 Q Provisionally means for the time being, or until
22 further notice, or until you get it more stronger, or until we
23 change our mind, until we notify you some other way. Aren't
24 all those things what it means, Mr. Park?

1 A Or conditional or whatever. I don't know.

2 Q Well, provisional doesn't mean conditional, because
3 condition means you have to put the conditions in. Provision-
4 ally means for the time being, for now.

5 A You may know more about what Dr. Wilson meant, Mr.
6 Carr.

7 Q Well, whatever the meaning of it is, it is a guaran-
8 tee of some sorts, isn't it, sir?

9 A It's a provisional guarantee.

10 Q Well, the word provisional doesn't mean anything to
11 you. It is a guarantee of some sorts, isn't it, Mr. Park?

12 A It appears to be somewhat of a guarantee.

13 Q Somewhat of a guarantee. Well, I'll even accept
14 that.

15 And now, Mr. Park, if you take your or Mr. Musgrave's
16 thought that when you're talking about the guarantee you're
17 not talking about just eight. If you just took eight under
18 the guarantee that would be 80 parts, a total of 80 parts per
19 billion, wouldn't it, sir? Cannot contain more than 80 parts
20 per billion if you take it by, the meaning to be the dioxins
21 the way you ordinarily analyze them, but sometimes you analyze
22 for the 2,3,7,8 isomer, sometimes for other isomers, and so on,
23 Mr. Carr.

24 A Yes. That's right.

1 Q And what you do-- Have you ever seen a report, in
2 all the years you've served on these committees, have you ever
3 seen a report where they've put down 70 separate columns in
4 identifying 70 separate isomers, Mr. Park?

5 A I frankly cannot recall, Mr. Carr.

6 Q Have you ever seen anything other than they put it
7 down in columns of eight like this, and sometimes they have a,
8 they have a letter there and asterisk and you look down at the
9 bottom, it says there's two isomers that coelute the same way.
10 Have you ever seen any identification other than the way it's
11 on Exhibit 1135A?

12 A Mr. Carr, I may have.

13 Q Can you recall anything right now in your mind, Mr.
14 Park?

15 A I just can't recall having seen a great many of these
16 at all.

17 Q But the ones you did see you saw the dioxin concen-
18 tration described in these various columns of eight, didn't you,
19 sir?

20 A No. First, I don't see very many of these. Secondly,
21 I guess I would say that generally it is just a few specific
22 results applicable to a given isomer or so.

23 Q Well,--

24 A I have seen things with the eight headings. I have

1 seen documents without the eight headings.

2 Q Have you ever seen documents with more than eight?

3 A I just cannot recall, Mr. Carr.

4 Q Well, in any event, if it's eight, it's 80 parts per
5 billion. If it's 70, it's 700 parts per billion. Would that
6 be the way you see it?

7 A That would be, yes, multiplying times ten.

8 Q But you've never seen any document where they've
9 attempted to describe 70 isomers of dioxin?

10 A I just said I could not recall that, Mr. Carr.

11 Q Now, whatever the guarantee is, you know that Monsanto
12 couldn't live up to it, whether it's 700 or whether it's 80?
13 You know that, too, don't you, sir?

14 A I don't know that, Mr. Carr.

15 Q Mr. Park, we went through this document here, 1301A.
16 We looked at the 1982 production. It's right on this document
17 that you and I went through, that Monsanto cannot-- Here,
18 we've got one, two, three, four 2,4-dichlorophenol that's
19 produced in 1982 on this chart. All of them are higher than
20 80 parts per billion and all but one is higher than 700 parts
21 per billion, isn't that correct, sir?

22 A On your chart there?

23 Q Yeah, it's on the chart here.

24 MR. CARR: Could you get Exhibit 1301 for the witness

1 so he won't have to strain his eyes?

2 A Okay. Now, you were talking about the total dioxin?

3 Q Yes, that's what I'm talking about.

4 A Okay.

5 Q Referring it to either the guarantee of 80 parts per
6 billion or 700 parts per billion.

7 A Mr. Carr, I'm not in manufacturing or marketing. I
8 have no idea what they had in mind. There is no way I can say
9 that this guarantee would not have been fulfilled.

10 Q All I'm asking you, sir, is the production that was
11 shown on this chart in 1982 shows three of those four productions
12 to be in excess of the maximum limit and all of them to be in
13 excess of the per-dioxin limit, isn't that correct, sir?
14 There's none here that's as low as ten parts per billion, is
15 there, sir?

16 A Mr. Carr, you'll have to point out the specific items
17 you're referring to for me.

18 MR. CARR: Could I have Exhibit 1184, please?

19 Q Now, 1184 breaks down these dioxins, sir, in columns
20 of eight again, doesn't it, sir?

21 A Yes.

22 Q And is there any column there, these eight columns--
23 There are two columns. The mono one and mono two. The di
24 have less than ten parts per billion for those two columns,

1 don't they, sir?

2 A It says non-detected.

3 Q And all the other columns have got quantities in
4 excess of ten parts per billion, don't they, sir?

5 A Yes, ten or more.

6 MR. CARR: Your Honor, I have no further questions
7 of this witness.

8 THE COURT: Okay. Mr. Musgrave.

9 MR. MUSGRAVE: Thank you, Your Honor.

10 REDIRECT EXAMINATION (CLARIFICATION)

11 BY MR. MUSGRAVE:

12 Q Mr. Park, first of all, with regard to the exhibit
13 Mr. Carr has just been showing you, this Plaintiffs' 1301A,
14 and referring to 2,4-dichlorophenol. Of course, you understand
15 this is Mr. Carr's exhibit, don't you?

16 A Yes.

17 MR. CARR: Your Honor, I object to that. This is
18 the Court's exhibit. It's been admitted into evidence. It's
19 been properly foundationed. The witness has agreed to every-
20 thing that's on this exhibit and I object to that statement and
21 ask that the jury be instructed to disregard it.

22 MR. MUSGRAVE: Didn't you prepare it?

23 THE COURT: Objection is overruled. I mean, the
24 objection is sustained. I think that it was properly ruled

1 into evidence and it's an exhibit that has been admitted into
2 evidence. The jury is ordered to disregard that remark.

3 Q (Mr. Musgrave) Do you understand the 2,4-dichloro-
4 phenol samples that are shown on this exhibit, Mr. Park? First
5 of all, there are one, two, three, four of them, are there not?

6 A Yes.

7 Q And they're all within, would it appear to be the
8 same week in September, would it not?

9 A Yes.

10 Q Now, are the other 2,4-dichlorophenol tests that
11 Monsanto may have run in 1982 on its production anywhere reflected
12 on Plaintiffs' Exhibit 1301A?

13 A I don't see them.

14 Q And Mr. Carr showed you the exhibit where these test
15 results came from, Plaintiffs' Exhibit 1184, did he not?

16 A Yes.

17 Q Now, do you know whether or not when these results--
18 Well, first of all, do you know, Mr. Park, whether these
19 results for this one week in September of 1982 were typical of
20 the other analytical results that Monsanto had for its 2,4-di-
21 chlorophenol in 1982?

22 A I have no idea.

23 Q Do you know whether when these results were obtained
24 the plant was called by Fred Hileman or not, who was part of

1 the analytical team doing these results to inform the plant
2 about them?

3 A I have no idea.

4 Q Do you know what the plant told Mr. Hileman or Dr.
5 Hileman, who has already been here to testify about that, do
6 you know what the plant people told Dr. Hileman when he called
7 and reported these results to him on the telephone?

8 A No, I don't.

9 Q Do you know, in fact, whether this was a shipment
10 that went out?

11 A No, I don't.

12 Q Now, with further regard to Defendant's Exhibit 885,
13 is that the one that you have up there?

14 A Yes.

15 Q The one where Dr. Wilson talks about the provisional
16 guarantee that the maximum concentration of chlorodibenzo-
17 dioxin compound will be .01 parts per million, right?

18 A Yes.

19 Q And Mr. Carr asked you that if the interpretation of
20 that were that it's .01 parts per million for each group of
21 isomers, then that would mean 80 parts per billion total, right?

22 A Yes.

23 Q All right. If, in fact, that is the correct inter-
24 pretation still, Mr. Park, isn't it a fact that 80-- Let me

1 first of all hand you Plaintiffs' Exhibit 1300. Do you have
2 that? All of this came up, you may recall, as a result of Mr.
3 Carr first of all giving you Plaintiffs' Exhibit 1300. Do you
4 recall that, sir?

5 A Yes.

6 Q And suggested that that document authored by Dr.
7 Wilson in September of '81 stated that the Canadian government
8 had a requirement of one part per billion limit on all chloro-
9 dibenzo-dioxins?

10 A Yes.

11 Q You recall that?

12 A Yes.

13 Q And then I brought to your attention this defense
14 Exhibit 885, which it talked about .01 part per million. This
15 is the one we've just been looking at with the provisional
16 guarantee language in it.

17 A Yes.

18 Q .01 part per million, which would be ten parts per
19 billion, for any chlorodibenzo compound. Do you recall that?

20 A Yes.

21 Q Well, whether the interpretation would be that this
22 means 80 parts per billion or 700 parts per million it's
23 certainly more, is it not, sir, than the one part per million
24 that Mr. Carr suggested by showing you the September 17

1 document?

2 MR. CARR: Counsel, you said one part per million,
3 but you meant one part per billion.

4 Q (Mr. Musgrave) One part per billion, yes. Then the
5 one part per billion that Mr. Carr suggested was the Canadian
6 limitation by the September 17 document.

7 MR. CARR: No, Counsel, I didn't suggest that. Dr.
8 Wilson wrote that letter, I didn't.

9 MR. MUSGRAVE: I think that the jury will recall the
10 testimony, Mr. Carr.

11 MR. CARR: Do you believe that I wrote that letter?
12 My testimony. That's Dr. Wilson's memo, not mine.

13 MR. MUSGRAVE: Well, you had somebody else interpret
14 it using your testimony, Mr. Carr, as I recall.

15 MR. CARR: Using my testimony?

16 MR. MUSGRAVE: Yes, sir.

17 MR. CARR: I hadn't understood I'd been sworn yet,
18 Counsel.

19 MR. MUSGRAVE: I didn't either. That's why I'm
20 curious as to why you keep testifying.

21 Q (Mr. Musgrave) Mr. Park, with regard to Plaintiffs'
22 Exhibit 1314, sir, do you have that?

23 A Yes.

24 Q And Plaintiffs' Exhibit 1315?

1 A Yes.

2 Q Now, 1314 is the memo of a Mr. Stevens about apparently
3 a conversation with a Mr. Hicks of Diamond-Shamrock?

4 A Yes.

5 Q About 2,4-dichlorophenol and 2,4-D that Diamond-
6 Shamrock makes, is that right?

7 A Yes.

8 Q Now, do you have Plaintiffs' Exhibit 1273? Have you
9 been able to find that, sir?

10 A No, I don't. I don't have it.

11 CLERK: I don't have it.

12 MR. MUSGRAVE: Do you have it, Mr. Carr? I believe
13 you just marked it. Plaintiffs' Exhibit 1314 and 1315.

14 MR. CARR: No, the witness has that.

15 A I'm sorry, I have it.

16 MR. MUSGRAVE: I'm sorry. What I did say was
17 Plaintiffs' Exhibit 1273, the EPA dioxin book. Mr. Carr, do
18 you have it?

19 MR. CARR: Oh, yes.

20 Q (Mr. Musgrave) Let me hand that to you. I would
21 like you to look at page 93 of that and tell me if you can find
22 thereon a statement or a definition or the spelling of what
23 2,4-D is, what the chemical name of it is.

24 A 2,4-D?

1 Q Yes.

2 A Yes, I do.

3 Q That's the herbicide that Diamond-Shamrock makes,
4 is that correct?

5 A Yes.

6 Q And, sir, what does it say it is?

7 A It says it's the compound 2,4-dichlorophenoxyacetic-
8 acid.

9 Q Okay. That has not been marked as an exhibit, so
10 I'm going to-- I'm not going to dare do anything but copy that
11 out of the book here. It's at page 93, isn't it?

12 A Yes.

13 Q And 2,4-D, the herbicide is 2,4--

14 A Dichlorophenoxy-- We're out of paper here, so--

15 Q Phenoxy?

16 A Acetic.

17 Q Acetic?

18 A Yes, sir.

19 Q Acid. That is the chemical name, right?

20 A That's right.

21 Q Of 2,4-D, the herbicide. Now, this can of Weed-B-Gone,
22 and I believe Mr. Carr has examined you about this, told you
23 that 2,4-D goes into Weed-B-Gone?

24 A Yes.

1 Q Now, what does this can say? What's it say up there
2 about the ingredients? Can you read that, sir?

3 A Yes.

4 Q What's it say?

5 A Active ingredients are dimethylamine salt of 2,4-
6 dichlorophenoxyaceticacid.

7 Q Okay.

8 A And then also dimethylamine salt of 2-2 methyl-4
9 chlorophenoxypropionicacid.

10 Q Well, the only place dichlorophenoxyacid is mentioned
11 is in connection with it being the dimethylamine salt of 2,4-
12 dichlorophenoxyacid, is that right?

13 A That's right.

14 Q All right. Let me write that up here. And, I'm
15 going to take the can so I can get the spelling right again.

16 So on the can it says dimethylamine salt of 2,4-dichloro-
17 phenoxyaceticacid, have I got that right, sir?

18 A That's correct.

19 Q Okay. So the definition of 2,4-D1 from the EPA book
20 and what's on the can you'll see that they're the same with
21 respect to what I've underlined here on both, isn't that right,
22 except in the can it talks about the dimethylamine salt, doesn't
23 it?

24 A That's correct.

1 Q And, of course, Mr. Carr has already told you that
2 2,4-DI goes into this product, isn't that correct? This Weed-
3 B-Gone?

4 A I think he did, yes.

5 Q All right, sir. Now, amine, my co-counsel has
6 corrected me that this is amine.

7 Now, if you refer to the documents that I wanted you to
8 look at. Plaintiffs' 1314, first of all. Do you have that
9 there, sir?

10 A Yes, I do. Yes.

11 Q Now, it says in paragraph two, "In 1981 Diamond was
12 able to use Monsanto 2,4-DCP only in the production of amine
13 product." Is that right?

14 A That's correct.

15 Q And that amine in this Plaintiffs' 1341 spelled
16 A-M, A-M-I-N-E is strikingly similar, is it not, sir, to what
17 I have circled here, that part of the word that is what's in
18 the can?

19 A That's correct.

20 Q And then it said in 1982 Diamond will be able to use
21 Monsanto's product to make amine, comma, ester and 2,4-DI, or
22 2,4-D I should say, formulations, doesn't it?

23 A Yes, it does.

24 Q Now, did anyone ever tell you, or did you ever hear,

1 that when you make 2,4-Di, the herbicide, that what you first
2 make is the 2,4-dichlorophenoxyaceticacid? Anyone ever tell
3 you that?

4 A That that's the first step to making--

5 Q That's the first thing you get. You make the 2,4-
6 dichlorophenol that Monsanto sells and others sell into
7 2,4-dichlorophenoxyaceticacid. Anyone ever tell you that, or
8 do you recall?

9 A I--

10 Q If you don't recall, I just want to know.

11 A That's the first step in the production you say of
12 2,4-D?

13 Q Do you ever recall hearing that?

14 A I frankly don't recall.

15 Q You don't know?

16 A Yeah, I don't know.

17 Q Did anyone ever tell you that after they make 2,4-
18 dichlorophenoxyaceticacid that they then make an ester of it
19 and a salt of it and they can also make a dry formulation of it?

20 A No.

21 Q And do you just suspect, sir, if what I have just
22 told you is true, that when Mr.--

23 MR. CARR: Your Honor, I submit this is not a redirect
24 examination, this is Mr. Musgrave testifying. The witness

1 obviously has no idea what he's talking about, and it's simply
2 Mr. Musgrave testifying. I would object to him asking the
3 questions in the form that he's asking them and ask that he go
4 back to the standard and normal method of asking questions of
5 his own witness.

6 MR. MUSGRAVE: Your Honor, Mr. Carr--

7 MR. CARR: That is, not leading and not suggestive,
8 but asking for information and not suggesting things that the
9 witness isn't aware of.

10 MR. MUSGRAVE: Mr. Carr has asked the witness to
11 interpret the document and about possibilities of what the docu-
12 ment says, and I intend to ask him about a possibility of what
13 this document might say also, Your Honor.

14 MR. CARR: Yes, Your Honor, but there's different
15 rules that apply when I ask the questions and when his own
16 attorney asks the questions.

17 MR. MUSGRAVE: There sure are.

18 MR. CARR: Yes, there are. Did you mean to imply that
19 the Court is not applying the proper rules when you said that?

20 MR. MUSGRAVE: Not at all.

21 MR. CARR: The point that I'm making, Your Honor, is
22 that I have not objected in the past when the, even though it
23 is improper form of questioning your own witness the way he's
24 questioning him, I've not objected to the witness at other

1 times is aware of what Counsel is talking about and it saves
2 time for Counsel to do the testifying rather than the witness,
3 but in this instance where the witness does not know what
4 Counsel is talking about I do object and I do ask the Court
5 to enforce the standard rules that are in existence for this
6 kind of examination and that he not be allowed to ask leading
7 or suggestive questions.

8 MR. MUSGRAVE: I'll rephrase the question, Your Honor.

9 THE COURT: Okay. Objection is sustained.

10 Q (Mr. Musgrave) Mr. Park, do you know whether the
11 reference in the sentence that I just read to you, that is,
12 "In 1981 Diamond was able to use Monsanto 2,4-DCP only in the
13 production of amine product," do you know if amine product
14 refers to something different than a form of 2,4-dichlorophenol?

15 A I have no idea what he referred to.

16 Q It could be, it couldn't be?

17 MR. CARR: I object to that form of question right at
18 that point, Your Honor, and ask that the jury be instructed to
19 disregard it.

20 MR. MUSGRAVE: Simply clarifying whether he has no
21 idea one way or the other.

22 THE COURT: I disagree with that. Objection is
23 sustained. The jury is ordered to disregard it.

24 Q (Mr. Musgrave) And, sir, in connection with the next

1 sentence, "In 1982 Diamond will be able to use Monsanto product
2 to make amine, comma, ester and dry 2,4-D formulations." Do
3 you know if that sentence is talking about three different
4 types of formulations of 2,4-dichlorophenoxyaceticacid?

5 A I really don't know.

6 Q All right, sir. The author would know best, wouldn't
7 he?

8 A Yes, he would.

9 MR. CARR: Object to that question as well as leading
10 and suggestive. Ask that the jury be instructed to disregard
11 that.

12 MR. MUSGRAVE: I'll rephrase it.

13 THE COURT: Objection is sustained.

14 Q (Mr. Musgrave) Would you suspect, sir, that the
15 author would probably know best?

16 A I'm sure the author would have a better idea of what
17 he meant than I would, sir.

18 Q All right. Now, also this document, of course, is
19 dated November 2, 1981, is it not?

20 MR. CARR: Object to the leading form of the question,
21 Your Honor.

22 A That's correct.

23 THE COURT: Objection is sustained.

24 MR. CARR: Ask that the jury be instructed to

1 disregard it.

2 THE COURT: Jury is so ordered.

3 Q (Mr. Musgrave) What is the date of the document,
4 sir, Plaintiffs' 1314?

5 A November 2nd, 1981.

6 Q All right, sir. And referring you to Plaintiffs'
7 Exhibit 1315, what is the date of that document?

8 A March 17, 1981.

9 Q And is March 17, 1981 before or after November 2,
10 1981?

11 A It would be several months, quite a few months before.

12 Q All right. Now, in the document, Plaintiffs' 1315,
13 which you've said is dated March of 1981, there is a reference
14 to 2,4-dichlorophenol by Dr. Wilson, is there not, sir?

15 MR. CARR: Object to the leading form of the question,
16 if it please the Court, and ask the jury be instructed to
17 disregard it.

18 THE COURT: Objection is sustained. Could you
19 rephrase it?

20 MR. CARR: Counsel, you know how to ask--

21 MR. MUSGRAVE: Yes, Mr. Carr, I do, and I'll apologize
22 to you and I will certainly ask the question.

23 Q (Mr. Musgrave) Is there a reference in the document
24 to 2,4-dichlorophenol?

1 A Yes, there is.

2 Q Is there one in the fourth line, sir?

3 A Yes, there is.

4 Q And what are the numbers that immediately precede
5 that reference, sir?

6 A Ninety-three percent.

7 Q Do you know what 93 percent means with reference to
8 2,4-dichlorophenol as used by Dr. Wilson in this letter, sir?

9 A No, I do not.

10 Q All right, sir. Now, with regard to Plaintiffs'
11 Exhibit 1314, if you would look at the second page of that.
12 I'm sorry. Let's look at the first page first, paragraph two.
13 In that second paragraph do you see a reference to dichloro-
14 phenol with a percentage used in close vicinity to it?

15 A Yes.

16 Q All right, sir. And would you read that sentence to
17 the jury?

18 A "Also Diamond has obtained a higher assay source of
19 MCA, which will allow them to effectively use 95.5 percent as
20 a DCP in all of their 2,4-D products."

21 Q That's 95.5 percent, sir, you say?

22 A Yes.

23 MR. CARR: Object to that, Your Honor. Leading form
24 of the question.

1 THE COURT: Objection sustained. Could you rephrase
2 it, please?

3 MR. MUSGRAVE: Yes.

4 Q (Mr. Musgrave) What was the percentage again, sir,
5 that you read?

6 A Ninety-five point five percent.

7 Q And, sir, is 95.5 percent, sir, greater or less than
8 93 percent?

9 A It's greater than 93 percent.

10 Q Uh huh. And do you have any understanding of the
11 difference between 93 percent 2,4-dichlorophenol and 95 per-
12 cent 2,4-dichlorophenol?

13 A I really don't know what that means in terms of the
14 products.

15 Q Do you know whether Monsanto manufactured 93 or
16 manufactured a 95 percent 2,4-dichlorophenol that they sold to
17 Diamond-Shamrock in 1982?

18 A I don't know.

19 Q And referring you to the second page of Plaintiffs'
20 1314, sir, would you read that last paragraph to us?

21 A Yes. "Diamond may be able to utilize the tank car
22 of 93 percent 2,4-DCP, which we now have loaded and ready to
23 ship. However, this material would have to be segregated and
24 used only in amine production. Diamond would prefer that we

1 rework this material to the 95.5 percent assay level."

2 Q Sir, is the 95.5 percent number referred there in
3 paragraph five, is that the same number referred in paragraph
4 two?

5 A Yes, it is.

6 Q And is that the same, and it referred in paragraph
7 two, that is in connection with what with regard to Diamond-
8 Shamrock products?

9 A In paragraph two Diamond is saying that they will be
10 able to effectively use 95.5 percent assayed DCP in all of
11 their 2,4-D products.

12 Q Do you know if Monsanto ever manufactured or started
13 selling a 95 percent or 96 percent 2,4-dichlorophenol?

14 A I don't know.

15 Q Do you know if Diamond-Shamrock only used 93 percent
16 dichlorophenol in their amine salt of 2,4-dichlorophenoxy-
17 aceticacid?

18 A I don't know.

19 Q Do you know whether Diamond-Shamrock used, on the
20 other hand, a 95 or 96 percent 2,4-dichlorophenol for other
21 formulations of the 2,4-dichlorophenoxyaceticacid?

22 A I don't know.

23 Q Is it possible that the reference in the letter, sir,
24 to the use of Monsanto's products, of Monsanto's 2,4-dichloro-

1 phenol means that Diamond-Shamrock would only use 93 percent
2 dichlorophenol manufactured by Monsanto for its amine product
3 because Monsanto didn't manufacture at that time a 95.5 or
4 96 percent pure 2,4-dichlorophenol? Dichlorophenol.

5 A That could have been the case.

6 Q Or didn't have an assay that was high enough to reach
7 their levels?

8 A Yes.

9 MR. CARR: Object to the leading form of the question,
10 Your Honor. Ask that the jury be instructed to disregard the
11 question.

12 THE COURT: Sustained. The jury is so instructed.

13 MR. MUSGRAVE: Request permission to pass the can of
14 Weed-B-Gone to the jury so they can see the information on it,
15 Your Honor, that I've copied on the board.

16 THE COURT: Has it been admitted?

17 MR. MUSGRAVE: Yes. Mr. Carr--

18 THE COURT: Fine. Then you can pass it.

19 Q (Mr. Musgrave) Now, Dr. Park, could you get out for
20 me-- Excuse me. I'm calling you Dr. Park now, too. Mr. Park,
21 could you get out for me Plaintiffs' Exhibit 1297? Those are
22 your minutes from the tetrathal 3(e) meeting in January of 1985.

23 A Yes, I have it.

24 Q Now, do you also have the exhibit Mr. Carr had you

1 look at today in connection with that Plaintiffs' 1312? That's
2 the Long, Timothy J. Long memorandum to Dr. Roush.

3 A Yes.

4 Q Now, this memorandum of Mr. Long to Mr., or Dr. Roush
5 is dated January 23, 1985?

6 A That's correct.

7 Q Is that the same date, sir, that in fact the meeting
8 was held, the 8(e) meeting? Was it held that same day?

9 A That's correct.

10 Q And that's shown on Plaintiffs' Exhibit 1297?

11 A Yes.

12 Q Now, before that meeting, I believe you got a copy
13 of the Dr. Nair memo, didn't you?

14 A Yes.

15 Q And, of course, it's dated sometime before the date
16 of the meeting, January 23?

17 A Yes. I received a copy attached to Dr. Levinskas's
18 memorandum.

19 Q But if this exhibit of Mr. Long was prepared on the
20 day that it bears and in fact was delivered to Dr. Roush on
21 that same day, then he got it the same day of the meeting?

22 A That's correct.

23 Q Now, I don't have copies of this, but let me have it
24 marked.

1
2 (At this time Defendant's Exhibit 883 was marked for
3 identification by the court reporter.)
4

5 Q (Mr. Musgrave) Handing you what's been marked as
6 Defendant's 883. Can you identify those, sir?

7 A Yes. These are my notes taken during the 8(e) meeting
8 on tetrathal on January 23rd, 1985.

9 Q All right, sir. Now, when you went to that meeting
10 did you have Dr. Nair's memo with you, or do you recall?

11 A I think I would have had Dr. Nair's memo, yes.

12 Q And did you have a copy of Dr. Levinskas's memo, that
13 would be--

14 A Yes, I did.

15 Q What did I do with that one? Yes, Dr. Levinskas's
16 memo. I think you had a copy of that at that time, too?

17 A Yes. Dr. Nair's memo had been attached to Dr. Levinskas's
18 memo.

19 Q And previously I believe I had you identify informa-
20 tion that Dr. Wilson had provided to the committee that I
21 believe you said Mr. Papageorge brought?

22 A Dr. McCarville.

23 Q Dr. McCarville?

24 A Right.

1 Q All right. That was Defendant's Exhibit 884, wasn't
2 it? With the information from, not only Dr. Wilson, but from
3 Mr. Wolfsberger? We went through all of that.

4 A Yes.

5 Q Now, the information of Mr. Long being generated on
6 the 23rd-- Well, strike that. You don't recall ever seeing
7 this until I think you said this morning, is that correct?

8 A That's correct.

9 Q Now, with regard to your notes that you took at that
10 meeting and with regard to the minutes that you put out from
11 those notes, anywhere in those notes or those minutes is there
12 any specific reference to any of these documents that you had
13 at the meeting, that you can remember having--the Nair memo,
14 the Levinskas memo, the Wilson report with the Wolfsberger
15 information attached? Are any of those things specifically
16 referred to therein?

17 A Not in my notes. There would be no point in doing
18 that.

19 Q I think Mr. Carr had asked you if there had been any
20 specific reference to this Long memo to Dr. Roush in your notes,
21 didn't he?

22 A Yes.

23 Q But there's no reference to any of this information
24 that you do recall having there in your notes or minutes, isn't

1 that correct?

2 A No. No, that's correct. Not in my notes.

3 Q How about in your minutes?

4 A My minutes do make reference to the, the Lavinskas
5 memo, the Nair memo and the additional documents that were
6 brought to the meeting by Dr. McCarville.

7 Q All right. There is no reference then to the Long
8 memo there, is there then?

9 A No, there isn't.

10 Q All right. And you don't recall seeing it until I
11 think you said this morning?

12 A Yes.

13 Q And you don't recall whether it was discussed or
14 mentioned at the meeting one way or the other?

15 A I don't recall it.

16 Q With regard to the Long memo, sir, Mr. Carr examined
17 you at length on it. It's Plaintiffs' Exhibit 1312?

18 A Yes, I have it.

19 Q Now, first of all, on the second page you'll recall
20 that it was stated by Mr. Long that, "As can be seen the virtually
21 safe doses are similar using the EPA and CDC criteria, but
22 drastically differ employing FDA's criteria." Do you recall
23 that sentence being read to you?

24 A I certainly do.

1 Q And Mr. Carr questioned you extensively about the word
2 similar?

3 A That's correct.

4 Q Is that right?

5 A Yes.

6 Q And you had some trouble with that, sir?

7 A I certainly did.

8 Q And the EPA criteria and the CDC criteria are the ones
9 referred to on page one respectively as numbers, Roman numeral
10 one and Roman numeral two?

11 A That's correct.

12 Q And incidentally, both of these are for 2,3,7,8-TCDD,
13 are they not?

14 A That is correct.

15 Q In fact, all three of them are for 2,3,7,8-TCDD?

16 A That is right.

17 Q They are not criteria for the other dioxins, which is
18 in fact what was found in the tetrathal?

19 A That's correct. No 2,3,7,8-TCDD was found in the
20 product tetrathal, as I recall.

21 Q All right. And these criteria talk about cancer for
22 the EPA water criteria and, number two, the CDC risk assessment,
23 do they not?

24 A Yes.

1 Q The second one. The third one doesn't talk about
2 cancer, though, it just talks about health risks, doesn't it?

3 A Yes.

4 Q And furthermore, sir, they're talking about risk.
5 Don't they use the word risk there?

6 A Yes, they do.

7 Q Is the risk the same as probability or, let me rephrase
8 that, Mr. Carr kept asking you questions about getting cancer
9 in connection with these assessments. Do you recall that?

10 A Yes, I do.

11 Q Is the word risk the same as saying that something
12 will happen?

13 MR. CARR: I object to the leading form of the question.

14 THE COURT: Objection sustained.

15 MR. CARR: The witness stated his own opinion of it.

16 THE COURT: Rephrase it, please.

17 Q (Mr. Musgrave) Is the word risk--then I'll ask him--
18 Do you have an opinion as to whether the word risk is the same
19 as certainty that something will happen?

20 A No. They have different meanings.

21 Q Now, coming back then, the calculation that Long did
22 under the EPA water criteria resulted in .37, and I think Mr.
23 Carr went over this with you, that's femtograms per kilogram
24 per day.

1 A Yes.

2 MR. CARR: Object to the leading form of the question,
3 if it please the Court.

4 THE COURT: Objection sustained. Rephrase it, please.

5 MR. MUSGRAVE: Yes.

6 Q (Mr. Musgrave) Under Roman numeral number one what
7 were the results found, sir?

8 A His final result was 0.37 femtograms per kilogram per
9 day.

10 Q And under number two what was the calculation results?

11 A The result was 28 femtograms per kilogram per day.

12 Q And if you compare those numbers by dividing .37
13 into 28 what do you get, sir?

14 A You get around 75.

15 Q One is 75 greater than the other?

16 A Yes, 75 times the other.

17 Q Did that have anything to do with the difficulty you
18 were having with the word similar?

19 A It certainly did. I could see on the face of the
20 document that these two results were vastly different, and I
21 was having, I couldn't see the word similar being properly
22 used to refer to both of those things. They are not similar,
23 as I understand the word similar.

24 Q But you are not a toxicologist?

1 A That's correct. I was just looking at the numbers.
2 Twenty-eight to my mind is not similar to .37. Something
3 one-third of one.

4 Q But it may be to a toxicologist for all you know?

5 A Could be.

6 Q Now, in any event, Mr. Long goes on to say, does he
7 not, sir,--

8 MR. CARR: Object to the leading form of the question.

9 Q (Mr. Musgrave) Would you read for me then, sir, after
10 the sentence that we've just looked at what the next sentence
11 says? The one starting with if.

12 A "If one compares the calculated daily exposure to
13 PCDD's in tetrathal, paren, 12,800 femtograms per kilogram per
14 day, closed paren, with these numbers, the calculated PCDD
15 exposure exceeds all these values."

16 Q All right. Now, all of the calculated exposures in
17 Mr. Long's memo were with regard to what substance, sir?

18 A 2,3,7,8-TCDD.

19 Q Does he state that in the document?

20 A Yes, he does.

21 Q Where does he state that, sir?

22 A In items one, two and three.

23 Q All right. And on page two what is the next sentence
24 then, sir, if you would read it, after the one you just read?

1 A "It should be noted, however, that all of the calcu-
2 lations above were for the 2,3,7,8-tetrachloro isomer. The
3 most toxic and the most extensively studied PCDD."

4 Q I think it says the only extensively studied.

5 A I'm sorry. "And the only extensively studied."
6 That's correct.

7 Q All right, sir. And then what is the next thing
8 that he says with reference to the calculations he's made?

9 A He says, "To assume that the carcinogenic potential
10 of all PCDD's is equivalent to the 2,3,7,8-TCDD without test
11 data may not be appropriate."

12 Q All right. And what's he referring to there, sir?
13 Do you know?

14 A I would assume he's saying that you should not, one
15 should not apply the carcinogenic potential of this most toxic
16 dioxin isomer to any other dioxin isomer.

17 Q And what's the next sentence, sir?

18 A He concludes, "Thus, the calculated exposure to
19 PCDD's in tetrathal probably would present a significantly
20 different risk than an equal exposure to 2,3,7,8-TCDD."

21 Q "A significantly different risk than equal exposure
22 to 2,3,7,8-TCDD." Is that what it says?

23 A That's right.

24 Q Now, do you have Dr. Levinskas's memo up there, sir?

1 A Yes, I do.

2 Q And in paragraph two of Dr. Levinskas's memo to Dr.
3 Roush, would you read the second, or read that second paragraph,
4 sir?

5 A "Since TCDD was found only in waste dust at 1.5 ppb,
6 the calculations regarding potential PCDD exposure from tetra-
7 thal represent an extreme situation which greatly exaggerates
8 the risk."

9 Q Now, with regard to the last sentence in Mr. Long's
10 memorandum that Mr. Carr had you read, do you recall if he
11 asked you questions about the term actual risk and calculate?

12 A Yes.

13 Q Now, he asked you, if I recall correctly, or do you
14 recall if he asked you whether this sentence meant that it was
15 impossible to calculate a risk and that, therefore, the risk
16 might be greater or lesser than the risk for 2,3,7,8? Do you
17 recall whether he asked you a question like that?

18 A I seem to recall that type of question, yes.

19 Q And do you recall your answer, sir?

20 A I believe my answer was that I would construe that
21 sentence to mean simply that he did not have sufficient informa-
22 tion to actually calculate the risk, but that it still could
23 be estimated.

24 Q And I know you're not a toxicologist, sir, and I know

1 that some of these documents you have difficulty interpreting,
2 but given the language on the last page-- Let me rephrase that.
3 Do you understand from the language on the last page that it's
4 generally recognized that 2,3,7,8-dioxin is the most toxic of
5 the dioxins?

6 A I do understand that.

7 Q And if, therefore, in a product 2,3,7,8 is not pre-
8 sent, but some other dioxins, do you have just a general lay
9 understanding of whether the product would be less or more
10 toxic given equal amounts?

11 A It would be my opinion that the product would have to
12 be less toxic, because I have heard or read many times that
13 2,3,7,8-TCDD is the most toxic of all the dioxin isomers.

14 Q So when Dr. Long talked about a significant difference
15 on the risk, was he talking about, in your opinion, a greater
16 risk or a lesser risk?

17 A I would think he would be indicating that the risk
18 would be significantly less than would the risk from exposure
19 to 2,3,7,8-TCDD.

20 Q And Dr. Nair's memo, sir, that you received, she was
21 comparing-- Let me ask you, sir, she made a calculation, did
22 she not?

23 A Yes, she did.

24 Q Of exposure. And what was the result of her

1 calculation?

2 A The result of her calculation was that exposure to,
3 to tetrathal over a seven day period would result in 12,800
4 femtograms per kilogram per day.

5 Q All right. And was that based upon fact or assump-
6 tions, sir?

7 A Assumptions.

8 Q And does she state any place in the document that
9 they are assumptions as opposed to facts?

10 A She states that. She says, "I have calculated the
11 potential body burden of dioxin among workers exposed to tetra-
12 thal using the following assumptions." And then she lists them.

13 Q All right. And then after she made the calculations
14 that you've just given us, did she compare that to a standard
15 of some kind?

16 A Yes.

17 Q And was that a calculation for-- Let me ask you,
18 what was that a, what did she compare that with, sir?

19 A She then makes reference to a criteria document from
20 the National Research Council of Canada, which apparently has
21 a virtually safe dose for one in a million cancer risk as
22 30 to 90 femtograms per kilogram per day of 2,3,7,8-tetrachloro-
23 dibenzo-dioxin.

24 Q So she compares it again to a calculation involving

1 2,3,7,8?

2 A Yes.

3 Q As opposed to the type of dioxin that was in fact in
4 the product?

5 A That's correct.

6 THE COURT: Mr. Musgrave, is this a good point to take
7 a break?

8 MR. MUSGRAVE: I think it is, Your Honor.

9 THE COURT: Ladies and gentlemen, we'll take a short
10 break at this time and then we'll resume testimony. The
11 admonishments that I've given you earlier will apply during
12 this break also.

13 Court's in recess.

14 (Whereupon a brief recess was had.)

15
16
17 MR. MUSGRAVE: Your Honor, before we proceed, it's
18 just been brought to my attention that the defendant's exhibit
19 that I've just marked, the handwritten notes regarding the
20 tetrathal meeting of January 23, 1985 which the reporter marked
21 as 883, we already have an 883 and this should be 888. And
22 may the record reflect this that has now been done.

23 THE COURT: The record so reflects.

24 MR. MUSGRAVE: Thank you.

1 Q (Mr. Musgrave) Mr. Park, with regard to the, remember
2 the meeting of May 11, 1979, the one involving 2,4-dichlorophenol
3 and the 2,4,6-trichlorophenol? Do you remember the references
4 to that, sir?

5 A Yes.

6 Q And the decision was made to have the particular
7 article in the Federal Register reviewed by Dr. Roush?

8 A That's correct.

9 Q And to reconvene at a later date?

10 A That's right.

11 Q And, Doctor, I believe you told us in Dr. Roush's
12 absence Dr. Paget reviewed that for you, did he not?

13 A That's right.

14 Q And he appeared at the May 22 meeting then, Dr. Paget
15 did?

16 A That's right.

17 Q And your notes with regard to that meeting, of course,
18 reflect his appearance, do they not?

19 A Yes. I think they do.

20 Q And after that meeting you then received Plaintiffs'
21 Exhibit 1311, which is a memorandum from Dr. Paget and contains
22 the information that you incorporated verbatim into the final
23 draft of the notes of the May 11 and May 22 meetings when you
24 wrote them up as one minute, is that correct?

1 A That's correct.

2 Q Now, why did you receive that memo from Dr. Paget?

3 A Because I had asked him to summarize for our minutes
4 what he had told the group about the, about his evaluation of
5 this NCI study.

6 Q So what you asked for was no more than what he said
7 at the meeting?

8 A That's correct.

9 Q And he did that in a technical fashion?

10 A Yes.

11 Q And you then incorporated into the notes?

12 A Yes.

13 Q Now, do you have Plaintiffs' Exhibit 1306, sir? She's
14 found it for me. Thank you.

15 I'll hand you Plaintiffs' 1306. You recall this is the
16 document Mr. Carr had you, or let me rephrase that. This is
17 the listing from a publication of 8(e) notifications that had
18 been made to the EPA, at least per this author's listing, is
19 that right?

20 A This is not an official EPA publication, but it is a,
21 a, a commercial organization that does publish environmental
22 information and so forth.

23 Q I understand. But in any event they purport to list
24 8(e) notifications by companies, if I understand correctly,

1 between April 11, 1977, which is the first listing date on this
2 one, and October 29, 1979?

3 A Let's see. October--

4 Q Look at the first page, sir.

5 A Yes, that's correct.

6 Q All right. That's some two-and-a-half years?

7 A That's right.

8 Q And do you understand whether or not-- Let me ask
9 you whether or not you have an understanding if this listing
10 covers any chemical company in the United States that would
11 have made a report or just in a particular state or what?

12 A I would assume that this list would include all 8(e)
13 submissions during that period of time.

14 Q From any chemical company in the United States?

15 A Yes.

16 Q Subject to the law?

17 A Yes.

18 Q And do you have any idea how many that would be, sir?

19 A I would guess many thousands.

20 Q All right. Now, how many total reportings were there
21 as listed in this publication?

22 A As listed in here, it looks like 315.

23 Q Three hundred and fifteen. Now, Mr. Carr pointed
24 out to you that the majority of these are reports dealing with

1 health effects or effects on animals in the environment or
2 studies of animals and effects on animals, isn't that not
3 correct?

4 A Well, I can't recall what he said. I don't really
5 know what these reports would include.

6 Q All right. Well, in any event, do you recall that
7 he pointed out to you two reports of a company that reported
8 dioxin content in a product?

9 A I believe I do. One was Velsicol. I recall one.
10 In fact, I guess at the top of the second page of the list.

11 Q Yes. At the top of page 1324 there is a company
12 called Vel-- V-E-L-S-I-C-O-L, is that right?

13 A Yes, Velsicol.

14 Q And it reported as an 8(e) occurrence, occurrence of
15 dioxin in its product, is that right?

16 A That's what the report says, yes.

17 Q And he pointed out one other one to you, I believe,
18 of a product, see if I can find it. Yes, number 85 out of the
19 315.

20 A Uh huh.

21 Q Do you have that?

22 A I do. Now, that doesn't-- I don't know whether
23 that indicates dioxin in a product or not. It just merely says
24 it was a report for analyses of dioxin, which could have been

1 a mere methodology.

2 Q It doesn't say whether it's in the product or not,
3 right?

4 A No, it does not.

5 Q So of the ones that Mr. Carr pointed out to you, sir--
6 I take that back. There was another one. I believe it was
7 Dow, wasn't it? If you would look at number 209. Do you have
8 that one?

9 A I do, yes.

10 Q And that's Dow Chemical reporting an analysis for
11 TCDD's and other chlorinated dioxins, chlorinated phenols,
12 ppb's and pcb's in fish samples and river mud?

13 A Yes.

14 Q Now, do you understand fish samples and river mud to
15 be a product of Dow?

16 A No.

17 Q And the one Velsicol was a report of analysis of
18 dioxin, and it didn't say what it was in, did it?

19 A It says analysis for dioxins.

20 Q So the only report of analysis in a product of dioxins
21 is the one Velsicol's reported, is that correct?

22 A Dioxin in a product?

23 Q Yes.

24 A Yes.

1 Q Out of the 315?

2 A Yes.

3 Q Yes. Now, we've spent many hours in these last few
4 days, both Mr. Carr and myself, discussing with you the
5 interpretation of Section 8(e) of the Toxic Substance Act, have
6 we not?

7 A Yes.

8 Q And would it be a fair statement to say that different
9 people may interpret it in different ways?

10 A Yes, it would.

11 Q Now, this Velsicol, is that the correct pronunciation?

12 A I believe Velsicol.

13 Q Velsicol. They may interpret it one way and you may
14 interpret it one way and I may interpret it another way, isn't
15 that right?

16 MR. CARR: Suggestive and leading. Ask that the jury
17 be instructed to disregard it.

18 THE COURT: Objection sustained.

19 MR. MUSGRAVE: I'll rephrase it.

20 Q (Mr. Musgrave) Do you know whether Velsicol inter-
21 prets the statute the same way you do, sir?

22 A It would be my impression that when the--

23 Q Well, just answer, do you know whether they do or
24 they do not?

1 A I think their interpretation has changed so that now
2 it is pretty close to the way I interpret it.

3 Q But do you know when they were making their reports
4 that are reported here in Plaintiffs' Exhibit 1306 whether they
5 interpret it the same way you did?

6 A They interpret it differently from just about every-
7 body else.

8 Q And why do you say that, sir?

9 A Because out of this list of what, over 300 reports?

10 Q Three hundred and fifteen, I think we've established.

11 A All right. Over a two-and-a-half year period I
12 think around half of those came from this single company,
13 Velsicol.

14 Q Well, I would like for you to count them, unless Mr.
15 Carr would take my word, and out of the 315, 148 were reported
16 or were reports by Velsicol Chemical Corporation. Would you
17 care to count them, Mr. Carr?

18 MR. CARR: Oh, I would be glad to accept your word,
19 Counsel. I think that's wonderful.

20 MR. MUSGRAVE: Yes, it is. I'm sure the EPA enjoyed
21 it.

22 Q (Mr. Musgrave) One hundred and forty-eight out of
23 315 were reported by Velsicol, were they not?

24 A Yes.

1 Q Now, let's look at some of the things they reported,
2 and we've been through 8(e), I'm sure the jury believes
3 ad nauseam, and would you look, sir, at item seventeen?

4 A Yes.

5 Q Reported by Velsicol. What was their report there
6 of a, is the language information which reasonably suggests
7 or from which one could reasonably conclude that there is a
8 substantial risk of injury to health or the environment?
9 That's the, that's the operative language of the statute, isn't
10 it?

11 A Yes, it is.

12 Q And given that operative language, what did Velsicol
13 report as a reportable under 8(e) in this instance?

14 A Their report says, "Possible allergic reaction,
15 single case."

16 Q "Possible allergic reaction, single case." All right,
17 sir. And let's look at some of the other ones that they
18 reported here. Number 31, what's that one that they reported
19 as again this serious effect of a substantial risk of injury
20 to health or the environment?

21 A "Skin rash in an employee."

22 Q And what's number 36?

23 A "Mucous membrane irritation in employee."

24 Q And number 37?

1 A Waste water analysis, or excuse me. "Water sample
2 analysis."

3 Q And that's all that is at least indicated in here
4 as them reporting some type of a water sample analysis?

5 A That's correct. That's right.

6 Q And what do they report in 39?

7 A "Skin irritation-employees."

8 Q And in number 40?

9 A "Skin rash."

10 Q And in number 43?

11 A "Damaged and leaking containers in transport."

12 Q And number 52?

13 A "Employee symptoms-odor and fumes."

14 Q And in number 75?

15 A "Injury reported, chemical burns to one employee."

16 Q And in '76?

17 A "Injury report, inhalation, one employee."

18 Q And in 77?

19 A "Possible adverse effects on employees. Nausea and
20 offensive odor."

21 Q And then 79, 80 and 81 again are injury reports?

22 A Injury reports apparently to individual employees.

23 Q One says, "Slight inhalation?"

24 A Uh huh.

1 Q The other says, "Eye irritation?" Right?

2 A Right.

3 Q And the other says, "Rash, lower legs?"

4 A That's correct.

5 Q And number 86 by Velsicol, what's it say?

6 A "Irritation of one employee."

7 Q These are the types of things that for two-and-a-half
8 years Velsicol was reporting as they interpreted 8(e), is that
9 right?

10 A That's apparently so.

11 Q Including their report of dioxin analysis in a product?

12 A That's correct.

13

14 (At this time Defendant's Exhibit No. 889 was marked
15 for identification by the court reporter.)

16

17 Q (Mr. Musgrave) Mr. Park, let me hand you what I've
18 now had the reporter mark as Defendant's Exhibit 889 and ask
19 you, can you identify that as the first two pages of TSCA?

20 A Yes.

21 Q Mr. Carr has previously identified a portion of the
22 act, but I've had copied here Section 3 definitions under the
23 act, have I not?

24 A That's correct.

1 Q Let me just ask you, sir, does TSCA apply to all
2 chemicals in all instances?

3 A No, it does not.

4 Q When does TSCA not apply given that portion of the
5 act that I've shown you?

6 A Well, the act is structured so that it applies to
7 chemical substances. And generally those are in commerce.
8 But at the beginning of the act where it defines the term
9 chemical substance, it states that the term does not include,
10 and then a number of things are listed.

11 Q And are some of those things that are included
12 chemicals that are covered by other federal acts?

13 A That's correct. For example, not included in the
14 term hazardous substance, excuse me, chemical substance and
15 therefore not covered by the act would be any pesticide as
16 defined in the Federal Insecticide, Fungicide and Rodenticide
17 Act.

18 Q Is that normally called FIFRA?

19 A That's correct.

20 Q And what else, sir?

21 A Tobacco or any tobacco product. Any food, food
22 additive, drug, cosmetic or device. The manufactured or
23 process or distributed as a food, food additive, drug, cosmetic.

24 Q In any event, they are listed there, the other acts,

1 that if the chemical is covered by that particular act it's
2 not covered by TSCA, is that correct?

3 A That's correct.

4 Q Now, with regard to this FIFRA that you just mentioned
5 do you know whether any of these chlorinated phenols that
6 Monsanto is manufacturing were covered by FIFRA? I think you
7 told us you are not familiar with FIFRA?

8 A That's right. FIFRA is the one statute that is
9 within the EPA's responsibility that is not within mine at
10 Monsanto. However, I do believe that Santophen is a, a
11 registered pesticide, and, therefore, would not be subject to
12 the Toxic Substance Control Act.

13 Q All right.

14 MR. MUSGRAVE: I believe that's all the questions I
15 have, Your Honor.

16 THE COURT: Mr. Carr, do you have any questions?

17 MR. CARR: None, Your Honor.

18 THE COURT: Okay. Gentlemen, could I see you at the
19 bench for a moment, please?

20 (The following proceedings were had at the bench
21 outside the hearing of the jury:)

22 THE COURT: We've agreed we are going to adjourn
23 for tomorrow, is that right?

24 MR. CARR: I thought it was my understanding that we

1 would adjourn now until Tuesday morning.

2 MR. MUSGRAVE: You'll need, we'll be breaking at
3 ten til anyway.

4 MR. CARR: Yes. There's not enough time.

5 THE COURT: And we'll start with some-- I have some
6 matters that I'm going over and as soon as I'm done with those
7 I'll let you gentlemen know at your offices and my understand-
8 ing also is that subject to whatever comes up this person is
9 subject to recall?

10 MR. CARR: Right.

11 THE COURT: And we'll adjourn until then. Okay.

12 (The following proceedings were had within the hear-
13 ing of the jury:)

14 Ladies and gentlemen, we're going to end a little early
15 for today and also due to some other circumstances we are not
16 going to have court tomorrow. So we are going to be off then
17 until Tuesday morning at 9:30. Now, I would remind you over
18 this long break, besides the regular admonishments, not to
19 discuss this matter among yourselves or with anyone outside
20 the panel. Remind you that you are not to read, listen to, or
21 watch anything about this case in particular or subject matter
22 in general in any of the print or electronic media. Thank you
23 for your attention and cooperation. Thank you for your
24 patience for any delays that we have had during this week.

1 I know we've had to take up some matters in chambers, so there
2 have been some delays. We've got an extended weekend. I hope
3 you enjoy it. We'll see you Tuesday morning.

4 Court's adjourned.

5 (End of day 4-18-85)

6 * * * * *

1 STATE OF ILLINOIS)
2 COUNTY OF ST. CLAIR)
3
4

5 I, KAREN D. HOPKINS, CSR, RPR, Official Court Reporter in
6 and for the Twentieth Judicial Circuit, do hereby certify that
7 the foregoing transcript of proceedings is a true and accurate
8 record of the proceedings had in the case of: Frances E.
9 Kemner, et al. v. Monsanto Company, case number 80-L-970 had
10 on the 18th day of April, 1985. These proceedings had before
11 the Honorable Richard P. Goldenhersh, Judge.

12 Dated this 3rd day of May, 1985.
13
14

15 Karen D. Hopkins
16 KAREN D. HOPKINS, CSR, RPR
17 OFFICIAL COURT REPORTER
18
19
20
21
22
23
24

1 STATE OF ILLINOIS)
2 COUNTY OF ST. CLAIR)
3
4

5 I, HONORABLE RICHARD P. GOLDENHERSH, Circuit Judge in
6 and for the Twentieth Judicial Circuit, do hereby certify that
7 the foregoing transcript of proceedings is a true and accurate
8 record of the proceedings had in the case of: Frances E.
9 Kemner, et al. v. Monsanto Company, case number 80-L-970 had on
10 the 18th day of April, 1985.

11 Dated this 30 day of May, 1985.
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HON. RICHARD P. GOLDENHERSH

1 IN THE CIRCUIT COURT OF THE TWENTIETH JUDICIAL CIRCUIT

2 ST. CLAIR COUNTY, ILLINOIS

3 FRANCES E. KEMNER, ET AL.,

4 Plaintiffs,

5 VS

NO. 80-L-970

6 MONSANTO COMPANY,

7 Defendant.

8
9
10 REPORT OF PROCEEDINGS

11 July 22, 1985

12
13
14 Before the HONORABLE RICHARD P. GOLDENHERSH, Circuit Judge

15
16 **APPEARANCES:**

17 Mr. REX CARR and MR. JEROME SEIGFREID, Attorneys at
18 Law, on Behalf of the Plaintiffs; and

19 MR. KENNETH HEINEMAN and MR. JOSEPH NASSIF
20 on Behalf of the Defendant, Monsanto Company.

21
22
23 Kathleen Watson Brunsmann
24 Official Court Reporter

INDEX OF WITNESSES

Called on behalf of the Plaintiffs:

DR. GEORGE ROUSH

Clarification Examination

(By Mr. Heineman)..... 2

INDEX OF EXHIBITS

PLAINTIFF'S EX. NO.

MARKED FOR
IDENTIFICATION

ADMITTED
INTO EVIDENCE

1512

52

MONSANTO'S EX. NO.

910

50

911

55

1 BE IT REMEMBERED AND CERTIFIED, that heretofore,
2 on to-wit: July 22, 1985, the matter as hereinbefore set
3 forth came on for hearing before the Honorable Richard p.
4 Goldenhersh, Circuit Judge in and for the Twentieth Judicial
5 Circuit, and the following was had of record, to-wit:

6
7
8 (The clarification examination of Dr. George Roush
9 by Mr. Heineman continued as follows:)

10
11
12 (The following proceedings were had in chambers,
13 out of the presence and hearing of the jury:)

14
15 MR. CARR: Judge, there's been some dispute
16 on the record as to whether or not the reference ranges that
17 we have used for porphyrins and for the creatinines are the
18 normal reference ranges that have been given by the labora-
19 tory. And there was dispute as to whether or not I had ever
20 asked for them, or what they were, what these were that had
21 been given to me. I checked the records, and on April the
22 15th, 1985 I had just been delivered the day before the pile
23 of material dealing with the Krummrich Health Study, the
24 medi cal records. I had had an opportunity to briefly scan

1 the laboratory results and discovered that there were no
2 normals for the porphyrins at that time. And the Court will
3 note, on April the 15th, 1985, on page 107, I asked that
4 they give me the normal ranges used. That was on a weekend.
5 And the following Monday, I guess it was, at any rate a few
6 days later, on the 22nd of April, 1985 they did, indeed,
7 produce these exhibits, 3846, 47 and 48, which deal with
8 the porphyrins and the creatinine levels.

9 Now, unless Counsel stipulate that the sequence
10 of events, and that these were furnished to me in response
11 to my request made on April the 15th, I want to make an
12 additional record by putting Mr. Nassif on the stand to
13 confirm that this is the sequence of events, and that these
14 test ranges given me, 3846, 3847, 3848, were given to me in
15 response to that request for the normal reference ranges.

16 THE COURT: First of all, is there any dispute
17 as to that? I think that was the first point, wasn't it?

18 MR. CARR: Yes. If there is no dispute, then
19 I think it's Exhibit 1509 that can be no challenge as to the
20 authenticity of that. They may not have challenged it, but
21 I don't think they have admitted in court at least that
22 these were the Metpath Test Ranges for the porphyrins that
23 were given to me, and for the creatinines that were given
24 to me in response to my request.

1 MR. HEINEMAN: I am trying to recall in my own
2 mind, Judge, the occasion when this first came up in the
3 testimony of Dr. Roush. I may be incorrect, but I think my
4 recollection is that Mr. Carr asked Dr. Roush whether those
5 documents were, in fact, the normal reference ranges. And
6 I think at the same time, perhaps, may have represented that
7 they were furnished by Monsanto's attorneys for something
8 to that affect. My recollection is that Dr. Roush said that
9 they were, indeed, the normal reference ranges. Didn't he?

10 MR. CARR: Yes. But you objected to their
11 authenticity. You said you didn't -- and I had on the copy
12 that had been put into evidence, I had written on it "Nitro
13 normal," or "Suskind Laboratory," because it was, in fact,
14 the same. As I learned from Carnow and Conibear, it was
15 the same reference ranges used in the Suskind Morbidity
16 Study for Nitro. And you challenged that at that time on
17 the record in front of the jury. You said, "Why these don't
18 even refer to Krummrich," or something of the sort, "These
19 are the Nitro." I represented then to you that these
20 were the normal reference ranges given to me in the
21 Krummrich. You again expressed a doubt, or I'm sure objected
22 on the record to the use of these values. If you didn't
23 object on the record, then there is no problem.

24 THE COURT: Well, okay. There was an objection

1 on the record. These were admitted, 1509 was admitted on
2 July 16th, and my notes have they were admitted over objec-
3 tion.

4 MR. HEINEMAN: If we're talking about -- I'm
5 not sure that we're talking about the same occasion.

6 THE COURT: This is when they were first used
7 on the 16th.

8 MR. HEINEMAN: All right.

9 THE COURT: I have in my notes that they were
10 admitted over objection at the time.

11 MR. HEINEMAN: You don't have in your notes
12 what the objection was?

13 THE COURT: I don't.

14 MR. HEINEMAN: I don't know. Was the objection
15 only that his handwriting was on them, and they said "Nitro?"

16 MR. CARR: The objection was that these were
17 not connected, these were not shown to be the normal
18 reference ranges, and you weren't going to take any represen-
19 tation that they were. I represented to the Court that they
20 were produced to me, and your objection was to their authenticity
21 or that they were, in fact, the normal test ranges. You're
22 not making that objection now. There's no problem.
23 All I want is on the record a statement from you that these
24 were the normal test range values given to me by you in

1 response to my request of April the 15th, and that these are
2 the normal test ranges that were used in the laboratory
3 reports that we have in evidence in this case, referring
4 to the Krummrich Health Study.

5 THE COURT: My notes do indicate that you, Mr.
6 Carr, indicated that these were produced in response to an
7 order of court. I don't have noted down what the specific
8 objection was.

9 MR. HEINEMAN: Do you know whether Dr. -- whether
10 he asked Dr. Roush about it right at that point? Because
11 I have a recollection, maybe incorrect, that Roush said,
12 "Yes, these, indeed, are the normal reference ranges for por-
13 phyrins from Metpath."

14 MR. CARR: He has testified on the record that
15 these are the normal test ranges used at Metpath. That is
16 not my quarrel. I have him on the record three or four
17 times in which he agreed that these were the normal test
18 ranges. That's not the equivalent to a stipulation by you
19 that they are, or that by an agreement by you. Because you
20 made the objection on the record that you don't know the
21 authenticity of them, and you challenged them, and you
22 objected to them, and I want it clear on the record from
23 Counsel that what I represented was correct, that these
24 were produced by you in response to my demand or request

1 for these normal values, normal test ranges.

2 THE COURT: Whatever position you took then, do
3 you have any objection to that now? Let's put it that way.

4 MR. HEINEMAN: First, I want to read the
5 transcript here.

6 THE COURT: Sure, go ahead.

7 MR. HEINEMAN: Of the in-chambers conference.
8 Then I will need to ask Joe Nassif if they, indeed, are the
9 same ones that were produced.

10 MR. CARR: Jesus, Ken, you can see the numbers
11 on the receipt, and the numbers -- well, never mind. You
12 do whatever you need to do.

13 MR. HEINEMAN: Oh, there's a receipt here?
14 Okay.

15 THE COURT: That's just before the actual
16 documents.

17 MR. HEINEMAN: Well, from the receipt they
18 obviously are the same documents that were produced.

19 THE COURT: Fine.

20 MR. CARR: Well, are you stipulating and
21 agreeing that exhibit 1509 represents the normal test range
22 values as shown for those three urine specimens, whatever
23 they were, for the Krummrich Health Study?

24 MR. HEINEMAN: What I would stipulate to is

1 that these three documents, which I don't remember exactly
2 what comprized 1509 --

3 THE COURT: Those three documents.

4 MR. HEINEMAN: These three documents are 1509?

5 THE COURT: Yes.

6 MR. HEINEMAN: But if these are 1509, that
7 these three documents demonstrating that Metpath's normal
8 reference ranges are for micrograms per twenty-four hour
9 sample are, indeed, the normal reference ranges that Metpath
10 used.

11 MR. CARR: Well, I want more than that. I
12 want that these were given to me in my response for the
13 value -- asking for the values, normal values given for the
14 porphyrins.

15 MR. HEINEMAN: I am sure, as I sit here, that
16 these documents were provided to Mr. Carr in response to
17 the request that is set forth in this transcript.

18 MR. CARR: Then that's all I want.

19 THE COURT: Fine. Great. Okay. We'll start
20 in a couple of minutes.

21 MR. NASSIF: I remember a request from Mr. Carr
22 for the Metpath reference ranges, and to my recollection
23 those three documents were produced in response to that
24 request.

1 THE COURT: Okay, gentlemen. We'll start in a
2 couple of minutes. Thank you.

3 MR. CARR: Yes, your Honor.

4
5 (The following proceedings were had in the
6 presence and hearing of the jury:)

7
8 GEORGE ROUSH,
9 having previously been called as a witness under
10 Section 2-1102, having previously been sworn,
11 continued clarification examination as follows:

12
13 EXAMINATION

14 BY MR. HEINEMAN:

15 THE COURT: Good morning, ladies and gentlemen.
16 I apologize for starting a little bit late. As I've told
17 you before, you've heard this many times, there are certain
18 matters that have to be taken up in chambers, outside the
19 presence of the jury. We had one of those this morning, and
20 I believe we've resolved it. So we're ready to proceed.
21 Mr. Heineman.

22 Q (By Mr. Heineman) Yes. Dr. Roush, on Thursday,
23 when we closed court at the end of the day, we had begun
24 discussing the Zack-Suskind Study; had we not, sir?

1 A Yes, sir.

2 Q And I'd like to hand you a copy of that study
3 as it's been previously marked as Monsanto Exhibit Number
4 62, and I'd like to ask you some questions about it, sir.
5 Now, as I understand it, sir, the only way that those who
6 could have been exposed to the clean-up of the '49 accident
7 could be determined was through the chloracne records; is
8 that right?

9 A Yes, sir.

10 Q Now, as a matter of fact, the paper states, does
11 it not, that it's subject is the chronic health effects to
12 exposure to TCDD as reflected in the mortality experience of
13 a cohort of Monsanto Company workers who developed symptoms
14 of chloracne following a trichlorophenol process accident
15 at the Nitro, West Virginia plant in 1949?

16 A Yes, sir.

17 Q And if you'd look at the last paragraph in the
18 right column on the first page of Exhibit 62, would you read
19 that first sentence, please, to the jury.

20 A "Employees who worked in the area of TCP
21 production or were involved in the clean-up began to develop
22 symptoms immediately following exposure to the material
23 which was discharged from the autoclave."

24 Q Thank you. And then it goes on to discuss these

1 symptoms; correct, sir?

2 A Yes, sir.

3 Q And would you tell us what it says the symptoms
4 were.

5 A Should I read them or just tell you?

6 Q Well, please read them.

7 A "Symptoms included eye and respiratory tract
8 irritation, headache, dizziness and nausea, and a severe
9 irritant reaction of the exposed skin."

10 Q Then it goes on to discuss the symptoms subsiding;
11 does it not, sir? Would you read that next portion?

12 A "After these initial symptoms subsided, the
13 chloracne and other symptoms became evident."

14 Q Now, what it appears to be discussed there, sir,
15 is an acute exposure with acute symptoms; is that right?

16 A Yes. As a matter of fact, the immediate
17 reaction following that autoclave discharge was manifesta-
18 tions of irritant and thought to be due to the caustic
19 content of the material that came out, not due to the TC --

20 MR. CARR: Your Honor, I object unless the
21 witness is testifying from his own knowledge. If he's not,
22 he should identify the source of his knowledge. It appears
23 as if he's stating something as a fact.

24 THE COURT: Objection is sustained. Could you

1 rephrase the question so that matter is cleared up.

2 Q (By Mr. Heineman) Doctor, Dr. Roush, with
3 respect to the acute nature of the symptoms that arose and
4 of the exposure, how does that relate to the fact that the
5 study is talking about results after a long period of time?

6 MR. CARR: Your Honor, Counsel isn't going to
7 rephrase that question, I ask that the jury be instructed
8 to disregard what the doctor said.

9 THE COURT: Objection is sustained. The jury
10 is to disregard.

11 THE WITNESS: I'm sorry. Would you repeat the
12 question? I'm not sure how it related --

13 THE COURT: Could you read back the question
14 please.

15 (Question read.)

16 THE WITNESS: Well, these workers did have
17 acute reaction immediately following the release, but those
18 symptoms subsided quite rapidly, and then after a period of
19 days to months they developed a skin reaction quite different
20 than the irritant reaction, and that when it came on over a
21 period of days to a month or more was called chloracne. So
22 that identified group was based on the identification of
23 the chloracne or the skin reaction.

24 Q (By Mr. Heineman) Now, was it possible in 1979

1 or 1977 when this study -- when you began working on this
2 study, is it possible at that time to determine all of the
3 people who were exposed in the 1949 accident?

4 MR. CARR: Your Honor, first I would object.
5 Counsel hasn't established that this witness has that
6 knowledge, of his own knowledge, or if he's referring to
7 this exhibit, whether or not this exhibit says that it's
8 possible. It's not clear what he's referring to. Is he
9 referring to the witness' own knowledge? If so, if he
10 hasn't established that the witness has such knowledge.

11 MR. HEINEMAN: Well, your Honor, I'd like to
12 establish Dr. Roush testifying on behalf of information that
13 was developed by people working under him.

14 MR. CARR: Well, I object to that, your Honor.
15 If he's going to refer to this study, refer to this study.
16 If he's referring to some hearsay documents, or hearsay in-
17 formation, that should be here so I can cross examine and
18 determine the authenticity of it.

19 THE COURT: I'm sustaining the objection. Would
20 you rephrase the question?

21 Q (By Mr. Heineman) Doctor, do you have personal
22 knowledge with respect to the way in which, or the effort
23 that was undertaken to try to determine a cohort for this
24 study that's reflected in Defendant's Exhibit 62?

1 A Yes, sir.

2 Q All right. Now, would you tell us please what
3 was done to try to determine the people who were exposed?
4 Was there any way to determine all of the people that were
5 exposed in that 1949 incident?

6 MR. CARR: Your Honor, I object to that. That's
7 two questions. First of all, what was done? I think he
8 has to establish that.

9 THE COURT: You can answer both of them in
10 sequence.

11 THE WITNESS: In an attempt to identify those
12 who had been involved in that accident, they attempted to
13 find whether there's records available on work records that
14 would identify who had been working in that accident, and
15 they were unable to do so. The other approach to deciding
16 who was exposed is to determine those who had chloracne.
17 Dr. Suskind sent me the first group of people he knew were
18 exposed, and there were about fifty of them, fifty to
19 fifty-three, as I recall. Then we went back, and to add on
20 to that population who had chloracne, we went and got a
21 copy of Mr. Volz's files in which he listed those that were
22 on the Workmen's Compensation list. In addition to that, we
23 checked with Workmen's Comp, and verified those names that
24 obviously had chloracne. So what we have then is a list of

1 people who were identified by Dr. Suskind, by those who
2 came in from Ed Volz, and then the Workmen's Compensation
3 files. And that constituted what they called the chloracne
4 group. That means that there could have been some people
5 who were there who had chloracne that was so mild that it
6 was not included, because a decision of who had chloracne
7 was made by the doctor. They cross-checked the medical
8 records, but it still wasn't clear if a man had a blackhead
9 whether the physician thought that was chloracne or not.
10 So we were unable to determine those who did not have
11 chloracne and who were involved in the clean-up. We believe
12 that we picked most of them who had significant chloracne
13 by the method used.

14 Q (By Mr. Heineman) Now, when you say you had
15 access to Dr. Suskind's files, now Dr. Suskind had indeed
16 examined a number of these people back at the time of the
17 incident, and subsequently?

18 A Yes.

19 Q So he had files with respect to people who were
20 his own patients?

21 A Yes, sir.

22 Q And these were employees involved in the
23 incident?

24 A Right.

1 Q Then you said something about Ed Volz's files.

2 A Right.

3 Q Now Ed was the Safety Director of the plant?

4 A Yes, he was.

5 Q And he kept track of those people who had
6 filed Workmen's Compensation claims?

7 A That's right. But he also had a responsibility
8 to keep that list up-to-date for the plant manager. The
9 plant manager wanted a regular report of how much chloracne
10 there was.

11 Q So he kept a record of who had chloracne?

12 A Yes, sir.

13 Q And then you said you went to Worker's Compensa-
14 tion files?

15 A Yes.

16 Q Were those kept by Monsanto or by the State?

17 A By the State.

18 Q State of West Virginia?

19 A Yes.

20 Q And from those three sources you compiled the
21 group of who had chloracne and who did not?

22 MR. CARR: Your Honor, I object as to who had
23 chloracne, not who were exposed and did not have chloracne.

24 MR. HEINEMAN: I'm sorry, I misspoke.

1 MR. CARR: Yes, you did.

2 Q (By Mr. Heineman) You had the list of who had
3 chloracne?

4 A Yes, sir.

5 Q Those were the people who were followed in this
6 study?

7 A They became what we call the cohort. The
8 population that we could study.

9 Q Now, I want to get to the difference, sir,
10 between an acute exposure and a chronic exposure. People
11 that were the subject of this study, what sort of exposure
12 did they have?

13 A These people who developed this chloracne at
14 that time were related to the episode in which there was a
15 large discharge of the 2, 3, 7 TCDD.

16 Q So which would that be? Would that be an acute
17 or chronic?

18 A An acute exposure.

19 Q That would be an acute exposure?

20 A Right.

21 Q Something that takes place over relatively
22 short period of time?

23 A Yes, sir.

24 Q There's a statement that I want to direct your

1 attention to. If I could direct your attention to the
2 second page of Exhibit 62, the right-hand column. There's
3 a portion there that says "Population and Methods," is that
4 correct?

5 A Yes, sir.

6 Q At the end of that first paragraph there's a
7 sentence that begins with the words "An analysis." Do you
8 see that?

9 A Yes, sir.

10 Q Would you read that to the jury, please.

11 A "An analysis of the chloracne cases and
12 exposures not associated with this accident but rather with
13 the normal TCP/2,4,5-T production processes will be the
14 subject of a future paper."

15 Q Now, what is it that the authors of this
16 document are referring to in that sentence?

17 A This study was a study of those involved in the
18 acute accident. This subsequent study was to be related to
19 what health effects were associated with the normal operation
20 and production of TCP, and the 2, 4, 5-T at the plant, over
21 a period of time.

22 Q So that would it be possible, sir, to describe
23 the second group of people to be examined in a future
24 paper, the subject of a future paper, would that be a

1 chronic exposure that's being dealt with there?

2 A Well, the normal TCP/2,4,5-T production process
3 would involve a continuing, long-term exposure as opposed
4 to an episode.

5 Q All right. Now what was the second -- the
6 second one is the Zack-Gaffey Study; is it not, sir?

7 A Yes, sir.

8 Q Now, what is the difference between the two?
9 What are the two separate studies accomplishing?

10 A Well, the first study was a concern for the
11 possibility that those workers involved in this accident
12 in which there were people who were quite ill. They were
13 sick. Four of them were hospitalized at the University
14 of Cincinnati, some hundred miles away from Nitro, West
15 Virginia, for a study in depth. So these workers had
16 significant exposure. And the question was for these
17 hundred and twenty-two people identified with exposure, that
18 heavy exposure had any adverse affect on their mortality
19 experience.

20 Q All right. Now how does that differentiate
21 from the second one?

22 A The second study took those workers who had
23 been working at the plant for a period of about twenty years
24 or during that twenty years, and had exposure to continuing

1 over most of this time, or at least up until 1969, and the
2 question was at these lower levels of exposure, but over
3 this long period of time, did that have any affect on their
4 mortality experience.

5 Q Now, it may well be that there were some people
6 in the second study who were also exposed in the first one?

7 A Yes, sir.

8 Q And there may be some people in the first one
9 who were not involved in the second one because they weren't
10 involved in the subsequent 2,4,5,T production, is that right?

11 A Yes, sir.

12 Q One was for chronic exposure, one was for acute
13 exposure?

14 A Yes.

15 Q Now, with respect to the Zack-Gaffey Study, sir,
16 does that study purport to say --

17 MR. CARR: Your Honor, I object to the leading
18 form of the question. I haven't objected to now, but I do
19 object now.

20 THE COURT: Rephrase it, please. I believe it
21 is leading.

22 Q (By Mr. Heineman) All right. What, if anything,
23 sir, does that study say with respect to whether or not
24 anybody who was the subject of it -- strike that. Let me

1 start over again. What does that study purport to say, if
2 anything, sir, about whether anybody who was listed as not
3 exposed in the Gaffey Study had ever been exposed to TCDD
4 in the past?

5 A It didn't address that question. The study was
6 simply a comparison of the mortality experience of those
7 involved either in the regular operation, on a regular basis,
8 or a year at least who had their job was making the TCP, or
9 making 2,4,5-T, and they want to know whether they had --
10 what their mortality experience was. And for comparison,
11 the comparison crew was the rest of the plant. And the rest
12 of the plant could include those who were not assigned to
13 that unit, but were a part of the whole work force.

14 Q Now, sir -- now, in dealing with these two
15 studies, sir -- now, Mr. Carr went through with you and he
16 said, did he not, sir, that there were four people -- this
17 is Exhibit 1462-A, sir, I want to show you. He picks out
18 four people that were exposed, listed as exposed in the
19 trichlorophenol process accident in 1949; correct?

20 A Yes, sir.

21 Q And then he showed you Plaintiff's Exhibit 281-B,
22 in which he stated that those same four people were included --
23 that's the wrong one.

24 Here, we are. Here we go. I had the wrong one. 21

1 1462-B, sir. Keeping in mind 1462-A, listed the four
2 people, listed or had underlined four people who had been
3 exposed in the '49 trichlorophenol process accident; correct?

4 A Yes, sir.

5 Q 1462-B, had underlined the same four people as
6 being listed in the not exposed to 2,4,5-T table from the
7 Zack-Gaffey Study.

8 A Yes, sir.

9 Q Is that right, sir?

10 A Yes, sir.

11 Q Now, how could it be, sir, that the four people
12 who were listed as exposed in the trichlorophenol process
13 accident could be listed as not exposed to the 2,4,5-T in
14 the Zack-Gaffey Study?

15 A The definition of who was going to be in the
16 Zack-Gaffey exposed group were those who were working with
17 TCP or 2,4,5-T during the period of 1955 to 1977. And
18 these four people were not in that cohort as I've just
19 described that's going to be studied. They were there
20 because they could not be identified by virtue of looking
21 at the work records.

22 Q So that while they may have been exposed to
23 TCDD in the trichlorophenol process accident in 1949, they
24 were not exposed to the chronic, low-level group, or just

1 chronic -- let's just use that word -- the chronic exposure
2 in the day-to-day operation of the 2,4,5-T Department from
3 '55 to '70?

4 A That's right.

5 MR. CARR: Your Honor, I would object unless
6 counsel and the witness will point out something in the
7 Zack-Gaffey Study where it says this excludes anybody who
8 was working before 1955 in the TCP accident, in the TCP
9 production.

10 THE COURT: Objection sustained.

11 MR. HEINEMAN: I think, your Honor, I think the
12 Zack-Gaffey Study itself defines the cohort.

13 MR. CARR: That's the reason I'm asking Counsel,
14 that's the reason I'm making the objection, because I'm
15 suggesting to you that it says nowhere that the people who
16 were exposed before 1955 were excluded from this study.

17 The representation that you're making to the
18 jury is wrong.

19 MR. HEINEMAN: Well, sir, I think the represen-
20 tation is that those were the people who were working in
21 that department between '55 and '70.

22 THE COURT: Okay. Objection is sustained.

23 MR. CARR: Those weren't your words, Counsel.

24 THE COURT: The objection directly relates to the

1 proposition being put to the witness. The objection is
2 sustained. I'll allow you to rephrase the question, if you
3 wish.

4 Q (By Mr. Heineman) Doctor, in light of the
5 objection that Mr. Carr has made, sir, would you define the
6 cohort to the Zack-Gaffey study carefully?

7 A The cohort that was going to be studied for the
8 effect of working with TCP, 2,4,5-T was all of those who
9 could be identified by the work records that had worked
10 with these materials, these two materials, over the period
11 from the first time we had work records available, 1955
12 up to 1977. We could not go beyond that.

13 Q Sir, that study, the attempt to identify that
14 cohort, was begun when?

15 A About the same time, 1978, '79.

16 Q Sometime around 1978? So in 1978 you were
17 trying to go back and find out who worked in the 2,4,5-T --
18 let's see -- the 2,4,5,-T, TCP production process?

19 A Right.

20 Q And as of that date the only work records you had
21 began in 1955?

22 A That's right.

23 Q Now there were people, were there not, who were
24 at work in 1955, in that process, who may have been at work

1 in that process before 1955; isn't that right?

2 A Yes.

3 Q And had they been at work for a year, a year or
4 more after 1955, they would be included in the cohort?

5 A That's right.

6 Q In addition to that, sir, were there people, or
7 do you know whether there were people who were not working
8 with the company in 1955 who may have been exposed in that
9 process prior to 1955 and whom you -- could you identify
10 people of that kind?

11 A No.

12 Q So there may have been people who had previously
13 worked in the process but as to whom you did not have work
14 records prior to 1955?

15 A That's right.

16 Q Now, what Mr. Carr sought to have you do was
17 to take the people from 19 -- from the 1949 incident that
18 had cancer and add them to the people in the Zack-Gaffey
19 Study; is that right?

20 A Yes, sir.

21 Q All right. Now, can you do that?

22 A What do you mean by can you do that?

23 Q Well, under the principles of epidemiology, can
24 you do that, sir?

1 A If you're trying to combine what we thought was
2 the affects of an acute exposure, plus those from a chronic
3 exposure, and think of them at the same time, you can.

4 Q All right. But under what circumstances do you
5 have to do it? What's required in order for you to be able
6 to do that, sir?

7 A Well, several things. First of all, you have
8 to make sure that your definition of those two cohorts are
9 consistent, and that's difficult to answer, because they were
10 defined differently. And there's subtle differences when
11 you start talking about a cohort. You don't define a cohort
12 after you've completed the study. Both of these studies were
13 done by a study group that was defined before they looked
14 for the experience. The health experience. In other words,
15 that hundred and twenty-two was put together and then they
16 went back and looked to find out whether those who had left
17 were alive or dead, that was done after the cohort is
18 designed. Otherwise it becomes a bias study. The same
19 thing on the Zack-Gaffey Study, that population was defined
20 and then the mortality experience was looked at. So when
21 you start trying to put them together, yes, you can do it.
22 But you're not sure what you've done in terms of how you've
23 changed the definition of the cohort, because you don't have
24 a clear definition of the cohort you're looking at. That's

1 one reason.

2 Q You mean if you put them together?

3 A Yes.

4 Q Because the two cohorts were put together with
5 different things in mind; is that right?

6 A And defined differently.

7 Q Defined differently?

8 A Yes.

9 Q So if you jumble them together, you don't know
10 what the definition of your cohort is?

11 A That's right.

12 Q Now, in connection with an epidemiological
13 study, you said that you defined the cohort first without
14 regard to what the experience is. What do you mean by that,
15 sir?

16 A We define that first cohort as those who had
17 chloracne, and we were able to identify that population
18 group we're going to look at as a hundred and twenty-two
19 workers, and we took out one. The nurse was in there.
20 Since there was one female, we dropped her out just because
21 of the consistency. Hundred and twenty-one of them were
22 males. The second population group was those who had
23 worked continuously in that operation, or for at least one
24 year during that time period of time. That's how that

1 population was defined.

2 Q Now, when you make the definition of the
3 population, at that time do you have any idea what the
4 actual mortality experience is for that population?

5 A No, sir.

6 Q So you define it first, and then you find out
7 where the chips fall?

8 A That's right.

9 Q And that's done in both studies?

10 A Exactly the same.

11 Q And you don't maneuver them? You don't change
12 the cohort once you find out what the mortality experience
13 is?

14 A No, sir.

15 Q You've already defined what the cohort is?

16 A That's right.

17 Q Now, so that while it is true to say, or it
18 may be true to say that both groups studied could have been
19 exposed to TCDD, that would be true, you say?

20 A Yes, sir.

21 Q They were exposed under different circumstances;
22 correct?

23 A Yes.

24 Q And the purpose of the studies was to find out

1 the differing -- whether those differing circumstances
2 produced differing mortality experiences; correct?

3 A Yes, sir.

4 Q Now, when Mr. Carr asked you to start adding
5 them together, the first thing he did was ask you to name
6 certain people and he picked them off, I think, Exhibit 1460,
7 which was a list of everybody that was included in the Zack-
8 Suskind Study; isn't that right?

9 A Yes.

10 Q And then -- then, sir, he had you start doing
11 some computations; didn't he?

12 A Yes, sir.

13 Q And what he would do is take the deaths as to
14 a certain type of cancer as compared to the total number of
15 deaths in the Zack-Gaffey Study, and then have you add in
16 the cancer deaths from the Zack-Suskind Study; correct?

17 A Yes, sir.

18 Q And he had you add those to the numerator and he
19 had you add those same to the denominator; correct?

20 A No, sir.

21 Q Now, what's the difference? Why is it, sir?
22 Why is it that you can't compare them by just lumping
23 in the cancer deaths from the other study without any
24 reference to the total number of deaths in that study?

1 A That first line up there shows that there were
2 10.94 cancer deaths expected, and he divided it by the
3 population in the Gaffey Study, in which there were 58, and
4 he says 18.9 percent of the deaths were due to cancer. But
5 then he took the -- he took 67 -- he took 58 and added 9 --
6 that's hard to tell from that -- he added 9 cancer deaths
7 from the Zack-Suskind Study to the population of Zack-Gaffey
8 to come up with 67. In other words, his population now was
9 67, and he got 18.9 percent, and said he would expect 12.6.
10 But you can't do that.

11 Q But, sir, he used the 18.9 percent, which is the
12 result of determining how many are expected in this
13 population --

14 A Right.

15 Q -- correct, sir?

16 A Right.

17 Q That isn't the number of expected in this
18 population, is it?

19 A No. He's trying to calculate it there.

20 Q Right. But what in addition do you have to do,
21 even if this 10.94 is not the expected for this created
22 population of taking the 9 and adding them to 58, there's
23 still something further wrong with it, isn't there, sir?

24 A Yes.

1 Q Okay. Now what's that?

2 A He has to change that population from the 57 --
3 he has to add the total population of the Zack-Suskind
4 Study to it.

5 Q At least that portion of the total population
6 which is not duplicated?

7 A That's right.

8 Q In the Zack-Gaffey Study?

9 A That's right.

10 Q So you've got to find out how many total deaths
11 there are in the combined --

12 A Right.

13 Q -- group? You can't just take the cancers --
14 that's like taking the red apples out of -- yellow and red
15 apples, and red apples out of yellow and red apples, and
16 let's take these reds and these reds, and put them over
17 here and say among this bunch of apples we've got a lot
18 more reds.

19 A That's right.

20 Q But that doesn't show what the total incident
21 is, does it?

22 A That's right.

23 Q You've got to take the yellow apples from here
24 and bring them over with the yellow apples from here, don't

1 you, sir?

2 A That's right.

3 Q So you're showing the number of red apples, which
4 may be the number of people exposed to TCDD in the entire
5 population, not just in that portion of the population;
6 correct?

7 A Yes.

8 Q Now, so then if you look at Exhibit 1464-A here,
9 sir, he says here that the deaths observed were 18 and not
10 9.

11 A Yes.

12 Q But he compares it with the deaths expected to
13 the deaths expected only from the Zack-Gaffey Study popula-
14 tion; correct?

15 A No, sir. He compared it to that recalculated
16 one on the other page right behind it.

17 Q All right. Back here?

18 A Yes. That right there. That one two six.

19 Q Twelve point six?

20 A Twelve point six, yes.

21 Q All right. So you calculated -- what's this, the
22 new expected?

23 A Yes.

24 Q Now this is the new expected for this

1 population?

2 A Yes, and that's not a population.

3 Q But what's the new expected for the real
4 population, which is how many people?

5 A Fifth-eight plus thirty-two, minus four, I think.
6 So it's -- it's 86. What you should do is take that 86
7 times -- 18.9, if in fact the percent expected in a larger
8 population would be the same as it was in the first popula-
9 tion, and that's not correct.

10 Q So that changes too, doesn't it?

11 A Right. You can't do that. That percent
12 expected in the Zack-Gaffey Study was derived from a
13 computer program which corrects the expected by virtue of
14 age. As a population gets older, the cancer experience
15 increases. So you never can pick up and identify the
16 expected. First of all, the age expected mortality from
17 cancer in any population is about twenty percent. So that's
18 pretty close. But that that's expected in any special
19 population is dependant upon the age of the population. So
20 when you start to add, take 18.9 percent in the Zack-Suskind
21 Study, which was considerably older than the Zack-Gaffey
22 because it was based on that population back in 1949, the
23 expected is going to be quite different from that. And you
24 can't do it anyway -- you can't take 18.9 and multiply it

1 times the Zack-Gaffey mortality and just add the cancer to
2 it and say that's the population. The population is the 58
3 plus 32, minus the overlap. So that's completely wrong, the
4 way that was done.

5 Q Now, why is that, sir? Are there principles of
6 epidemiology we're talking about here?

7 A The expected in mortality experience in any
8 population is dependant upon correcting it for age. And in
9 order to correct it for age, you can do it manually, but it
10 would take days. So there are computer programs that have
11 been written to take a population in which you insert the age
12 of each one of the people involved in this study, into the
13 program, and then it calculates the expected cancer experience
14 based on age.

15 Q All right. Well, let me direct your attention
16 again, if I may, to Defendant's Exhibit 62 . If you'll look
17 at the second page of the exhibit, sir --

18 A Are you talking about --

19 Q Yes, the Zack-Suskind Study.

20 A I don't have it -- Zack-Suskind, all right.

21 Q All right. The second page, right where you
22 were.

23 A All right.

24 Q Right there. Right down at the beginning of

1 this paragraph. Dr. Suskind is describing there, is he not,
2 one of these generally recognized computer programs?

3 MR. CARR: Dr. Suskind or Zack? Is the principle
4 author Suskind --

5 Q (By Mr. Heineman) All right. Zack and Suskind
6 are discussing here one of these generally recognized
7 programs; isn't that right?

8 A Yes.

9 Q In other words, when they say "The data were
10 analyzed by the modified life-table method using the updated
11 Monson program," it doesn't tell you right here what the
12 updated Monson Program is, does it?

13 A No, sir.

14 Q So that the people, this being written for
15 other epidemiologists, I suppose, people will know what the
16 updated Monson Program is?

17 A Yes, sir.

18 Q Wouldn't they?

19 A Yes, sir.

20 Q Why do they know that?

21 A Because it's commonly used.

22 Q Everybody uses it?

23 A Yes.

24 Q All right. So that when you're talking about

1 these epidemiological computer programs, these are things
2 that are used all over the country?

3 A Yes, sir.

4 Q And these are statistical analyses employed by
5 mathematicians; correct?

6 A Yes, sir.

7 Q Now, if indeed this process was used by Mr.
8 Carr, where he added only the deaths, only the cancer deaths
9 from the Zack-Suskind Study and not the total number of
10 deaths, so that things, as I understand it, that are wrong
11 here are one, you can't just take the cancer deaths, you've
12 got to bring in the total number of deaths into your
13 denominator here?

14 A Right.

15 Q Don't you?

16 A Yes, sir.

17 Q In addition to that, your expected changes,
18 doesn't it?

19 A Yes. He was trying to calculate the expected
20 there, but it is not -- but you can't even do that that way.

21 Q All right. So your expected changes?

22 A Yes.

23 Q In addition to that your expected changes not
24 only because of the number of people involved, but your

1 expected changes because of the differences in age of the
2 people involved?

3 A Yes, sir. And time of death.

4 Q And the time of death --

5 A Right.

6 Q -- is another factor. So all of those have to
7 be plugged into the computer in order to come up with what
8 in fact is the incident of death, whether it is statistically
9 significant?

10 A Whether it's greater than the number of expected,
11 all that has to be done. Yes, sir.

12 Q Doesn't it? So that this figure, where other
13 types of cancer deaths have been calculated by Mr. Carr,
14 that's not correct either, is it?

15 A No, sir.

16 Q For the reasons that we've just talked about?

17 A Right.

18 Q And this one for a different kind of cancer
19 death, that's not correct either, is it, for the reasons
20 we talked about?

21 A That's right.

22 Q And the same would be true of this one?

23 A Yes, sir.

24 Q All right. That gets into the next study. We'll

1 worry about that later. Now, in the Zack-Suskind Study, you
2 studied a hundred and twenty-one people; correct?

3 A Yes, sir.

4 Q Now out of the total deaths, there were how
5 many, 32?

6 A Thirty-two.

7 Q And how many were expected, sir?

8 A Out of 46.4.

9 THE COURT: I'm sorry. What was that number?

10 THE WITNESS: Forty-six point four.

11 THE COURT: Thank you.

12 Q (By Mr. Heineman) Now in that study, Dr. Suskind
13 says on page -- well, it's the third page of the exhibit,
14 right in the "Results" section --

15 MR. CARR: What exhibit are you talking about?

16 MR. HEINEMAN: 62. Defendant's 62, the Zack-
17 Suskind Study.

18 MR. CARR: You said Suskind again. Dr. Zack
19 said this, and Suskind signed it along with Zack.

20 Q (By Mr. Heineman) The Zack-Suskind Study.

21 A Yes.

22 Q The results are stated there on that page right
23 below Table 1, are they not, sir?

24 A Yes, sir.

1 Q And it says, "The results of the standardized
2 mortality analysis of the 121-member study cohort are shown
3 in Table 1;" correct, sir?

4 A Yes, sir.

5 Q "The standardized mortality ratio for all deaths
6 is shown to be 0.69, with 32 observed deaths and 46.41
7 expected."

8 A Yes, sir.

9 Q Correct? So that's 41. He says this is the
10 only statistically significant difference shown in this
11 table; correct?

12 A Yes, sir.

13 Q The only one that was statistically significant
14 was this. And what was it? It was low, wasn't it?

15 A Yes, sir.

16 Q It was statistically significant, less, fewer
17 deaths than expected; correct?

18 A Yes, sir.

19 Q All of the other findings where excesses were
20 found and there are lung cancer, disease of other respiratory --
21 pardon me -- respiratory system and lung, there are excesses
22 found, are there not?

23 A Yes, sir.

24 Q But they're not statistically significant?

1 A That's right.

2 Q The diseases of the circulatory system are
3 found to be less than expected?

4 A Yes, sir.

5 Q Arteriosclerotic disease, including coronary
6 heart disease, is found to be less than expected?

7 A Yes, sir.

8 Q The malignant neoplasms, all malignant neoplasms
9 are found to be as expected; right?

10 A Yes, sir.

11 Q Cancer, 9 observed, 9.4 expected.

12 A Right.

13 Q Right? Now, these expected figures are expected
14 for this population; correct?

15 A Yes, sir.

16 Q All right. Gastrointestinal, are these cancers
17 now?

18 A Yes, sir.

19 Q Gastrointestinal cancers, none found, 2.5
20 expected.

21 A Yes, sir.

22 Q Correct? Lung cancers; correct?

23 A Yes, sir.

24 Q Five found, 2.85 expected. Correct?

1 A Yes, sir.

2 Q So the gastrointestinals are low by some margin,
3 the lung cancers are high by some margin, but neither of them
4 is found to be statistically significant?

5 A That's right.

6 Q Heart disease, 13 found, 17 expected. Correct?

7 A Seventeen seventy-four.

8 Q Seventeen point --

9 A Seventy-four.

10 Q All right. And that was found not to be
11 statistically significant?

12 A That's right.

13 Q The bladder cancers, none found; correct?

14 A That's right.

15 Q Was there an expected level there for bladder
16 cancers?

17 A One point one six.

18 Q That's the Zack-Suskind Study, isn't it, sir?

19 A That's right.

20 Q Zack-Gaffey. Now what's the population in this
21 group?

22 A I don't have it.

23 Q That's Plaintiff's Exhibit 281. It may be up
24 here. No, I'm sorry, it sure isn't. Let me hand you, sir,

1 what's been marked as Plaintiff's Exhibit 281 and Defendant
2 Monsanto Exhibit 65. Now that's the Zack-Gaffey Study, is
3 it not, sir?

4 A Yes, sir.

5 Q Now what's the population in this group, sir?

6 A Fifty-eight.

7 Q Fifty-eight is the number of deaths; right?

8 A Yes, sir.

9 Q Out of a much larger population than that?

10 A Not defined.

11 Q All right. If I can direct your attention back
12 to the Zack-Suskind Study, there were a hundred and twenty-
13 one that had chloracne, but there were thirty-two deaths;
14 right?

15 A Yes, sir.

16 Q All right. So the Zack-Gaffey we have total deaths
17 fifty-eight. We have total cancer, how many, sir?

18 A Nine.

19 Q And how many expected?

20 A Ten point ninety-four.

21 Q In this population; correct?

22 A Yes. That population of that age distribution.

23 Q Gastrointestinal, how many?

24 A Zero.

1 Q None. And how many expected?
2 A Two point eight zero.
3 Q Lung?
4 A Six.
5 Q How many expected?
6 A Three point five seven.
7 Q Heart disease?
8 A Twenty-seven.
9 Q How many expected, sir?
10 A Nineteen point seven two.
11 Q And bladder?
12 A Bladder two, with point twenty-two expected.
13 Q Yes, sir. Now of the total of these 32 deaths
14 in the Zack-Suskind Study, there were four that we know of
15 that were in the Zack-Suskind Study and listed as unexposed
16 in Zack-Gaffey; correct?
17 A Yes.
18 Q In addition to that, sir, were there some that
19 were in the Zack-Suskind Study and listed as exposed in the
20 Zack-Gaffey Study?
21 A Yes, four of them.
22 Q So there is a total of eight people that overlap
23 between the two groups?
24 A That's right.

1 Q The two groups of deaths?

2 A That's right.

3 Q Now with respect to adding Zack-Suskind and
4 Zack-Gaffey, what did you do with that, sir?

5 A You'll have to add the 58 of the Gaffey Study
6 and you add to that the 32 Zack-Suskind, minus four that
7 were already included.

8 Q Now, how about the other four?

9 A That's the four we're adding.

10 Q All right. So that the total deaths when you
11 add these two together are how many?

12 A It's 58 plus 28, or 86.

13 Q So it's not 67?

14 A No.

15 Q It's 86?

16 A That's right.

17 Q Correct? Did you in the Epidemiology Department
18 make this calculation since Mr. Carr went over this with you?

19 A Yes, sir.

20 Q All right. And what did you do in order to make
21 the calculation?

22 A We used a Monson Program based on the age
23 distribution of that 86 to determine what the expected cancer
24 death for each one of those categories.

1 Q All right. Now over here you've got the
2 computer Monson Program; correct?

3 A Correct.

4 Q Over here we have what computations Mr. Carr
5 went through with you. Okay?

6 A Right.

7 Q Now we start with the total cancer. Let's make
8 sure we've got them in order here. Gastrointestinal, lung,
9 bladder, lymph system, other cancers, and heart disease.
10 Correct, sir?

11 A Yes, sir.

12 Q Now those are the various items that Mr. Carr
13 went over with you?

14 A Yes, sir.

15 Q Now -- now, as to total cancers, Mr. Carr said
16 there were 18, and there should be expected how many, sir?
17 Twelve point six, wasn't it?

18 A That first item you had was twelve six.

19 Q Okay. As to gastrointestinal, he said there
20 were two, and --

21 MR. CARR: Your Honor, I don't really mind being
22 considered as a witness in this case, but I've not said
23 anything. I've asked questions and the witness has respond-
24 ed, various witnesses have responded giving these facts, and

1 all these particular facts were elicited from this witness
2 at this time from the exhibits in evidence. I object to
3 counsel characterizing as "I said."

4 MR. HEINEMAN: I think that's quite accurate,
5 Mr. Carr.

6 MR. CARR: Thank you.

7 MR. HEINEMAN: What you did was write down these
8 calculations for him. You said you had done them on a
9 calculator. Correct?

10 MR. CARR: Counsel, as you know, each thing on
11 there has to be agreed to by a witness based upon the facts
12 given the witness, based upon the exhibits in evidence, or
13 else it cannot be put there for the jury, as you're aware
14 of that. It cannot be admitted into evidence. Therefore,
15 each fact that I have put on any board I have done so with
16 the agreement of the witness at the particular point in
17 time.

18 THE COURT: Objection is sustained. Could you
19 rephrase your statements.

20 Q (By Mr. Heineman) Doctor, Mr. Carr showed you
21 a calculation for lung cancer. Do you recall that?

22 A Yes, sir.

23 Q And he said there were --

24 MR. CARR: Your Honor --

1 Q (By Mr. Heineman) -- he said there were ten?

2 MR. CARR: Your Honor, I object. I gave the
3 calculation to the witness. The witness agreed that that
4 calculation, based upon those facts, were correct. These
5 are not calculations that are mine. I'll be glad to testify
6 to them, but the way that it works, Counsel, is the witness
7 either agrees or disagrees. If he disagrees, it cannot be
8 written on the exhibit.

9 MR. HEINEMAN: Your Honor, if I might address
10 that a moment. My recollection of what happened was that
11 the witness said a number of times that you can't do that.
12 You can't add the two together. And Mr. Carr said he could,
13 and that were these calculations correct if you assumed
14 that they added them together. That's what the witness
15 agreed that the arithmetic was correct.

16 MR. CARR: What I gave to the witness were the
17 facts that were in the exhibits. I said based upon these
18 facts is this calculation correct, and the witness agreed
19 based upon those facts that they were correct.

20 THE COURT: Objection is sustained. I'll ask
21 you again to rephrase it.

22 Q (By Mr. Heineman) The calculations, sir, is
23 that you went through with Mr. Carr, reflected 10 lung
24 cancer deaths and 4.12 -- now wait a minute. Well, here

1 we've got it right here. Plaintiff's Exhibit 1465-A. Do
2 you see that, sir?

3 A Yes, sir.

4 Q For lung, 10. Genitourinary, 2. Correct?

5 A Yes, sir.

6 Q Now he listed 10 for lung.

7 MR. CARR: Your Honor, Counsel is doing the same
8 thing again.

9 MR. HEINEMAN: I'm sorry. It's a freudian slip,
10 Judge.

11 Q (By Mr. Heineman) The calculation states 10
12 lung cancer deaths; is that right?

13 A Yes, sir.

14 Q And it says here on Plaintiff's Exhibit 1465-A
15 10 lung cancer deaths; correct?

16 A Right.

17 Q And the number expected for lung cancer deaths
18 was calculated to be 4.12; is that right, sir?

19 A I don't recall. That's it.

20 Q Is this it?

21 A Yes.

22 Q Four point one two. Where the 143 percent --

23 A Yes.

24 Q All right. So that's for the lung cancer there,

1 as shown on 1465-A?

2 A Right.

3 Q All right. Now, sir, with respect to -- with
4 respect to bladder cancer, there were two listed in 1465-A;
5 correct, sir?

6 A Yes.

7 Q The calculation of expected -- I don't see that
8 here. I'm trying to find the exhibit where that number
9 was, Judge.

10 THE COURT: Why don't we take a short break and
11 you find it?

12 MR. HEINEMAN: All right. Thank you.

13 THE COURT: Okay. Ladies and gentlemen, we'll
14 take a short break at this time. I will remind you, and
15 this would go for any other breaks which we take, not to
16 discuss this matter among yourselves, with anyone outside
17 the jury panel, or as of yet form any opinions or conclusions
18 about the matter in trial. Court is in recess.

19
20 (Short recess.)

21
22 Q (By Mr. Heineman) Doctor, at the break you
23 corrected me on something, didn't you, sir? You said this
24 G.I. should be G.U.; is that right?

1 A Yes, sir.

2 Q What would that stand for?

3 A That means gastrointestinal, and G.U. would be
4 genitourinary.

5 Q Okay.

6 MR. CARR: And another correction, what is that
7 exhibit number, counsel?

8 MR. HEINEMAN: No, not yet.

9 MR. CARR: Why don't you put an exhibit number
10 on it so I can refer to it?

11 MR. HEINEMAN: Okay. I'll be glad to.

12
13 (Defendant Monsanto Exhibit 910 was marked
14 for identification by the court reporter.)
15

16 Q (By Mr. Heineman) Doctor, I'm marking this
17 sheet that we've been drawing on here as Defendant's Exhibit
18 910, and that's this last sheet where we're adding Zack-
19 Suskind and Zack-Gaffey together; correct, sir?

20 A Yes, sir.

21 MR. CARR: It refers to a "Carr Study," or a
22 "Carr column." Of course, that's inaccurate to be an
23 exhibit, or Dr. Roush's testimony to that affect. But I
24 haven't testified to it. I object to the use of the word

1 "Carr" on this exhibit.

2 MR. HEINEMAN: Well, your Honor, the reason
3 the "Carr" is on there is that these were the calculations
4 that Mr. Carr went through with the witness. And it was
5 to identify them as that column only.

6 THE COURT: I'd prefer that you change that.
7 I'll allow you to change it to whatever number of the
8 exhibit that you've been referring to that those calculations.
9

10 MR. HEINEMAN: Well, it's a combination of
11 exhibits, your Honor.

12 THE COURT: I do want you to change that.

13 MR. HEINEMAN: All right, sir.

14 THE COURT: You've been referring to 1465-A and

15 MR. CARR: Just put the exhibit numbers on it
16 that you're referring to, Counsel. Then you don't have to
17 guess about what you're talking about.

18 MR. HEINEMAN: Now these documents here, your
19 Honor, from which these numbers came, some of them came,
20 were never marked by Mr. Carr. Could we get plaintiff
21 exhibit numbers on those, then I can put the numbers of
22 these.

23 THE COURT: Fine.

24 MR. CARR: That's fine with me.

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MR. HEINEMAN: I think it starts here.

THE COURT: You can just make it a group exhibit.

MR. HEINEMAN: Make it a group exhibit, your Honor?

THE COURT: It's the same calculations.

(Plaintiff's Group Exhibit 1512 was marked for identification by the court reporter.)

MR. HEINEMAN: All right. So that the record would be clear, your Honor, Plaintiff's Group Exhibit 1512 consists of the first sheet of calculations in which Mr. Carr -- in which there appears calculations 67 times 18.9 percent equals 12.6.

The second sheet of calculations ending in the statement one hundred forty-three percent. The third sheet of calculations ending in the statement 92 percent in excess. And the Fourth sheet of calculations ending in the number 26 percent.

THE COURT: Fine.

Q (By Mr. Heineman) Now, sir, with respect to the bladder -- with respect to bladder cancer, the number which appears in the Zack-Gaffey Study, which is Plaintiff's Exhibit 281, as the expected is what, sir?

1 A Point twenty-two.

2 Q Point twenty-two. And Plaintiff's Group Exhibit
3 1512, to your recollection, sir, does not contain a calcula-
4 tion for bladder cancer, does it?

5 MR. CARR: I object to the form of the question.

6 THE COURT: Objection sustained.

7 Q (By Mr. Heineman) Does Group Exhibit 1512
8 contain a calculation for bladder cancer?

9 A No, sir.

10 Q Now with respect to the lymph cancer calculation,
11 Exhibit 1465-A shows a percentage of deaths higher than
12 expected. That's Plaintiff's Exhibit 1465-A of 92 percent.
13 And we can trace a calculation for that as part of Group
14 Exhibit 1512, can we not, sir?

15 A Yes, sir.

16 Q And in that the expected was placed at 1.56;
17 correct? In the calculation in Group Exhibit 1512.

18 A Which is 1512?

19 Q I'm sorry?

20 A Which is 1512?

21 Q 1512 is this group exhibit of calculations, sir.

22 A Yes. Right.

23 Q Right?

24 A Yes.

1 Q And from Exhibit 1465-A we see that there are
2 listed as 3 --

3 A Right.

4 Q -- occurring. Now, sir, with respect to other
5 sites, we see from Exhibit 1465-A that there are three
6 occurring, and from Exhibit 15 -- two occurring at a percen-
7 tage of death higher than expected of 26 percent, and if
8 we go back to Group Exhibit 1512 we see that in order to get
9 that 26 percent there was a 1.59 expected used.

10 A Yes.

11 Q And with respect to heart disease, sir, we see
12 from Exhibit 1465-A that there are 27 accounted for there.
13 We don't have -- do we have such a calculation among Group
14 Exhibit 1512?

15 A No, sir.

16 Q But from Exhibit 281 we have the expected of
17 what, sir, 19.72?

18 A 19.72.

19 Q All right, sir. Now you told us, sir, that you
20 caused a computer Monson Program to be run; is that right,
21 sir?

22 A Yes, sir.

23 Q And how did you go about doing that?

24 A We took that -- what we were trying to find is

1 what would be the expected cancer, G.U., lung, bladder,
2 lymphatic, other, and heart for a population of a size of
3 86 with the age distribution as presented in that group. We
4 used the Monson Program to determine the expected rates
5 for each of those.

6 Q And the Monson Program was used on this 86 and
7 the group you looked at were the two groups that were put
8 together; is that right?

9 A Yes.

10 Q So that you could get a determination of age?

11 A Yes. Assuming that they could be put together.

12 Q Assuming that they could be put together?

13 A Right.

14 Q All right. And whom did you discuss this with?

15 A Dr. Gaffey.

16 Q Dr. Gaffey?

17 A Right.

18 Q And you and Dr. Gaffey worked together on this
19 being performed?

20 A Yes, sir.

21 Q All right.

22
23 (Defendant Monsanto Exhibit 911 was marked
24 for identification by the court reporter.)

1 MR. CARR: Your Honor, I object to any use by
2 Gaffey unless Dr. Roush did it himself. If Dr. Gaffey did
3 it, Dr. Gaffey should be here. It's not clear thus far,
4 other than the fact that Roush discussed it with Dr. Gaffey,
5 who worked the computer, who put it in, who did the study.

6 THE COURT: Would you clarify that please.

7 MR. HEINEMAN: I'll be glad to clear that up.

8 THE COURT: Fine.

9 Q (By Mr. Heineman) Dr. Roush, tell us how you
10 and Dr. Gaffey did this, and what each of you did.

11 A We -- I asked him whether we could put these
12 two studies together in his opinion, and he said no, they
13 could not be put --

14 MR. CARR: Your Honor, I object to any testimony
15 that this witness is going to give to some other person.

16 THE COURT: Objection is sustained. It is
17 hearsay.

18 Q (By Mr. Heineman) Now, if you would, sir, tell
19 us what the two of you did, together or separately, in
20 coming up with the figures on the computer Monson Program.

21 A He did the computer analysis of the expected
22 mortality for each of those specific causes of death.

23 Q So --

24 A Related to a population of 86 with the age

1 distribution that could only be gotten from that program.

2 Q All right. Now was that done under your
3 direction, sir?

4 A Yes, sir.

5 Q Were you with him out at Monsanto when he did it?

6 A No, sir.

7 Q So that it was at your instruction that he
8 performed this exercise with the Computer Monson Program?

9 A Yes, sir.

10 Q And then he came to you with the results?

11 A Yes, sir.

12 Q All right. Let me hand you what's been marked
13 as Defendant's Exhibit 911, sir. Can you identify that for
14 me.

15 A Yes, sir.

16 Q What is that?

17 A This is the proportional mortality ratio study
18 of Gaffey by putting those two populations together.

19 Q I notice it's in handwriting; is that right?

20 A Yes, sir.

21 Q Whose handwriting is that?

22 A Dr. Gaffey's.

23 Q And that was -- that handwriting, was that given
24 to you?

1 A Yes, sir.

2 Q Was that the report of what you had asked him
3 to do?

4 A Yes, sir.

5 Q Sir, was there a determination with respect to
6 this Computer Monson Program as to how many total cancers
7 were to be considered?

8 MR. CARR: Your Honor, I object. Any use of the
9 table is clearly Dr. Gaffey's table, and not Dr. Roush's
10 table, and not be used unless I cross examine Dr. Gaffey
11 as to its authenticity, and how he got it is clearly a
12 self-serving statement prepared by Monsanto. I object to
13 it.

14 MR. HEINEMAN: Your Honor, there isn't any
15 question, as I've established through this witness, this
16 work was done by Dr. Gaffey under this witness' direction,
17 and that this report was made by Dr. Gaffey in his own
18 handwriting as to the results of the report on the results
19 of this Computer Monson Program. I think under those
20 circumstances, all I want this witness to do is to report
21 what those numbers are.

22 MR. CARR: I object to it, that all he wants to
23 do is to have Dr. Gaffey's table introduced into evidence,
24 or used without Dr. Gaffey being here and subject to the

1 cross examination as the rules require.

2 THE COURT: Objection is sustained.

3 Q (By Mr. Heineman) All right. Doctor, one of
4 the items included on Plaintiff's Exhibit 1464-A is an
5 entry for a Mr. John Workman. Do you see that, sir?

6 A Yes, sir.

7 Q Whose date of death was 1971. Do you see that,
8 sir?

9 A Yes, sir.

10 Q And the source of information was Marcie Strauss.

11 A Yes, sir.

12 Q Do you see that, sir?

13 A Yes, sir.

14 Q Now, this John Workman is included on this
15 exhibit entitled, "Cancer Deaths of Workers Exposed to TCDD
16 Omitted from Table 10 Zack-Gaffey Report;" correct?

17 A Yes, sir.

18 Q And it is a fact, is it not, that according to
19 this exhibit, which was shown to you a couple a days ago,
20 a few days ago, that the source of that information was Mar-
21 cie Strauss; is that right?

22 A Yes, sir.

23 Q You have -- Do you have Plaintiff's Exhibit 1463?
24 Thank you. Let me hand you what's been previously marked

1 as Plaintiff's Exhibit 1463. Do you remember that document,
2 sir?

3 A Yes, sir.

4 Q Mr. Carr went through it with you, or went
5 through portions of it with you, did he not?

6 A Yes, sir.

7 Q And he asked you specifically about a certain
8 page which is page four of four, and Attachment II, Roman
9 Numeral II. Do you remember that, sir?

10 A Where was that, sir? I don't remember it.

11 Q Page four of four, Attachment II.

12 A Yes.

13 Q All right. Under there he asked you about the
14 entry for a Mr. John Workman, did he not, sir?

15 A Yes, sir.

16 Q And this is the same John Workman for which
17 Strauss is listed as the source of information?

18 A Yes, sir.

19 Q And there is a portion of this record here,
20 there's some writing on this document that's in evidence
21 which Mr. Carr did not ask you to read to the jury. Do
22 you remember that?

23 A Yes, sir.

24 Q Would you read it to the jury --

1 MR. CARR: Would you identify whose writing it
2 is, because this is a work of Strauss, unless this is
3 Strauss' handwriting on there, I'll object to it.

4 THE HEINEMAN: The document is in evidence, Mr.
5 Carr.

6 MR. CARR: Then I withdraw the objection. But
7 I would ask that you identify whose writing it is, Counsel.

8 MR. HEINEMAN: I don't know whether this
9 witness knows whose writing it is.

10 Q (By Mr. Heineman) Do you know whose writing
11 that is there, sir?

12 A No, sir.

13 Q You don't know one way or the other?

14 A No.

15 Q It might be Marcie Strauss, it might not be?

16 A Yes, sir.

17 MR. CARR: I object to that. That's pure
18 speculation. I ask the jury be instructed to disregard it.

19 THE COURT: Objection is sustained, the jury
20 is ordered to disregard it.

21 Q (By Mr. Heineman) Now would you read that
22 statement to the jury, please.

23 A "He shouldn't be counted as exposed because
24 information came from the medical records, not the work

1 history."

2 Q All right. It says he shouldn't be counted as
3 exposed because the information came from the medical
4 records, not the work history; correct?

5 A Yes, sir.

6 Q Now, the Zack-Gaffey Study, sir, was based upon
7 work histories, was it not?

8 A Yes, sir.

9 Q And it was the people whose work histories
10 demonstrated their exposure to the process of manufacturing
11 2,4,5-T and TCP that were included?

12 A Yes, sir.

13 Q So that, in this document that's in evidence,
14 the typewritten portion has John Workman listed?

15 A Yes, sir.

16 Q The handwritten portion says he should not be
17 included?

18 A Yes, sir.

19 Q Now, sir -- before I get to that. Let me ask
20 you this, Dr. Roush, if you have two separate studies, and
21 statistically one study does not reveal a certain abnormality,
22 and statistically the other study does not stress that
23 particular abnormality, even though both are looked for, if
24 you put the two together, what would you expect to find?

1 A Since you're adding constant ratios, a certain
2 percentage in one study has cancer and a certain percentage
3 of the other that have cancer, the percentages will come
4 out to be about the same, and relate to the two of them.
5 It won't be strikingly different?

6 Q So that if you put the sets of figures together
7 properly by adding the total populations studied in each,
8 that you shouldn't find enormous changes from one to the
9 other, should you?

10 A No. As a matter of fact, it would be someplace
11 inbetween.

12 Q It would be inbetween the finding of one and
13 the finding of the other?

14 A That's right.

15 Q It's like taking five and four, putting them
16 together to make nine, divide it by two and you get four
17 and a half?

18 A Yes. The only problem is that the populations
19 are not equal size, so they have to be weighted.

20 Q All right. So that in an epidemiological study,
21 the populations have to be weighted according to size,
22 according to age?

23 A Yes, sir.

24 Q Those kinds of corrections have to be made.

1 According to date of death as well. But when you do all
2 of those calculations according to the Monson Program, then
3 what comes out is something that's a hybrid of the two?

4 A That's right.

5 Q But it's not going to be outlandishly greater
6 than either one, is it?

7 A Right. The only thing that will happen then is
8 the significance of it will be related now to the new
9 larger denominator, so the significance will change because
10 of the larger number in the denominator. That's the reason
11 the denominator is so important. It's the reason you can't
12 just take part of it and add it.

13 Q So the larger denominator may create something
14 that is statistically significant that wasn't before?

15 A That's right.

16 Q And it may create something not to be statistical-
17 ly significant that was before?

18 A Yes, sir.

19 Q So the larger numbers change statistically,
20 the findings of each one separately?

21 A That's right.

22 Q But not greatly?

23 A No. No. It depends on how far they're apart,
24 because a larger one will tend to make the numbers come up

1 closer to the larger one.

2 Q All right. But it's not going to be outside
3 the range of either one?

4 A No, sir.

5 Q It's going to be somewhere inbetween them?

6 A Right.

7 Q Now, sir, do you have Exhibit 1483 there?
8 I'm sorry, here it is right here. Exhibit 1483 is in
9 evidence there, sir, is it not?

10 A What do you mean in evidence?

11 Q Well, it has been admitted into evidence, has it
12 not?

13 THE COURT: I think it has.

14 Q (By Mr. Heineman) You may not know that, Dr.
15 Roush, but I think it has occurred. Now I'd like to direct
16 your attention to page 39, I think it is, of that exxhbit.

17 THE COURT: It has been admitted into evidence.

18 MR. HEINEMAN: Thank you, Judge. 'Would you
19 mark that please.

20
21 (Defendant Monsanto Exhibit 912 was marked
22 for identification by the court reporter.)
23

24 Q (By Mr. Heineman) Sir, let me hand you what's

1 been marked for identification purposes as Defendant's
2 Exhibit Number 912. Is that an accurate copy of page 30 of
3 Exhibit 1483?

4 A Yes, sir.

5 MR. HEINEMAN: Your Honor, may I pass copies of
6 Exhibit 912 to the jury?

7 THE COURT: Yes, you may.

8 MR. CARR: No objection, your Honor.

9 Q (By Mr. Heineman) Now do you remember, sir,
10 Mr. Carr discussing with you the subject of the relationship
11 statistically between 2,4,5,-T exposure and the extent to
12 which PAB caused bladder cancer in the Nitro population?

13 A Yes, sir.

14 Q Do you remember that, sir?

15 A Yes, sir.

16 Q Now there was no doubt, was there, sir, that
17 Monsanto was aware that exposure to PAB, which stands for --

18 A Para-aminobiphenyl.

19 Q Para-aminobiphenyl?

20 A Right.

21 Q That had been manufactured at the Nitro Plant
22 up until like 1955?

23 A Yes, sir.

24 Q Was found to be a bladder carcinogen, and was no 66

1 Q Those which were benign tumors and those which
2 were malignant cancers?

3 A Yes, sir.

4 Q All right. Now, Mr. Carr, when questioning
5 you, showed you these percent numbers. Do you remember
6 that, sir?

7 A Yes, sir.

8 Q And he said that the .61 percent was less than
9 one percent; correct?

10 A Yes, sir.

11 Q On the bladder tumors and bladder cancers?

12 A Yes, sir.

13 Q But the 3.43 percent for the bladder tumors was
14 many times larger than the .61. I think he said it was
15 seven times larger; correct?

16 A Six times larger.

17 Q And that would be accurate if you looked just
18 at those percentage numbers, wouldn't it, sir?

19 A Yes, sir.

20 Q And he relied on those numbers to lead to the
21 conclusion that those who were exposed had more bladder
22 tumors, those were exposed to 2,4,5-T and para-aminobiphenyl
23 had more bladder tumors than those who were exposed only to
24 para-aminobiphenyl and not the 2,4,5-T; correct?

1 A Yes, sir.

2 Q But as a matter of fact, Doctor, those percentages
3 that are being looked at there are the percentages that
4 those numbers bear to the little 'n' up here; isn't that
5 right?

6 A Yes, sir.

7 Q Okay. Now that little 'n' number up there
8 refers to the total number of people exposed, or the total
9 number of people unexposed in the Suskind Morbidity Study,
10 doesn't it?

11 A Yes, sir.

12 Q Doesn't refer to the number of people exposed
13 to para-aminobiphenyl, does it?

14 A No, sir.

15 Q So those numbers are not percentages of 8, or
16 71, or 16, they're percentages of 163, 204 and 51?

17 A Yes, sir.

18 Q Aren't they?

19 A Yes, sir.

20 Q So that if you want to look, sir, at how many
21 people actually got bladder tumors or bladder cancer, of
22 those who were exposed to para-aminobiphenyl, as compared
23 to those that were exposed of those which ones also had
24 exposure to 2,4,5-T, you just look at the numbers that are

1 at the top of those columns, don't you?

2 A Yes, sir.

3 Q So that of those who were not exposed to 2,4,5-T
4 eight had para-aminobiphenyl exposure; right?

5 A Yes, sir.

6 Q And of those, two had either a tumor or cancer;
7 correct?

8 A Yes, sir.

9 Q So that would be two out of eight, or 25 percent,
10 correct, sir?

11 A Yes, sir.

12 Q So that the rate of those who were exposed to
13 both para-aminobiphenyl and 2,4,5-T that got one of these
14 cancers or tumors was 25 percent? Excuse me, I did that
15 wrong, didn't I?

16 A Yes, you did.

17 Q It's the other way around. The rate of those
18 who were exposed only to para-aminobiphenyl and not exposed
19 to 2,4,5-T is 25 percent; correct?

20 A Yes, sir.

21 Q Well, let's look at the next column. Those
22 who were exposed to both is 71; correct?

23 A Yes, sir.

24 Q And of those 9 people had either a tumor or a

1 cancer of the bladder; correct?

2 A Yes, sir.

3 Q And it's 9 out of 71, or about twelve and a
4 half percent?

5 A That's right.

6 Q Correct?

7 A Yes, sir.

8 Q So that there is less bladder cancer among the
9 people who were also exposed to 2,4,5-T than there is among
10 the people who are only exposed to para-aminobiphenyl; correct?

11 A Yes, sir.

12 Q And, indeed, those with questionable exposure
13 are two out of 16, one out of 8, about twelve and a half
14 percent again?

15 A Yes, sir.

16 Q And there as well, there's less people who
17 have questionable exposure to 2,4,5-T and para-aminobiphenyl
18 exposure than those who have exposure to para-aminobiphenyl
19 alone?

20 A Yes, sir.

21 Q Correct? As a matter of fact, this document
22 proves just the opposite of what Mr. Carr asked you about
23 doesn't it, sir?

24 A Yes, sir.

1 Q If there were any conclusion to be raised from
2 this table along, it would be --

3 MR. CARR: Your Honor, I object to that.

4 Q (By Mr. Heineman) -- it would be that dioxin
5 protects you.

6 THE COURT: An objection is being made, I believe.

7 MR. CARR: I do object to the leading cross
8 examination form of the question. I ask that the witness
9 make conclusions rather than Counsel.

10 THE COURT: Objection is sustained.

11 MR. HEINEMAN: This would be a good time, Judge,
12 if you want to break for lunch.

13 THE COURT: Fine. I believe we're breaking for
14 the day.

15 MR. HEINEMAN: I beg your pardon?

16 THE COURT: This is it for the day, I believe.

17 MR. HEINEMAN: Oh, that's right. Okay.

18 THE COURT: Okay. Ladies and gentlemen, we will
19 break for the day at this point in time, as I told you
20 before we were going to do. We'll start again tomorrow
21 morning at 9:00. I would remind you that you're not to
22 read, listen to or watch anything about this case, in
23 particular, or subject matter in general in any of the media.
24 We'll see you tomorrow morning at nine. Thank you for your

1 attention and cooperation. Court is adjourned.

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3 (Court adjourned.)
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1 STATE OF ILLINOIS

2 TWENTIETH JUDICIAL CIRCUIT

SS

3 COUNTY OF ST. CLAIR

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5 I, RICHARD GOLDENHERSH, Circuit Judge, do
6 hereby certify that the foregoing transcript is a true and
7 correct copy of said transcript.

8
9 DATED: July 29, 1985.

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12 _____
13 RICHARD GOLDENHERSH, Circuit Judge
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