

SUPERIOR COURT
FOR THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES

TRANSWESTERN PIPELINE)
COMPANY,)
)
PLAINTIFF,)
)
VS.) NO. BC 026959
)
MONSANTO COMPANY, ET AL,)
)
DEFENDANTS.)

DEPOSITION OF R. EMMET KELLY, M.D.
APRIL 30, 1992
VOLUME 1

G O R E R E P O R T I N G C O M P A N Y
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SUPERIOR COURT
FOR THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES

TRANSWESTERN PIPELINE)
COMPANY,)
)
Plaintiff,)

vs.) NO. BC 026959

MONSANTO COMPANY AND)
DOES 1 THROUGH 200)
INCLUSIVE,)
)
Defendants.)

Deposition of R. EMMET KELLY, M.D.,
taken on behalf of the Plaintiff, at the
offices of Bryan Cave, One Metropolitan
Square, in the City of St. Louis, State of
Missouri, on the 30th day of April, 1992
before Ronald A. Gore, Registered
Professional Reporter and Notary Public.

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1 R. EMMET KELLY, M.D.,
2 of lawful age, having been first duly sworn
3 to testify the truth, the whole truth, and
4 nothing but the truth in the case
5 aforesaid, deposes and says in reply to
6 oral interrogatories propounded as follows,
7 to-wit:

8 EXAMINATION

9 QUESTIONS BY MR. TALLON:

10 Q. Please state your name and address
11 for the record?

12 A. Robert Emmet, E-m-m-e-t, Kelly,
13 K-e-l-l-y.

14 Q. What is your address?

15 A. 665 South Skinker, S-k-i-n-k-e-r,
16 St. Louis, Missouri.

17 Q. Doctor, you are retired as a
18 medical director for Monsanto Company?

19 A. Yes, sir.

20 Q. And you retired in 1974?

21 A. November 30, 1974.

22 Q. And when did you begin your career
23 with Monsanto?

24 A. January 15, 1936.

25 Q. When did you assume the position

1 as medical director?

2 A. Sometime in March of 1945.

3 Q. And before March of 1945 what
4 position or positions did you hold?

5 A. Well, I started with the company
6 as a plant physician at their large plant
7 in St. Louis. I stayed there until I went
8 in the service in 1942. But along about
9 the end of 1937 or 1938 I had other
10 responsibilities at the rest of their
11 plants. I was sort of a medical director
12 without portfolio, as it were. And then I
13 was in the service from -- as I said, from
14 '42 to '45, and -- I don't know whether it
15 was '45 or '46. '46, I think. Anyway, so
16 we then organized a new staff department
17 called a central medical department and I
18 was made medical director, and I remained
19 in that position until I retired.

20 Q. Are you a licensed physician?

21 A. Yes.

22 Q. And were you a licensed physician
23 throughout the period that you were
24 employed by Monsanto?

25 A. Yes, sir.

1 Q. Since leaving Monsanto in 1974
2 have you had a private practice?

3 A. No, I have not. I've examined
4 some cases and I've done some legal work.
5 I was associated on a part-time basis with
6 Barnes -- with the Sutter, S-u-t-t-e-r
7 Industrial Clinic, which was the largest
8 occupational clinic in St. Louis. That was
9 taken over by Barnes Hospital, which is the
10 teaching hospital of Washington University,
11 and now called Barnes Healthcare. I was a
12 consultant for that for about eight years,
13 and I stopped that at the beginning of the
14 year.

15 Q. Of the beginning of 1992?

16 A. That's correct. I was also along
17 the way medical director, as it were, of
18 Consolidated Aluminum Company in St.
19 Louis. I gave them about thirty days a
20 year. But that was from, oh, roughly '77
21 to '85, I think.

22 Q. In your answer of a moment ago you
23 mentioned that you had done some legal
24 work. Could you explain what you meant by
25 the term legal work?

1 A. Well, I've examined cases for
2 lawyers to see if they had any medical
3 condition that was associated with any
4 exposure, either in the environment or at
5 their workplace, and I've given depositions
6 and testified in a few cases.

7 Q. Since your retirement from
8 Monsanto, have you served as a consultant
9 to Monsanto?

10 A. Well, the first year I was. For
11 twelve months I was a consultant, and since
12 then, no, I treat them as any other client.

13 Q. During the twelve month period
14 following your retirement where you served
15 as a consultant to Monsanto, did you
16 maintain an office at the Monsanto
17 headquarters in St. Louis?

18 A. Yes. I used one of their
19 offices. But my successor was there, so it
20 was a little touchy, I didn't want to step
21 on his feet.

22 Q. And would you please identify your
23 successor?

24 A. George Roush, R-o-u-s-h.

25 Q. During that twelve month period

1 what type of consulting work did you do for
2 Monsanto?

3 A. We had a couple of problems at
4 some of their plants, none of which related
5 to the chemical under discussion today, and
6 I visited those plants and we set up a
7 program for more specific examination of
8 these people. It was our fiber plants.

9 Q. In your answer when you used the
10 term the chemical under discussion today,
11 were you referring to polychlorinated
12 biphenyls?

13 A. That's correct.

14 Q. And if I use the term PCBs, you
15 understand that I mean polychlorinated
16 biphenyls?

17 A. That's correct.

18 Q. You indicated that you had
19 examined cases for lawyers with respect to
20 exposure in the environment. Were any of
21 the cases where you provided those services
22 cases of exposure to PCBs?

23 A. Either exposure or alleged
24 exposure.

25 Q. Right. Were any of those cases

1 cases of exposure or alleged exposure?

2 A. Yes, they were.

3 Q. And can you state how many
4 occasions you served as an examiner in the
5 case of exposure or alleged exposure?

6 A. 30, give or take 10 on either
7 side. Now, I examined the records of the
8 majority of these cases, there were
9 probably half a dozen where I examined the
10 individuals themselves.

11 Q. When you said 30 give or take 10
12 on either side, you mean it could be as
13 many as 40 or as few as 20?

14 A. Probably not as few as 20.
15 Certainly between 30 and 40, I'd say.

16 Q. In the 30 to 40 instances where
17 you provided these services, did you also
18 provide testimony in connection with your
19 services?

20 A. In some cases, yes. By testimony
21 you mean both deposition and/or trial?

22 Q. Well, why don't we break it down.
23 Have you given deposition testimony as an
24 expert witness where your client was
25 Monsanto?

1 A. Yes, I have.

2 Q. And in how many instances have you
3 given deposition testimony as an expert for
4 Monsanto?

5 A. Well, it wasn't only Monsanto.
6 You were asking just about Monsanto? I've
7 given them for other companies, also.

8 Q. I am asking just about Monsanto
9 right now.

10 A. I think it's going to be a guess
11 on that. Probably 20.

12 Q. In the cases where you gave
13 deposition testimony as an expert where
14 your client was Monsanto, were you
15 compensated?

16 A. Yes.

17 Q. And did you establish a regular
18 rate of compensation?

19 A. Yes, I did.

20 Q. What was that?

21 A. It varied, obviously, over the
22 years. It was two thousand dollars a day,
23 or two hundred dollars an hour.

24 Q. Does that figure cover preparation
25 time as well as deposition time?

1 A. If there were preparation with a
2 lawyer, it does not cover it. If it was
3 preparation by myself reading the records,
4 it did cover it.

5 Q. Can you estimate the amount of
6 money that you've earned as an expert
7 giving deposition testimony for Monsanto?

8 A. Well, I'll tell you in 1992 it was
9 a thousand dollars.

10 Q. What about during the entire
11 period where you provided that service?

12 A. Oh, gosh. This is a pretty wild
13 guess. Fifty to seventy-five thousand,
14 probably.

15 Q. Have you also served as an expert
16 witness where your client was Monsanto and
17 you testified at a trial?

18 A. Yes, I have.

19 Q. Were you also compensated for
20 appearances as an expert witness for
21 Monsanto at trials?

22 A. Yes. Sometimes -- one time as a
23 fact witness. However, I was compensated
24 on whatever the fact rate was.

25 Q. Can you state the number of times

1 that you've appeared as an expert witness
2 at trial for Monsanto?

3 A. Ten. That's an estimate.

4 Q. And you were compensated for those
5 appearances?

6 A. Yes.

7 Q. Was that at the same rate or a
8 different rate than the one you just
9 described a moment ago?

10 A. Same rate.

11 Q. When was the most recent time that
12 you appeared as an expert witness at trial
13 for Monsanto?

14 A. With PCBs? Concerning PCBs?

15 Q. Well, why don't we establish
16 whether or not you testified at all for
17 Monsanto as an expert witness at trial,
18 regardless of the specific topic, and then
19 perhaps we can narrow it.

20 A. What was the question?

21 Q. The question is, when was the last
22 time that you testified as an expert for
23 Monsanto at a trial?

24 A. I think it was in November of '91.

25 Q. And do you recall the name of that

1 action, Doctor?

2 A. It was in St. Louis City Court,
3 but I don't recall the name of it.

4 Q. Was that a case involving
5 polychlorinated biphenyls?

6 A. Yes, it was.

7 Q. Can you identify the names of any
8 other actions where you have appeared as an
9 expert witness for Monsanto at trial?

10 A. I don't recall any. I mean, I may
11 be wrong on that, but I don't recall any.

12 Q. You don't recall the names of any
13 of those cases?

14 A. Well, I don't recall -- I've
15 given depositions in other cases -- I
16 mean, other chemicals, or fibers, but I
17 don't recall whether those went to trial or
18 not. I don't recall that.

19 Q. When I asked you a moment ago how
20 many times you had appeared as an expert
21 witness at trial where your client was
22 Monsanto you gave me an answer of
23 approximately ten times as an estimate.
24 Were you giving me an answer of cases where
25 you testified as an expert at trial related

1 to PCBs or related to all subjects?

2 A. They were mostly PCBs. I was a
3 fact witness in a trial with an
4 agricultural chemical.

5 Q. Is the number of times that you
6 have appeared as an expert witness at trial
7 for Monsanto greater than ten if you
8 include cases that did not deal with PCBs?

9 A. I don't think so.

10 Q. And when I asked you about the
11 number of times that you had appeared as an
12 expert at depositions for Monsanto, you
13 told me that it was approximately 20
14 times. Is the number greater than 20 if
15 you include cases that dealt not only with
16 PCBs, but also with other issues?

17 A. Might be 25.

18 Q. You indicated that you had served
19 as a fact witness for Monsanto in addition
20 to appearing for Monsanto as an expert
21 witness, correct?

22 A. That's correct.

23 Q. Can you state the number of
24 occasions where you have provided
25 deposition testimony as what you deemed to

1 be a fact witness for Monsanto?

2 A. One.

3 Q. What case was that?

4 A. It was a case at Charleston, West
5 Virginia on 2,4,5 T, which is a herbicide
6 chemical.

7 Q. Have you ever appeared as a fact
8 witness for Monsanto in a case where the
9 subject matter of the case addressed PCBs?

10 A. No, sir. I do not recall.

11 Q. Have you ever appeared as a trial
12 witness for Monsanto where your
13 responsibility was as a fact witness rather
14 than an expert witness?

15 A. I just said that one.

16 Q. I'm sorry. I was asking about
17 depositions earlier. Let me clarify the
18 question, in case I was not being clear.
19 On how many occasions did you appear at
20 depositions as a fact witness for Monsanto?

21 A. One, I believe.

22 Q. Okay. And on how many occasions
23 have you appeared as a fact witness at a
24 trial for Monsanto?

25 A. One.

1 Q. Is it the same case?
2 A. Yes.
3 Q. And that's the case in Charleston,
4 West Virginia to which you've referred?
5 A. That's correct.
6 Q. Where you have given deposition
7 testimony for Monsanto as a fact witness in
8 the past, were you compensated for the time
9 that you invested in the deposition and its
10 preparation?
11 A. There was only one.
12 Q. On that occasion were you
13 compensated?
14 A. Yes.
15 Q. At what rate were you compensated?
16 A. I think my rate wasn't as high at
17 that time, that was about five or seven
18 years ago. I think that was fifteen
19 hundred dollars a day, I believe.
20 Q. And did that cover preparation as
21 well as deposition time?
22 A. Yes.
23 Q. Now, did you meet with Mr. Preuss
24 before your appearance here today?
25 A. Yes.

1 Q. Did you meet with him yesterday?

2 A. Yes.

3 Q. Did you meet with him on any
4 occasion other than yesterday?

5 A. No, sir.

6 Q. Are you being compensated for your
7 appearance here today?

8 A. I will be, I hope.

9 Q. You anticipate receiving
10 compensation?

11 A. Yes.

12 Q. For the preparation time and for
13 the deposition time?

14 A. That's correct.

15 Q. And at what rate do you anticipate
16 being compensated?

17 A. The expert witness of two hundred
18 dollars an hour.

19 Q. Just for a point of clarification,
20 Doctor, when you've appeared as an expert
21 witness, what has been your area of
22 expertise, if it's been one area, or is it
23 more than one area?

24 A. Well, it's occupational illnesses.

25 Q. Within the category of

1 occupational illnesses have you appeared as
2 an expert witness where your expertise was
3 more narrowly defined?

4 A. Oh, yes. I've appeared in cases
5 where a solvent was involved, I've appeared
6 in cases where asbestos was involved. I've
7 appeared in one case for the plaintiffs
8 where diesel oil was involved. But did you
9 ask me about Monsanto only?

10 Q. I hadn't, no. I was asking simply
11 what your area of expertise was, more
12 narrowly speaking than occupational
13 illness.

14 A. Yes. Whatever situation arose
15 that I felt came under my experience and
16 training.

17 Q. To your knowledge, were
18 transcripts made of your testimony in each
19 of the occasions where you testified as an
20 expert at trial and at depositions?

21 A. Yes, sir.

22 Q. Do you maintain copies of those
23 transcripts?

24 A. No, I don't.

25 Q. Do you know if Monsanto maintains

1 copies of those transcripts?

2 MR. PREUSS: As to those cases in
3 which Monsanto was involved, you mean?

4 MR. TALLON: Well, any, but
5 presumably those would be the ones you
6 would be interested in.

7 A. Yes. I presume they do, because
8 I've asked them for a transcript and they
9 come up with it.

10 Q. Where you are asked to appear as
11 an expert witness by a client other than
12 Monsanto, do you alert Monsanto that you
13 have been so requested?

14 A. No, sir.

15 Q. Have you discussed the deposition
16 being taken today with anyone other than
17 Mr. Preuss?

18 A. I don't think so.

19 Q. Did you discuss the deposition
20 being taken today with Mr. Biseline of
21 Monsanto?

22 A. No, sir.

23 Q. Do you know who Mr. Biseline is?

24 A. I know him quite well.

25 Q. Doctor, do you recollect ever

1 having served as a witness at a trial in a
2 case involving PCBs where Monsanto lost the
3 case?

4 A. Yes.

5 Q. And can you identify that case or
6 those cases?

7 A. Well, there was one at Broken Axe,
8 Michigan -- yes, Michigan. I don't know
9 the name of the case, but that's where --
10 they lost that one. I'm not sure about the
11 others. They've settled some, and they
12 don't tell me what happens. But there may
13 have been others.

14 Q. And what was the subject of your
15 testimony in the action in Broken Axe,
16 Michigan?

17 A. As to my belief whether the PCBs
18 could possibly cause any ill-effect on the
19 health of the dairy farmer. And it was
20 accepted that he was quite well, but he was
21 awarded some amount of money because of
22 fear he would get sick.

23 Q. Have you ever testified in a case
24 where Monsanto was the plaintiff?

25 A. No.

1 Q. Doctor, are you the beneficiary of
2 any pension from Monsanto?

3 A. Yes.

4 Q. Do you own Monsanto common stock?

5 A. Well, it's a question of whether I
6 own it. I have some in a trust.

7 Q. Do you own any securities?

8 A. Yes.

9 Q. Of Monsanto?

10 A. Well, yes. I mean, if -- of
11 which I'm a trustee.

12 Q. You're the trustee of a trust
13 which holds securities of Monsanto?

14 A. That's correct.

15 Q. And do you know the approximate
16 value of those securities?

17 MR. PREUSS: That's not relevant.

18 MR. TALLON: I think it is. You
19 know, I'm going to seal -- not seal, but
20 we'll treat the transcript as
21 confidential.

22 A. \$70,000.00, give or take 10
23 thousand.

24 Q. Do you own any stock options which
25 are at this point unexercised?

1 A. No, sir.

2 Q. Are you the beneficiary of any
3 retirement benefit plan other than a
4 pension plan?

5 A. Well, there is a group insurance
6 payment on my life in the amount of
7 thirty-seven thousand dollars.

8 Q. What about a retirement medical
9 plan, are you the beneficiary of any
10 retirement medical plan?

11 A. I forgot that. That's a
12 supplementary Medicare plan which I think
13 after a certain deduction you are insured
14 up to fifty thousand dollars over a
15 life-time, which is two hospital
16 admissions.

17 Q. Are you the beneficiary of any
18 other retirement benefit plan from
19 Monsanto?

20 A. Retirement, no.

21 Q. Are you the beneficiary of any
22 other benefit plan from Monsanto?

23 A. I'm invited to the old folks'
24 dinner. I get the company magazine.

25 Q. Other than those two?

1 A. That's it.

2 Q. All right. Doctor, you served as
3 medical director of Monsanto for a number
4 of years, I'm interested in learning from
5 you your responsibilities while you held
6 that position. And I understand that the
7 position covered a significant number of
8 years, but could you describe for me your
9 responsibilities as medical director during
10 the period you held that job?

11 A. Yes. The primary duty was to see
12 that our plants were operated in such a
13 manner that no illnesses, occupational
14 illnesses would occur in our work force.
15 Number two, I had the responsibility of
16 ascertaining toxicological information on
17 our raw materials and finished products.
18 Three, I was responsible for setting up an
19 industrial hygiene program in our plants.
20 Four, I was responsible for the safe
21 handling data, toxicological data that
22 would be listed in our bulletins or our
23 labels. Five, I was responsible for
24 answering any questions that came to
25 Monsanto concerning the health effects of

1 any of our chemicals, whether these were
2 from a worker, other company or a private
3 physician.

4 Q. In connection with your
5 responsibilities to ensure no occupational
6 illnesses in Monsanto plants, did you ever
7 undertake to make any changes in or
8 recommend changes in the operations of the
9 Krummrich plant?

10 A. I certainly made recommendations
11 about areas of ventilation. I may have
12 recommended changes in using a solvent, a
13 different solvent for -- in their
14 operations.

15 Q. Did you ever recommend making any
16 operational changes in the operations of
17 the Krummrich plant, as that plant was a
18 producer of PCB-based production?

19 A. Would you tell me what you mean by
20 operational?

21 Q. I mean, when I use the term
22 operational, the methodology used for
23 manufacture of products.

24 A. No, sir.

25 Q. Did you ever recommend any changes

1 be made for safety reasons at the Krummrich
2 plant as the operations of that plant
3 related to PCBs?

4 A. Well, now, safety -- if by safety
5 you mean physical injuries, that was --
6 that is the responsibility of the safety
7 department, they're the ones that put up
8 guards and worried about fire and that sort
9 of stuff. The medical department was
10 concerned about the presence of dust,
11 fumes, exposure to chemicals. I did not
12 make -- were you talking about PCBs, now?

13 Q. Yes.

14 A. I did not make any operational
15 changes in operational status, although I
16 certainly, over the years, made
17 recommendations about ventilation, and
18 whether or not workers should wear
19 respirators at various points.

20 Q. Do you recollect having made any
21 recommendations with respect to the
22 ventilation of fumes associated with the
23 manufacture of PCB products at the
24 Krummrich plant?

25 A. I don't recall specifically at all

1 whether I did or not.

2 Q. Do you recall in general that you
3 did make such a recommendation, but don't
4 remember specifically what the
5 recommendation was?

6 A. I'm not even sure whether I made
7 the recommendations or not. We treated PCB
8 as another department.

9 Q. Do you recollect having made a
10 recommendation with respect to the
11 ventilation of fumes at the Krummrich plant
12 without specific regard to PCBs?

13 A. I'm sure I have over the 35 years
14 I was medical director, but I'm -- I can't
15 be specific about it.

16 Q. Do you recall having made any
17 recommendations with respect to the PCB
18 operations of the Krummrich plant relating
19 to exposure, as you used that term in your
20 answer a few moments ago?

21 A. I can't recall specifically, sir.

22 Q. Do you recollect having made any
23 recommendations that workers whose jobs
24 were associated with PCB product production
25 at Krummrich wear respirators?

1 A. Well, I certainly may have. For
2 example, if a person is tearing down a pump
3 or there is a leak where material is hot,
4 we have recommendations all over the
5 chemical plant if you have the opportunity
6 to inhale fumes, wear an organic
7 respirator. I mean, that's a standard
8 recommendation for the plant. If there
9 were a leak where hot PCB came out on the
10 floor and the worker were exposed to it
11 cleaning it up, he obviously fell under
12 this recommendation, that recommendation
13 obtained as far as he was concerned. But I
14 can't tell you I wrote down a
15 recommendation that workers should wear
16 respirators if there are leaks in the PCB
17 department.

18 Q. Do you remember the first time you
19 made any recommendation with respect to the
20 use of respirators to avoid fumes at the
21 Krummrich plant?

22 A. Probably the first time I went
23 there in 1938, or something like that.

24 Q. When you used the words "tear down
25 a pump" in your last answer, were you

1 referring to the disassembly of a pump?

2 A. Well, taking it out of the line.

3 Not -- then the pump would be taken over
4 to the machine shop where it would be put
5 under a hood and disassembled. But tearing
6 down meaning taking out of the production
7 line, that's what I meant.

8 (Discussion off the record).

9 MR. TALLON: You mentioned, Dr.
10 Kelly, that one of your responsibilities as
11 medical director was to have responsibility
12 for toxicological information on raw
13 materials and finished products. Could you
14 explain, please, how you discharged that
15 responsibility?

16 A. Yes. Let's start with raw
17 materials. Obviously, we would ask the
18 supplier what he knew about it. If he
19 didn't have it, we would look it up ourself
20 in the various publications that may or may
21 not list the material. If that proved
22 negative, if we didn't find anything out, I
23 would talk to the confreres that I knew in
24 the chemical business and ask them what
25 they know about it, if they've been using

1 it and what they know about it. And then
2 finally in a few rare cases we may do some
3 toxicological work of our own on it. Not
4 very often. Most of the time we did it on
5 our own products rather than products from
6 the supplier. As far as the finished
7 information is concerned, information on
8 the finished goods, it depends on the
9 product. If the product were a "me, too"
10 product, in other words, it was made by
11 DuPont for five years and we started making
12 the same product, I would first see if
13 there were any information in the published
14 literature, whether the government knew
15 anything about it, then I would call the
16 medical director of DuPont and say "George,
17 we're going to make this, what do you know
18 about it? Have you had any trouble with
19 it?" And he would -- that flow of
20 information was quite free, there was no
21 competition as far as the health aspects of
22 material was concerned, because if the
23 situation were reversed and he was going to
24 -- if DuPont was going to make a product
25 that Monsanto had made for five years and

1 he'd call me, I'd tell him what I knew
2 about it. If there were no information
3 obtained by those routes, we would return
4 some amount of toxicological information.
5 That varied in extent from -- depending on
6 the use the product -- to which it would
7 be put.

8 Q. Can you explain, Doctor, how the
9 use to which a product was to be put was a
10 variable in ascertaining toxicological
11 information?

12 A. Sure. If it were going to be a
13 food product or an ingredient of a food
14 wrapper, you had to do quite considerable
15 work. If the material were an industrial
16 chemical that were going to be used, say,
17 in a paint, you would only have to have a
18 minimum amount of information on it,
19 because the paint is not supposed to be
20 used at an elevated temperature, it's not
21 supposed to be ingested. If the material
22 were a product that was going to be used at
23 an elevated temperature and there is a
24 chance that a worker would -- or a
25 customer's worker would inhale the fumes at

1 elevated temperatures, we would run tests
2 on -- ventilation tests on the material at
3 elevated temperatures.

4 Q. In the past couple of answers
5 you've used terms like the one you just
6 used now, "we would run tests." Are you
7 describing a situation where Monsanto does
8 toxicological testing at its own
9 laboratories?

10 A. They do now. But that laboratory
11 started about 1975, and I'm not sure how
12 much testing they do there. We used two
13 local laboratories for the routine testing
14 of the material, non-extensive testing. We
15 used outside laboratories, some university
16 laboratories and some industrial
17 laboratories for the more advanced tests.
18 We did not have our own testing laboratory.

19 Q. Before 1975 toxicological testing
20 was done by vendors to Monsanto,
21 independent labs?

22 A. Vendors? I don't --

23 Q. Independent labs?

24 A. Yes.

25 Q. Was Industrial Biotest a

1 laboratory used by Monsanto during the
2 period you served as medical director?

3 A. Yes, it was.

4 Q. Were you personally responsible
5 for ordering toxicological studies or
6 reports on either raw materials or finished
7 product at Monsanto?

8 A. Yes.

9 Q. And under what circumstances would
10 you order such a study?

11 A. Well, if I saw the need for it.
12 What we tried to do is have a minimum of
13 toxicology work carried out on every
14 product that we advertised or mentioned in
15 a development bulletin. We might say we've
16 got product X here, these are its physical
17 and chemical characteristics, maybe you can
18 use it in your business. I mean, I'm
19 simplifying the four page bulletin. Then
20 we would run a minimum of toxicology on
21 that that would include eye irritation, to
22 see if it could be absorbed through the
23 skin, the minimum lethal LD 50, which is
24 the standard test for oral toxicity, and
25 then inhalation of material at saturated

1 room temperature. That was a minimum.

2 Q. And what does the term LD 50
3 signify?

4 A. You give the material orally to
5 two species of -- one or two species of
6 rodents, one a rodent, usually, and the
7 other a rabbit, and calculate what dose
8 kills half of them. That's the lethal dose
9 for 50 percent of the animals.

10 Q. And what factors did you use to
11 determine whether a minimum of the
12 toxicological work should be done on a new
13 product?

14 A. The use to which it was going to
15 be put, as well as the potential exposure
16 to commercial customer's workers. If it
17 were going to be used in a closed system
18 where the only exposure would be if there
19 were leaks or holes, that was a lot
20 different than the open operation.

21 Q. In order to -- for you to make a
22 judgment as to whether or not to conduct
23 minimum toxicological work or more than
24 minimum toxicological work, did you solicit
25 an explanation from businessmen at Monsanto

1 as to the proposed use of a product?

2 A. Oh, yes.

3 Q. Was there a formal system for
4 soliciting that information in place during
5 your service?

6 A. Yes. It went in place formally, I
7 guess, sometime in the late '50's or early
8 '60's. Before that it was a sort of
9 informal -- I guess informal basis. But we
10 were very -- we were on the same campus as
11 our research department and as our
12 development people and we saw these people
13 all the time, and we were on top of it
14 pretty much. I don't think much went by --
15 in the informal system went by unnoticed.

16 Q. When I asked you the question, I
17 asked you if businessmen had given you
18 information about the proposed use of a
19 product. In fact, during the period that
20 the informal system was in place was there
21 a generic type of person at Monsanto who
22 gave you information about the proposed use
23 of a product?

24 A. Could be the research scientist
25 associated with it, it could be the

1 development man. Usually, a product goes
2 from a research bench into a development
3 group in which these people decide where do
4 you think this could be used out in the
5 real world. And then when they find that
6 nitch, then it goes to the sales
7 department. So we would have the
8 toxicological requests on the information
9 about the product before it got to the
10 sales department.

11 Q. Could you describe in brief,
12 Doctor, how the informal system which you
13 have referred to worked before the
14 establishment of a more formal system?

15 A. Yes. The development man would
16 come in and say we've got product X, this
17 is the chemical, we're thinking of using it
18 as a corrosion inhibitor, we're going to
19 put this in oil to keep it from corroding
20 the engines. I'd say, "You mean motor
21 oil?" He'd say "Yes." "An automobile
22 mechanic will get his hands smeared up with
23 oil with this in it?" And they'd say yes.
24 I'd say well, we'd better check some oral
25 toxicity -- I mean, some dermal toxicity

1 as well as oral toxicity. And if it were
2 going to be a wide-spread skin contact in a
3 widespread -- in a wide -- well,
4 widespread amount of people, we may run
5 tests on humans to see if it was a skin
6 irritant or not.

7 Q. During the period that the
8 informal system which you have described
9 was in place, did you establish any
10 practice for soliciting particular kinds of
11 information from development men at
12 Monsanto?

13 A. Well, we got them all the time. I
14 don't think that we had any specific
15 pattern. I mean, I knew all these people,
16 and it seemed to work.

17 Q. What I'm wondering, Doctor, is
18 what kinds of information you solicited in
19 order to make a judgment about whether or
20 not to order a toxicological study?

21 A. Oh, well, regardless of the
22 proposed use, anything we were going to
23 send out to a customer, if we were to send
24 out the second sample to a customer, we
25 would have toxicological information on

it. I mean, we had the minimum on it. We
2 didn't send it out on the first one because
3 -- if you sent a quart out of a sample, we
4 get all sorts of -- you know, you get five
5 thousand inventions from a bunch of
6 research chemists. But if we advertised it
7 -- not advertised it, but brought it to
8 people's attention in a development
9 bulletin, we had toxicological information
10 on it in the informal system as well as the
11 formal system. If -- as I said, we got
12 requests for a number of samples, and any
13 repeat samples that looked like this
14 product might be a winner, or it might be
15 useful, we ran toxicological information on
16 it.

17 Q. I'm not sure I understood that
18 answer completely, Doctor. You're drawing
19 a distinction between second sample
20 products that you send to a particular
21 customer and products where you get many
22 requests for samples, is that the
23 distinction you're drawing?

24 A. Yes. If it looked like it was
25 going to -- if it's just for one person up

1 in Seattle that heard that Monsanto was
2 doing this kind of work and wrote in and
3 said do you have any of product XY, send me
4 a quart of it, if that's the last we heard
5 of it, we wouldn't run toxicological
6 information on that, as a rule. Now, it
7 was a moving target over the years. I
8 mean, we were doing more toxicological work
9 in the '70's than we were in the '30's.

10 Q. And what was the distinguishing
11 characteristic which would cause you to
12 order a toxicological study as between one
13 distribution of a sample and multiple
14 requests for samples from prospective
15 customers?

16 A. Say that again?

17 Q. Sure. I'm wondering how you --
18 what determination you made to call for a
19 toxicological study. You've indicated that
20 if just one person wanted a sample, that
21 was not really enough. But when did it
22 become enough to order toxicological work?

23 MR. PREUSS: Well, his testimony
24 is what it is, I object to the
25 characterization of his testimony.

1 A. Well, I can't say that if we had
2 15 -- I think that was flexible. If the
3 development man said looks like there is
4 quite a bit of interest in this product,
5 well, fine, then we would run toxicological
6 information on it. But I didn't have a
7 rule if it's gets up to nine we run it.

8 MR. TALLON: All right. That's
9 what I was looking for. Thank you. Would
10 you describe how the formal system changed
11 the system that you've just described as
12 the informal system?

13 A. Well, it made it more -- it
14 tightened it up to make sure there were no
15 lapses in it, that we had a system that if
16 product were mentioned in any of our
17 development bulletins -- I mean, they may
18 have a column in a development bulletin,
19 "What's new at Monsanto." "Well, we've got
20 this product, X,Y,Z, which has these
21 physical characteristics, can you use it?"
22 If it got in that, we did it. We went back
23 to the situation of the two requests for
24 samples, that was put in there. If we had
25 any history of irritation or ill-effects

1 from our research chemists, we ran it.
2 There may have been other criteria, but I
3 think these are the main ones.

4 Q. When the formal system was
5 established in either the late '50's or
6 early '60's, were any protocols or
7 guidelines written in order to describe the
8 system?

9 A. Well, we had what we called a Form
10 201 and 202, and that really described what
11 we needed to get from the -- that was
12 distributed when we put that in. And I
13 don't at present remember what the
14 difference between 201 and 202 was. When
15 we put that in we sent it around to all the
16 research laboratories, all the lab
17 development groups in the company and said
18 this is what we're doing.

19 Q. And what, in general, did Form 201
20 and Form 202, do without regard to any
21 distinction between those two forms?

22 A. You mean what did it do, what did
23 it ask for?

24 Q. What were those forms intended to
25 accomplish?

1 A. What they were intended to
2 accomplish was to give us the physical
3 characteristics of the material, what the
4 estimate of potential use was and the
5 manner in which the material should be used
6 -- could be used, what they knew about it.

7 Q. Was a completed Form 201 or Form
8 202 to be returned to the medical
9 department?

10 A. Well, they completed the first
11 part. In other words, we would send them
12 the blank 201 or 202. They would fill in
13 the stuff they were supposed to put in,
14 physical characteristics, solid,
15 temperature, volatility, vapor pressure,
16 all that stuff. There was a space for
17 potential use, or estimated use. And then
18 we would then have a section on toxicology
19 that after we ran it we'd send it back to
20 them for inclusion in any bulletin that
21 they might be writing.

22 Q. Was a completed Form 202 or 201
23 required on any product that appeared in
24 the development bulletin?

25 A. Yes.

1 Q. Was a completed Form 201 or 202
2 required on any other product?

3 A. Well, we may -- yes, I think it
4 was. I mean, if we started manufacturing a
5 product that somebody else had made, but
6 was new to Monsanto and it wasn't going to
7 be in a development bulletin, go right into
8 a sales bulletin, a 201 and 202 would have
9 to be filled out on that one.

10 Q. Is the category of products you
11 just described what you earlier referred to
12 as a "me, too" product?

13 A. The one that was manufactured by
14 somebody else before, yes.

15 Q. Yes. Was the completion of a Form
16 201 or 202 required for any Monsanto
17 product other than one appearing in the
18 development bulletin or a "me, too"
19 product?

20 A. Gosh, I don't know how -- well,
21 certainly if we were making an insecticide
22 it wouldn't be -- or a herbicide, it would
23 not be in a development bulletin until we
24 had all the information about it. I mean,
25 we would know how good it was as an

1 insecticide, what crops it should be used
2 on. And none of that was put in a
3 development bulletin because we knew that
4 the marketing time for that might be one or
5 two years down the road, or even longer
6 than that. So it would be required on
7 that. That would not be in a development
8 bulletin. There may be other ones, but I'm
9 not sure.

10 Q. Did you participate in the
11 drafting of Forms 201 and 202?

12 A. Yes. The medical department --
13 they were medical department forms.

14 Q. Did someone in your department
15 have particular responsibility for putting
16 those forms together?

17 A. Elmer Wheeler did.

18 Q. Do you know whether Mr. Wheeler
19 was assisted by anyone in his work in
20 creating those forms?

21 A. Well, he might have had one of our
22 toxicologists as a consultant on it.

23 Q. But you can't think of a name
24 right now of someone you know helped him in
25 that process?

1 A. Well, it could be Dr. Hunt, it
2 could be Dr. Levinskisas. Hunt is dead,
3 Wheeler is dead. Levinskisas is retired.
4 One of those, it could be Levinskisas, could
5 have.

6 Q. Do you know, Dr. Kelly, whether
7 there was any instructions accompanying the
8 Form 201 or 202 as to their use?

9 A. Well, sure. I mean, we -- I
10 think we had a letter that explained the
11 use of it. We just wouldn't put one in the
12 mail and send it out to this development
13 man. We'd tell them what the purpose of it
14 was and how he should fill it out and to
15 whom he should send it back and when he
16 could expect an answer. I'm sure there was
17 a letter of that type.

18 Q. Do you know, Dr. Kelly, whether
19 there were any internal guidelines or
20 protocols within the medical department to
21 assist in the evaluation of a Form 201 or
22 202 completed by a development employee of
23 Monsanto?

24 A. No. Either our toxicologists or
25 myself looked at the form. It wasn't

1 structured any more than that.

2 Q. Are you aware that Monsanto sold a
3 product known as Turbinol 153?

4 A. Yes.

5 Q. Do you recall having ever seen a
6 completed Form 201 or 202 that related to
7 Turbinol 153?

8 A. No, I do not recall.

9 Q. Do you recall having ever seen
10 either of those two forms completed for a
11 product known as OS-81?

12 A. I know we had toxicological
13 information on OS-81, but I do not recall
14 at this time whether we had a form, and I
15 don't know whether OS-81 was developed
16 before our 201, 202 program started.

17 Q. Do you recollect, Dr. Kelly, ever
18 having seen a Form 201 or 202 completed
19 with respect to a product known as MCS-153?

20 A. I don't know.

21 Q. Dr. Kelly, if a Form 201 or Form
22 202 had been completed with respect to a
23 product, the name of which later changed,
24 would an additional Form 201 or 202 be
25 required?

1 A. No. If the only change was a
2 name, no.

3 Q. At the time you commenced work at
4 Monsanto were you aware of any
5 toxicological studies relating to products
6 where their constituent elements of the
7 products included PCBs?

8 A. You mean before I came with
9 Monsanto?

10 Q. As of the time that you arrived
11 were you aware of any studies that dated
12 before the time you arrived?

13 MR. PREUSS: On PCBs?

14 A. On PCBs?

15 MR. TALLON: Yes.

16 A. The day I walked into Monsanto at
17 the plant, A, did I know that there were
18 toxicological studies on PCB, is that the
19 question?

20 Q. We can certainly start with that.

21 MR. PREUSS: That was the
22 question, wasn't it?

23 A. The answer is no.

24 MR. TALLON: Within the first year
25 of your service at Monsanto did you become

1 aware of any toxicological studies in
2 existence at that time that related to
3 PCB-based products?

4 MR. PREUSS: Are we talking about
5 internal as opposed to external?

6 MR. TALLON: I'm really not making
7 a distinction.

8 MR. PREUSS: All right.

9 A. At some time toxicological studies
10 were carried out at Harvard University, but
11 I do not know if that was in the first year
12 or not. I thought that was in 1937 or
13 1938, so I do not believe those studies
14 were carried out by January of 1937, which
15 would be the year following my arrival at
16 Monsanto.

17 Q. By the time you became the medical
18 director of Monsanto did you become aware
19 of any toxicological studies addressing
20 PCB-based products?

21 A. Yes.

22 Q. Which?

23 A. Which studies?

24 Q. Yes.

25 A. Harvard studies.

1 Q. Any others?

2 A. I don't recall. There may have
3 been some acute oral studies by some
4 laboratory or other. I'm sure we also did
5 some acute oral studies, acute toxicity
6 studies on the material during the late
7 '30's, the first couple of years of the
8 '40's.

9 Q. In general terms, Doctor, what
10 does the -- what is an acute oral study
11 designed to tell you?

12 A. To give you sort of a benchmark of
13 the toxicity of a material. Well, this is
14 acute poison, what if you accidentally
15 swallow, you know, a whiskey jigger full of
16 the material, what harm are you liable to
17 get. It isn't a complete evaluation of it,
18 but it is a benchmark and it helps to
19 define it in relationship to other
20 compounds.

21 Q. Do you recollect the results of
22 any studies in existence by the time you
23 became medical director of Monsanto that
24 were acute oral studies of toxicity for
25 PCB-based products?

1 A. Well, as I said, Harvard --
2 Drinker at Harvard did some work on a
3 couple of PCBs. He also did some work on a
4 compound that was mislabeled, it was
5 chlorinated diphenyl benzene. And he did
6 some work on, I think, 1254.

7 Q. Are there any other studies of
8 which you're aware that existed by the time
9 you became medical director of Monsanto?

10 A. I don't recall them. I mean,
11 there may have been, but I don't recall
12 them.

13 Q. When you referred a moment ago to
14 work done by Professor Drinker on 1254,
15 were you referring to Aroclor 1254?

16 A. Yes.

17 Q. Is that a trade name used by
18 Monsanto to describe a particular type of
19 product?

20 A. Yes, it is.

21 Q. And does the 54 in the
22 nomenclature 1254 indicate that the product
23 is chlorinated to the extent of 54 percent
24 by weight?

25 A. That's the average chlorination.

1 It may be chlorinated -- they've got
2 isomers that are higher, some lower, but
3 the average chlorination is 54 percent.

4 Q. I want to refer back to an answer
5 you gave a few moments ago, Dr. Kelly. You
6 used the term closed system in responding
7 to one of my questions. Would you please
8 state for the record what you mean when you
9 used the term closed system?

10 A. Yes. The ingredients or the
11 chemicals are inside pipes, inside
12 reactors, inside kettles, and that there
13 was supposed to be no contact with the
14 outside environment from the time the raw
15 materials are put in until the finished
16 product is put into drums, tank cars or
17 whatever type of container they're going to
18 use for ultimate delivery to the customer.

19 Q. In your answer you used the term
20 there was supposed to be no contact. Are
21 you indicating that there were
22 circumstances under which contact with the
23 chemicals could occur?

24 A. Well, there is also the potential
25 for leaks in a system. If you have a pump,

1 the packing could leak when you're filling
2 the material, or draining the material it
3 can leak. You could spill over. You have
4 certain cleanup operations in which you
5 take the system out of operation and clean
6 it up. So there are possibilities, yes.

7 Q. Was the term closed system in use
8 at Monsanto during the period that you were
9 medical director?

10 A. Oh, yes.

11 Q. And do you have any recollection
12 or sense of when that term first came into
13 use?

14 A. I think it was there before I got
15 there.

16 Q. Do you have any recollection of
17 when you achieved an understanding that a
18 closed system could leak or that contact
19 could be made in the process of filling
20 material or cleaning up operations?

21 A. I'd say probably 1936 the first
22 time I went through a plant.

23 Q. You also, in an answer that you
24 gave earlier, referred to an open system.
25 Could you describe what you meant when you

1 used the term open system?

2 A. Well, an open system refers to an
3 operation that is not carried out entirely
4 within kettles or pipes. You may have
5 trays, you may have filtering operations,
6 you may have drying operations. And in the
7 other sense it refers to the use of the
8 product. And I didn't mention the use when
9 I talked about closed system, I only talked
10 about manufacturing. If you have a
11 transformer that's filled with PCB, that's
12 a closed system. If you have a capacitor
13 that's filled with PCBs, that's a closed
14 system. Now, on the contrary, if you have
15 a plasticizer or a paint that has PCB in
16 it, when that's incorporated into a
17 plastic, during the operation it is open.
18 It may be in ball mills, it may be in
19 rollers, it may be in sheeting operations.
20 And when it is used, it is not -- by the
21 customer, here's a plastic that is out in
22 the open, that's an open operation. It may
23 be open -- open-close operation might be a
24 better term for the use of it. But that's
25 what I mean by an open system.

1 Q. Have you ever heard the term
2 semi-closed system?

3 A. No, I wouldn't know what it
4 means. I mean, semi-closed, half
5 pregnant? I mean, I don't think so. I
6 don't think it's commonly used.

7 Q. Was the term open system in use at
8 Monsanto while you were medical director?

9 A. Oh, yes.

10 Q. And can you estimate or tell me
11 when or how long during that period of
12 service the term was in use?

13 A. '36 to '74.

14 Q. You mentioned that one of the
15 responsibilities you had as medical
16 director was to establish an industrial
17 hygiene program?

18 A. That's correct.

19 Q. And would you briefly describe
20 what you did to initiate that industrial
21 hygiene program at Monsanto?

22 A. I hired an industrial hygiene
23 engineer in 1947, and I hired three more
24 before I left in '74.

25 Q. And who was the engineer that you

1 hired in 1937?

2 A. '47.

3 Q. '47, excuse me.

4 A. Wheeler.

5 Q. Who were the three --

6 A. Jack Garrett came in '57, I
7 believe. Carl Bohl, B-o-h-l, came in '60.
8 Bruce Eley came sometime in the late '60's.

9 Q. Messrs. Garrett, Bohl and Eley
10 were the three industrial hygiene engineers
11 that you hired after hiring Elmer Wheeler?

12 A. That's correct.

13 Q. Did Mr. Wheeler report to you?

14 A. Yes.

15 Q. Was his office near your office
16 during the period that he worked, or
17 reported to you?

18 A. Oh, yes. Right. Very close. I
19 mean, practically adjacent.

20 Q. Was Mr. Garrett's office near to
21 yours?

22 A. Yes. We were a relatively small
23 department, we had sort of a bull pen in
24 which the toxicologists -- Wheeler was
25 there, Garrett was there, the toxicologist

1 was there. We all had lunch together, we
2 shared secretaries, we shared the same
3 files. So we were a relatively close-knit
4 group.

5 Q. Did Mr. Garrett report to you or
6 to Elmer Wheeler?

7 A. To Wheeler.

8 Q. Was Garrett ultimately responsible
9 to you?

10 A. Well, ultimately, yes.

11 Q. You indicated that another
12 responsibility you had, Dr. Kelly, was to
13 be responsible for safe handling data and
14 toxicological data on labels. To what do
15 you refer by the term safe handling data?

16 A. First, I'd like to answer that --
17 I want to clarify that we did not put
18 toxicological data on a label.

19 Q. Okay.

20 A. I think I clarified that by saying
21 it was in bulletins. But safe handling
22 means the minimum amount of information you
23 could put on a label to protect the man or
24 the user from getting any harm from the
25 chemical. You tell them what the proper

1 -- what the proper way to avoid any
2 ill-effects from using the chemicals.
3 That's the safe handling data.

4 Q. When did you assume that
5 responsibility with respect to safe
6 handling data?

7 A. I'd say it was, informal, around
8 1938. It was certainly formal when I came
9 back from the service.

10 Q. 1945?

11 A. That's correct.

12 Q. What do you mean when you use the
13 term term of formal to describe this
14 particular responsibility?

15 A. Well, sort of an executive -- a
16 bulletin was put out from the executive
17 committee saying we now have this central
18 medical department, here are their duties
19 and here's what your relationship to the
20 medical department is.

21 Q. What is the executive committee to
22 which you referred?

23 A. The top brass of the company.

24 Q. And what do you recall, if you do,
25 as the formal description of your

1 responsibilities with respect to safe
2 handling data?

3 A. I don't recall what the
4 description was. That's 45 years ago.

5 Q. And what responsibility did you
6 have with respect to toxicological data in
7 bulletins?

8 A. Any toxicological data would be
9 obtained -- that would go into the -- any
10 bulletins or any printed material from
11 Monsanto would be the responsibility of the
12 medical department, they had to put it in
13 or they had to approve, maybe not the
14 editorial writing of it, but they had to
15 approve the facts.

16 Q. Were you personally responsible
17 for reviewing each of the bulletins in
18 order to sign off on the facts?

19 A. Well, either ultimately I was,
20 whether or not Elmer Wheeler or the
21 toxicologists under me would check it out.

22 Q. What toxicologists reported to you
23 during your period of service as medical
24 director?

25 A. Dr. William Hunt, Dr. Fred

1 Johannson, J-o-h-a-n-n-s-o-n, and Dr.
2 George Levinsksas, L-e-v-i-n-s-k-s-a-s.

3 Q. You mentioned, Dr. Kelly, that one
4 of your responsibilities was answering
5 questions that came to Monsanto regarding
6 products, is that correct?

7 A. That's correct.

8 Q. Was there a formal system for
9 routing of inquiries to you when you
10 assumed your position as medical director?

11 A. Yes.

12 Q. Can you describe the formal
13 system?

14 A. The formal system was that any
15 inquiry by letter or telephone or personal
16 to -- concerning a Monsanto product made
17 to anybody in Monsanto would be referred to
18 the medical department for answer.

19 Q. Was that policy memorialized in a
20 writing, if you recall?

21 A. Yes, it was.

22 Q. Do you remember what the writing
23 was, whether it was a memo or a policy
24 manual?

25 A. I think it was in the same

1 memorandum -- it wasn't a policy manual, I
2 don't think, but it was in the same
3 bulletin, or whatever, that was put out by
4 the executive committee at the time the
5 medical department was organized.

6 Q. Did that policy or statement
7 change during your period of service as
8 medical director in any respect?

9 A. No, it didn't.

10 Q. Did you personally sign off on
11 customer inquiries or other inquiries to
12 Monsanto that came in during your period of
13 service as medical director?

14 A. I don't know what you mean by sign
15 off.

16 Q. Did you check the facts and make a
17 response to inquiries personally?

18 A. Oh, sure.

19 Q. Was your approval required before
20 any response to a customer or other
21 outsider could be made?

22 A. No. In other words, if somebody
23 from the Detroit sales office went into
24 Ford Motor and was talking about a
25 hydraulic fluid, and somebody said has this

1 been used, how long has this been used and
2 have there been any problems with it
3 health-wise; he'd say no. I mean, he
4 wouldn't say well, go and ask St. Louis
5 about that. But he would then say look,
6 I'll let St. Louis know and let them give
7 you all their information. The man would
8 say fine, send me a letter, have them call
9 me.

10 Q. If a written inquiry was made to
11 Monsanto about a particular product, did
12 you personally have to approve the response
13 to that written inquiry?

14 A. If it dealt with health aspects or
15 safe handling, yes. I personally? I mean,
16 the medical department personally, that
17 doesn't mean that I answered all of them.
18 I had an associate medical director. I
19 mean, Wheeler answered some. But the
20 ultimate responsibility was mine. I saw
21 -- we were a relatively small department
22 and I saw correspondence -- I mean, the
23 carbons of all these.

24 Q. Do you recollect any instances
25 where you reviewed a copy of a response

1 made by someone working for you to an
2 inquiry about a PCB product which you
3 recalled or'-- that is to say, you
4 insisted that that response be withdrawn or
5 it be changed?

6 A. I don't recall it.

7 Q. Were you on any management
8 committee or other committee during the
9 period of your service at Monsanto?

10 A. Well, no, it wasn't a -- they had
11 a Wednesday lunch for the department
12 directors and the division directors and
13 the management, and as I said, the top
14 brass of the company. We met once a week
15 at lunch. But it was not a committee, as I
16 would view your term, where there was some
17 action done. It was more an informational
18 gathering. But, no, I was not on a
19 management committee. There were ad hoc
20 committees on various problems.

21 (Recess).

22 MR. TALLON: Why don't we have the
23 court reporter mark as Exhibit 143 a three
24 page document bearing production numbers
25 Tran 024941 through 943.

1 (Transwestern Deposition Exhibit Number
2 143 mark'd for identification).

3 MR. TALLON: Dr. Kelly, I'm going
4 to show you the document that the court
5 reporter has now marked as 143, which is
6 titled "Reported Aroclor customer
7 incidents." And my first question to you,
8 Doctor, is whether you have seen that
9 document before today?

10 A. I don't think so. I don't know
11 who wrote it. I don't know. I don't think
12 I've seen it.

13 Q. Do you recognize the handwriting
14 that appears either on the foot of page 1
15 or at various places on page 2 of this
16 exhibit?

17 A. No, sir, I do not.

18 Q. Did you ever request anyone
19 working for you in the medical department
20 to compile a list of reported customer
21 complaints or incidents with respect to
22 Aroclors?

23 A. No, sir.

24 MR. PREUSS: I'm going to move to
25 strike the use of the word complaints. I

1 think the terminology is incidents.

2 MR. TALLON: Noted. Well, you can
3 put that aside. I'll ask you, though,
4 whether you are familiar with a customer
5 incident dating to 1950 involving a
6 customer located in Brazil, Indiana?

7 A. I'm familiar with the incident,
8 yes.

9 Q. And would you please describe what
10 you recall about the incident to which I've
11 referred?

12 A. Yes. I recall that I received a
13 letter or a telephone call, I don't know
14 which, by Dr. Spolyar, who was an official
15 of the State of Indiana, saying he had a
16 jerry-rigged -- somebody had a
17 jerry-rigged heat transfer unit that was
18 leaking and workers had worked in it for
19 about three days inhaling the material and
20 had some gastrointestinal complaints. And
21 I talked to Dr. Spolyar about it. I said
22 "Well, watch them for the possibility of
23 liver damage." And to the best of my
24 recollection -- Dr. Spolyar wrote a paper
25 on it, but -- I think I've seen it, but I

1 was unable to find it several years ago --
2 the people got well. There were two or
3 three people involved.

4 Q. When you used the term
5 jerry-rigged heat transfer unit, what are
6 you referring to?

7 A. Yes. A temporary type of --
8 those are the words he used, I didn't see
9 the installation. But a temporary type of
10 heat transfer system.

11 Q. Was a Monsanto product being used
12 in that heat transfer system, to your
13 knowledge?

14 A. That's what he told me, it was.

15 Q. And did you identify from him the
16 product or the nature of the product?

17 A. I did at that time. And it says
18 here Aroclor 1248, and I don't know if
19 that's what he told me. But he told me it
20 was a Monsanto product.

21 Q. Do you recollect that an aroclor
22 was involved in that particular discussion
23 between you and Dr. Spolyar?

24 A. Yes, it was.

25 Q. You don't remember one way or the

1 other as to whether it was 1248 or a
2 different aroclor?

3 A. No, I don't.

4 Q. Dr. Kelly, was the phone call from
5 Dr. Spolyar the first communication to you
6 from an outsider with respect to an
7 incident involving an Aroclor?

8 MR. PREUSS: There is a letter,
9 counsel.

10 MR. TALLON: I think that's a
11 communication.

12 A. Say that over.

13 Q. Yes. Was the communication to you
14 from Dr. Spolyar the first occasion on
15 which you got a communication from an
16 outsider about an incident involving an
17 Aroclor product?

18 A. Well, I don't remember. I just
19 don't remember.

20 Q. You indicated in your response of
21 a moment ago that the employees involved in
22 this incident had some -- or at least Dr.
23 Spolyar indicated to you that the employees
24 had some gastrointestinal complaints, and
25 I'm not sure I got your answer correctly.

1 Did you tell him to watch for liver damage
2 or did he say that he was watching for
3 liver damage?

4 A. I think I told him.

5 Q. And can you state the reason why
6 you told him?

7 A. Yes. Our toxicological work
8 showed that the liver is the target organ
9 in acute exposures.

10 (Discussion off the record).

11 MR. TALLON: When you said in your
12 answer of a moment ago, Doctor, that
13 toxicological work showed the liver was a
14 target organ in acute exposures, to what
15 toxicological work were you referring?

16 A. Drinker's and some of our own
17 basic toxicological work that we had
18 carried out that I described before. I
19 mean, the basic package of four different
20 types of toxicological experimentation;
21 eyes, skin, inhalation and oral.

22 Q. And what was -- what is the
23 meaning of the terminology that you used,
24 the liver is the target organ?

25 A. Well, that seems to be the one

1 that is most affected by a chemical in a
2 toxicological experiment.

3 Q. Most affected by a chemical?

4 A. Any chemical, whatever, depending
5 -- it may be the kidney, it may be the
6 liver, it may be the brain, it all depends
7 on what chemical you're testing. That's
8 referred to by the toxicologists as a
9 target organ.

10 Q. Did the toxicological work that
11 you had on hand in formulating your reply
12 to Dr. Spolyar indicate that the liver was
13 the target organ of PCBs?

14 A. Yes.

15 Q. Do you recall whether the
16 toxicological work on hand at that time
17 differentiated between the Aroclor products
18 with respect to classifying the liver as a
19 target organ?

20 A. That's unclear to me. Would you
21 repeat it?

22 Q. I'm wondering whether the
23 toxicological work which you were referring
24 to in order to formulate your response to
25 Dr. Spolyar made any distinction between

1 Aroclor 1254 or 1232 in identifying the
2 liver as a target organ?

3 A. No. I think it might be a
4 difference in the dosage, but I think the
5 target organ is the same for various
6 different Aroclors.

7 Q. Are there Aroclors for which the
8 liver is not a target organ?

9 A. I don't recall any.

10 Q. In addition, in your answer you
11 used the term acute exposures. Can you
12 define that term as you used it in your
13 answer of a moment ago?

14 A. Acute exposure means one exposure
15 over a relatively short period of time,
16 whether that is hours, or in the case of
17 oral acute exposure whether it means one
18 dosing as contrasted to chronic exposure
19 which is a multiple exposure.

20 Q. Chronic means multiple, acute
21 means single; is that a fair statement?

22 A. Yes.

23 Q. Is there a medical standard for a
24 definition of an acute exposure?

25 A. I think it depends upon who you

1 ask. I don't think there is a standard.

2 Q. In your use of the term acute
3 exposure, are you using any reference to
4 the volume of material to which exposure is
5 had?

6 A. Well, whatever -- when you do an
7 LD 50, you have various amounts given the
8 animal. And that is an acute exposure.
9 But the animal is subjected -- the group
10 of animals are subjected to varying doses,
11 so a small dose all the way up to a big
12 dose. But that's all an acute test.

13 Q. In your experience, Dr. Kelly, is
14 there a particular volume of PCB material
15 to which a person can be exposed in order
16 to have that exposure be classified as an
17 acute exposure?

18 A. Well, whether you're talking about
19 PCB or anything else, if you have a drop on
20 it of any material, that's exposure. It
21 may be an insignificant exposure, but it's
22 exposure. So it's an acute exposure. But
23 you don't have to immerse the whole arm,
24 you can do that and that's also acute
25 exposure. So I find it impossible to

1 answer your question.

2 Q. You're using the term acute to
3 mean exposure on one occasion, regardless
4 of the volume of material involved?

5 A. That's correct.

6 Q. I see. So physically actually
7 getting into a vat of PCBs would constitute
8 an acute exposure?

9 A. Yes.

10 MR. PREUSS: Assuming somebody got
11 out right away afterwards.

12 MR. TALLON: Right. Dr. Kelly, do
13 you recollect having been contacted by the
14 worker's compensation board in Toronto,
15 Ontario about an exposure of workers at the
16 -- it looks like Rinshed-Mason Company in
17 Canada?

18 A. No, sir, I do not.

19 Q. Does looking at the document which
20 we have marked as Exhibit 143, and
21 particularly the portion appearing on the
22 bottom of page 1 refresh your recollection
23 in any respect about such a contact?

24 A. No, it does not.

25 Q. Do you recall, Dr. Kelly, having

1 been contacted in 1966 with respect to spot
2 exposures to fumes at the U.S. Naval
3 Station in Kodiak, Alaska?

4 A. No, I do not.

5 Q. Does looking at the typed
6 information at the top of page 2 of Exhibit
7 143 refresh your recollection in any
8 respect about such a contact?

9 A. No, sir.

10 Q. Do you recall, Dr. Kelly, about
11 being contacted in 1968 or at any time
12 about an exposure to fumes at the
13 Interchemical Corp. Prestite Division in
14 St. Louis, Missouri?

15 A. No. But this is not a PCB, by the
16 way. Aroclor 4465 is an Aroclor, but not a
17 PCB.

18 Q. Looking at that particular passage
19 on particular 2 of Exhibit 143 does not
20 refresh your recollection?

21 A. No, sir.

22 Q. Do you recollect, Doctor, being
23 contacted at any time in the first quarter
24 of 1969 or otherwise with respect to an
25 exposure of a truck driver to Interteen

1 fumes at Westinghouse Company in Phoenix,
2 Arizona?

3 A. No, sir.

4 Q. Does looking at the third entry on
5 page 2 of Exhibit 143 refresh your
6 recollection in any respect on that
7 subject?

8 A. No, sir.

9 Q. Doctor, do you recollect at any
10 time hearing of an exposure of maintenance
11 men resulting in hand and forearm rashes at
12 the Interchemical Corp. in Toledo, Ohio?

13 A. No, sir.

14 Q. And looking at the bottom of page
15 2 of Exhibit 143 does not refresh your
16 recollection in any respect?

17 A. No, sir.

18 Q. Was kidney soreness an expected
19 result of exposure to -- acute exposure to
20 a PCB-based product?

21 A. No, it certainly was not. And I
22 do not know what they referred to by kidney
23 soreness. Usually problems with the
24 kidney, unless it's a kidney stone, does
25 not elicit any kidney soreness. So I have

1 no idea what these people are talking
2 about.

3 Q. Doctor, I want to refer back for
4 just a moment to the communication you had
5 with Dr. Spolyar which you recall. And
6 I'll have marked as Exhibit 144 a one page
7 document dated February 6, 1950 on the
8 letterhead of the State of Indiana, State
9 Board of Health.

10 (Transwestern Deposition Exhibit Number
11 144 mark'd for identification).

12 MR. TALLON: I'll ask you to just
13 take a look at that letter, if you would,
14 please. I'll note for the record that this
15 letter has four different designations on
16 the bottom of it. I'm not sure which one
17 of those relates to this case. One of them
18 is T 091744.

19 A. Yes, sir.

20 Q. Do you recognize this letter, Dr.
21 Kelly?

22 A. Well, I recognize it, yes. And it
23 ties into my recollection of the whole
24 incident.

25 Q. Did you receive this letter from

1 Dr. Spolyar in February of 1950?

2 A. I presume I did.

3 Q. Do you recollect that you did?

4 A. Sure. I sent him the information
5 he wanted. He asked for toxicological
6 information.

7 Q. And you responded to this, is that
8 correct?

9 A. That's correct. I asked him for
10 more information, I'm sure, because he said
11 the illness was quite vague, and he didn't
12 exactly know what the complaints were.

13 Q. As a result of your communications
14 with Dr. Spolyar, did you recommend that
15 any studies be done with respect to any
16 PCB-based products?

17 A. Studies? What type of studies?

18 Q. Any studies, toxicology studies.

19 A. Well, we knew the toxicology.

20 Q. I'm sorry, I didn't hear the end
21 of your answer.

22 A. We knew the toxicology, so I
23 didn't recommend any more.

24 Q. Do you have any recollection of
25 reporting your communications with Dr.

1 Spolyar to anyone within the Monsanto
2 organization?

3 A. No. But I do not recall that
4 directly. But as a matter of procedure I
5 always told the product development --
6 product manager about any health
7 complaints.

8 Q. When you state in your answer that
9 you always communicated to the product
10 manager any information about health
11 related complaints, was it your practice to
12 do so in writing or orally or both?

13 A. Either or both.

14 Q. What was your purpose for so
15 informing the product manager?

16 A. To let him know that this
17 situation occurred and to let him know if
18 he hears of any others to let me know.

19 Q. Do you recollect, Dr. Kelly,
20 having recommended any changes in product
21 labeling as a result of your communication
22 with Dr. Spolyar?

23 A. No. Because if they had followed
24 the recommendation on the labeling which
25 says do not inhale fumes in confined spaces

1 or at elevated temperatures, this wouldn't
2 have happened.

3 Q. Doctor, do you recollect having
4 had any communication in the early 1960's
5 with a Mr. Allen of Hexagon Laboratories,
6 Inc. relating to PCB-based products?

7 A. Yes.

8 Q. And can you tell me what you
9 recollect about that communication or
10 communications?

11 A. I thought he called me, and,
12 again, he said this was a heat transfer
13 unit that -- and I don't know whether it
14 was a temporary or permanent installation,
15 but there were leaks and the people were
16 exposed to the vapors. I don't know how
17 long. They had gastrointestinal
18 complaints. I don't know whether there had
19 been any supervision of the people so that
20 they followed the directions on our
21 labeling. And he told me that they had
22 gastrointestinal complaints, and I said
23 well, watch out for -- I don't know what
24 year it was, have you got the -- well, I
25 don't know if I advised him to have enzyme

1 studies or liver studies or what I said
2 watch out for the possibility of chemical
3 hepatitis. And he called me a couple of
4 weeks later and -- a week later and said
5 yes, that's true, they showed a little
6 jaundice. And I checked with him again
7 sometime later and he said they completely
8 recovered. Those were the only two
9 inhalation cases that I had in 38 years
10 with Monsanto.

11 Q. The only two being --

12 A. Indiana and Hexagon.

13 Q. Would you read the answer back,
14 the long one?

15 (The requested portion of the
16 record read by the reporter).

17 A. I might add one thing to that last
18 statement. There was one case of
19 inhalation where people developed
20 chloracne. Those are the only two
21 instances where people developed liver
22 problems.

23 Q. In the answer that I just asked
24 the court reporter to read back you said
25 you didn't know whether there was

1 supervision or whether the people involved
2 had followed the directions on the
3 labeling. There wasn't any indication on
4 the labeling about how to deal with leaks,
5 was there?

6 A. Well, no. But it says don't
7 breathe the fumes at elevated temperatures
8 or in confined spaces, no matter how it got
9 there.

10 Q. And in the case of a leak,
11 inhalation could be unavoidable, correct?

12 A. No, not necessarily. You don't
13 have to breathe the stuff over three days,
14 you can plug up the leak.

15 Q. Although in the case of an
16 unexpected leak, inhalation would be
17 unavoidable?

18 A. Sure. But you can turn off the
19 operation until you've fixed it.

20 Q. You mentioned in your answer,
21 also, that you addressed the subject of
22 chemical hepatitis. Can you tell me how
23 the condition of chemical hepatitis is
24 related to exposure to Aroclor fumes, or
25 how you believed it to be then, rather?

1 A. If you get a sufficient amount of
2 Aroclor absorbed into the system,
3 sufficient amount, and that varies with
4 species and with -- well, in humans, you
5 can get an involvement of the liver.

6 Q. I'm sorry, what of the liver?

7 A. Involvement.

8 Q. Involvement.

9 A. And that's what's known as a
10 chemical hepatitis, as contrasted to
11 infectious hepatitis, viral hepatitis, et
12 cetera.

13 Q. Are you using involvement in that
14 sentence as a technical term?

15 A. I don't think it's too technical.
16 I mean, the liver -- it affects the liver.

17 Q. Okay. I was just wondering if you
18 were using involvement as a technical term
19 as opposed to indicating that the liver was
20 implicated as a result of the absorption.
21 And your answer, I believe, was you were
22 not using it as a technical term?

23 A. No.

24 Q. In what manner is the liver
25 involved, what happens?

1 A. You get cloudy swelling of some of
2 the liver as well as -- depending on the
3 dosage, and that either can progress or
4 regress.

5 Q. Let me have marked as the next
6 exhibit in order a one page document which
7 is dated February 2, 1961. And it also has
8 several designations on it, I'll use the
9 top one, which is PRR 025477. And I ask
10 the court reporter to mark that, please.

11 (Transwestern Deposition Exhibit Number
12 145 mark'd for identification).

13 MR. TALLON: Can you take a moment
14 to review that, please, Dr. Kelly?

15 A. Yes, sir.

16 Q. Can you identify the document for
17 the record?

18 A. It's a letter -- it's a
19 memorandum from me to Mr. Richard Davis, I
20 don't know his position, with heat transfer
21 department. I mean, whatever --
22 industrial fluids department, I think is
23 probably the proper name. And I told him
24 about the Hexagon Laboratory incident.

25 Q. Is this a carbon copy of a

1 memorandum that appeared on Monsanto
2 memorandum stationery?

3 A. Yes.

4 Q. And did you create this memorandum
5 as part of your normal job function at
6 Monsanto?

7 A. Yes.

8 Q. Did you intend for Mr. Allen to
9 rely on the information that appears in
10 this memo?

11 MR. PREUSS: Mr. Allen or Mr.
12 Davis?

13 MR. TALLON: Mr. Davis. Thank you
14 for that correction.

15 A. Yes.

16 Q. And was this memorandum created at
17 or about the time of your communication
18 with Mr. Allen of Hexagon Laboratories?

19 A. Yes, it was. I was looking for a
20 letter from Mr. Allen, but I don't see any.

21 Q. Okay. I want to just ask you a
22 question about the text of this memorandum,
23 Dr. Kelly. There is a sentence therein
24 that says, "One individual was under the
25 care of a physician and the physician

1 suspected liver damage." Do you see that?

2 A. Yes, I do.

3 Q. Do you recollect what, if
4 anything, Mr. Allen told you about the
5 suspicions of the physician regarding liver
6 damage?

7 A. No, I don't recall. And I don't
8 recall what Mr. Allen meant by the term
9 damage. But Mr. Allen and I talked about
10 it, and I said you have to suspect effects
11 on the liver if you breathe sufficient
12 number of Aroclor -- sufficient amounts of
13 Aroclor 1248 at elevated temperatures.
14 Which is the only way you'll get it, you've
15 got to heat it up.

16 Q. Did you ask Mr. Allen whether the
17 two employees in question manifested
18 jaundice?

19 A. I'm sure I did, because I told him
20 watch out for it.

21 Q. Because you anticipated that as a
22 result of the inhalation?

23 A. Not as a result, a possible
24 result.

25 Q. And just one other question on

1 this document, Dr. Kelly. Your last
2 sentence and paragraph in the memorandum
3 states, "It might be that you will want to
4 alert the New York office about this
5 case." Do you see that?

6 A. Yes.

7 Q. And can you state today the reason
8 why you told Mr. Davis that he might want
9 to alert the New York office?

10 A. Yes. I think that the New York
11 office ought to send the salesman down
12 there to talk to Mr. Allen and see how
13 things are getting along, if there is
14 anything more we could do.

15 Q. Any other reason?

16 A. No, sir.

17 Q. I'm going to ask the court
18 reporter to mark as the next exhibit in
19 order a letter on the stationery of Hexagon
20 Laboratories, dated February 14, 1961, a
21 one page letter which also includes
22 different document designations. I'll
23 identify it for the record as PRR 025476,
24 which is one of the designations.

25 (Transwestern Deposition Exhibit Number

1 146 mark'd for identification).

2 MR. TALLON: Dr. Kelly, would you
3 please take a moment, or however long you
4 need, and review that document?

5 A. Yes, sir.

6 Q. Can you identify this document for
7 the record, Dr. Kelly?

8 A. Yes. This is a letter from Mr.
9 Allen of Hexagon Laboratories to me
10 concerning people who -- two of his plant
11 personnel were -- developed some liver
12 problems following exposure to a broken
13 heat transfer unit.

14 Q. Was this letter to you Mr. Allen's
15 follow-up on the telephone conversation
16 described in Exhibit 145, which is your
17 memo of February 2, 1961?

18 A. Yes, sir, that's what he says.

19 Q. Doctor, do you remember having
20 predicted to Mr. Allen that the employees
21 would develop symptoms of hepatitis?

22 A. Not would. Might.

23 Q. Might. Do you remember predicting
24 that the employees might develop symptoms
25 of hepatitis?

1 A. Yes.

2 Q. Doctor, I'm going to ask the court
3 reporter to mark as Exhibit 147 a one page
4 document, dated February 17, 1963, which,
5 again, contains several different document
6 designations, one of them is PRR 025475 and
7 I'll ask the court reporter to mark that.

8 (Transwestern Deposition Exhibit Number
9 147 mark'd for identification).

10 MR. TALLON: Would you take a
11 moment, please, and review that, Dr.
12 Kelly?

13 A. Yes, sir.

14 Q. Can you identify the document for
15 the record?

16 A. It's a letter from me to Mr. Allen
17 of Hexagon Laboratories.

18 Q. Is that the carbon copy of a
19 letter that you, in fact, sent to Mr.
20 Allen?

21 A. Yes, sir.

22 Q. And did you write that letter to
23 Mr. Allen in the discharge of your
24 responsibilities as medical director of
25 Monsanto?

1 A. Yes, sir.

2 Q. Did you intend for Mr. Allen to
3 rely on the information in the letter?

4 A. Certainly.

5 Q. And did you create this document
6 at or about the time of the events which
7 are reflected in it?

8 A. Yes.

9 Q. There is a notation or series of
10 notations at the very top of the page which
11 are partly legible. I'll state for the
12 record that it appears to read, "Note to
13 BCC's: it might be very well for us to
14 look over this matter of warning
15 individuals about leaks in an Aroclor
16 system. We certainly aren't too emphatic
17 about it." And then the initials R.E.K..
18 Do you believe that's what that says?

19 A. Yes.

20 Q. And R.E.K. is you?

21 A. That's correct.

22 Q. And what was the purpose of adding
23 this note to BCC's?

24 A. I think even though this was only
25 the second case we had in -- I don't know

1 how long we were using that material, but
2 it was probably at least ten years in heat
3 transfer systems, that we only had two
4 cases, I thought we ought to investigate to
5 see if we ought to warn more people or do
6 something about the warning. Inasmuch as
7 we didn't have any more cases from 1961
8 reported to us to '74, whatever we did
9 seemed to work out all right.

10 Q. Does the phrase "we certainly
11 aren't too emphatic about it" mean that
12 there is no specific place where the issue
13 of leaks is addressed in Monsanto product
14 brochures or labeling?

15 A. I don't think I can answer that,
16 because I do not know whether or not it is
17 addressed in Monsanto brochures or not. We
18 do state in the label "Don't breathe it."
19 Maybe I thought we might put on -- I don't
20 know what. I thought we ought to discuss
21 the whole matter. There may be information
22 in the bulletins that something was added,
23 I have no recollection.

24 Q. Were you anticipating that
25 something could be added to a label or to a

1 product brochure having to do with dealing
2 with leaks?

3 A. You have to differentiate. I
4 don't think you could put it on a label, I
5 mean, outside of telling them don't breathe
6 the fumes. But I think we thought of
7 seeing whether or not some change in the
8 product brochure might be advisable. As I
9 say, whatever we did, this was the last --
10 I got no more of these all the way through
11 1974.

12 Q. And what's the reason why it
13 couldn't be put on a label?

14 A. Well, I think space. You don't
15 put everything on a label, you just say
16 what you should do, not how you should do
17 it.

18 Q. There is a reference, Dr. Kelly,
19 in the second paragraph of your letter of
20 February 17, 1963 that states, "We do state
21 that the vapors emitted by Aroclor at
22 elevated temperatures are injurious upon
23 prolonged exposure and should not be
24 breathed." Do you see that?

25 A. Yes, I do.

1 Q. What is meant by the phrase
2 "elevated temperatures" in the context of
3 that sentence?

4 A. Well, elevated temperatures means
5 higher than room temperatures. How much
6 higher, I think, depends on the person
7 who's using it. He knows how hot it gets.
8 If you put -- at room temperature you can
9 have an open bucket of Aroclor 12 --
10 whatever which one we're using -- 1248, you
11 can have a bucket of Aroclor 1248 out in
12 the room and breathe it for months and you
13 get no problem. How much higher you have
14 to get it varies, I think. So, elevated.
15 I don't know if it would be feasible to put
16 down do not breathe at temperatures above
17 200 degrees centigrade or 200 degrees
18 fahrenheit, I don't know.

19 Q. Just for point of clarification,
20 is it your testimony that elevated
21 temperatures in that sentence means
22 anything higher than room temperature?

23 A. No. Elevated temperature is
24 usually -- usually meant the temperatures
25 used in heat transfer units. In other

1 words, that's the purpose, the Aroclor is
2 hot. So if you're telling a person not to
3 breathe the fumes at elevated temperatures,
4 in a heat transfer agency you are telling
5 him not to breathe the fumes that are the
6 operational temperature of your heat
7 transfer unit, which is always hot.

8 Q. Is there a minimum temperature
9 which you're using in your mind now as a
10 demarcation point for the meaning of
11 elevated temperatures?

12 A. No.

13 Q. Is the risk to the user associated
14 with the degree to which the user heats the
15 Aroclor product?

16 A. No. It's the exposure he gets,
17 and the amount of exposure, the amount --
18 the volume of the exposure and the duration
19 of the exposure. It could be a thousand
20 degrees, as long as it's inside the pipe it
21 won't give him any problem.

22 Q. Does the risk to the user,
23 depending upon volume, vary depending upon
24 the temperature to which a particular
25 Aroclor is heated?

1 A. Yes. There is more volatilization
2 the hotter it is.

3 Q. And what is the significance of
4 the change in temperature? How does the
5 higher temperature cause greater risk?

6 A. It volatilizes more of the
7 material, more of the material turns from a
8 liquid into a gas.

9 Q. During the period that you were
10 medical director were any studies conducted
11 on the degree of volatilization as a factor
12 of temperature?

13 A. Well, I'm sure there were. They
14 were in our bulletins, they told them the
15 vapor pressure, but they weren't conducted
16 by the medical department.

17 Q. And when you used the term vapor
18 pressure in your answer, to what do you
19 refer?

20 A. What I refer to is the amount of
21 material that is evolved as a gas from the
22 liquid by changes in temperature.

23 Q. Is it correct, Dr. Kelly, that
24 more highly chlorinated Aroclors were less
25 volatile than lower chlorinated Aroclors?

1 A. Yes.

2 Q. And just as a follow-up question,
3 is it correct that the determination of
4 vapor pressure was not a function of the
5 medical department?

6 MR. PREUSS: Did you say
7 determination?

8 MR. TALLON: Determination.

9 A. No, that was done by the research
10 people. That was established and written
11 up in the bulletins.

12 Q. Did you ever use data created for
13 Monsanto or by Monsanto research and
14 development with respect to the volatility
15 of Aroclors as a function of temperature in
16 any of your work as medical director? Do
17 you want to read that back?

18 (The requested portion of the
19 record read by the reporter).

20 A. Well, certainly I knew that if you
21 heated material that it became more
22 volatile, and that's why we warned against
23 using it at elevated temperatures. We did
24 run toxicological work on the material, on
25 some of the Aroclors at elevated

1 temperatures.

2 Q. Where was it warned -- where was
3 the warning' included against using the
4 products, Aroclor products at elevated
5 temperatures?

6 A. I think the label said do not use
7 at -- do not breathe in confined spaces or
8 at elevated temperatures.

9 Q. Just to be clear, that's not a
10 warning that the product shouldn't be used
11 at elevated temperatures, correct?

12 A. It was on the -- if it's on the
13 drum of a product that says don't breathe
14 it, I would think that would be a warning
15 about it.

16 Q. Right. I'm drawing a distinction
17 between use of the product at elevated
18 temperatures and breathing the product at
19 elevated temperatures. The warning or
20 labeling to which you have just referred,
21 I'm asking you, isn't that a warning
22 against inhalation, not a warning against
23 use?

24 A. Oh, yes. You don't warn against
25 using the material at elevated temperatures

1 if you're selling it as a heat transfer
2 fluid. That's the purpose of it.

3 Q. And when, if you know, did you
4 first become aware of the fact that
5 Aroclors became more volatile when heated?

6 A. 1937.

7 Q. Could you refer again to your
8 letter of February 17, 1963, Doctor? There
9 is a reference in the last paragraph, which
10 I will read to you and then ask you about.
11 It says, "It may interest you to know that
12 your case is only the second that I have
13 heard of since 1940." Do you see that?

14 A. Yes, I do.

15 Q. And in referring to the second
16 case since 1940, are you referring to the
17 communication from Dr. Spolyar about which
18 we have talked this morning?

19 A. Yes, sir.

20 Q. Was there another case dating
21 before that communication from Dr. Spolyar?

22 A. Not with liver involvement. There
23 was a case, I told you, that involved mild
24 chloracne from a heat transfer unit.

25 Q. And when did that -- your

1 awareness of that case occur?

2 A. You probably got it in there, in
3 that file, so I'm not sure whether it was
4 in the '50's or '60's. It was by Meggs of
5 New Haven.

6 Q. Did it post-date the Hexagon
7 Laboratories case?

8 A. I can't answer that. But I think
9 we'll come to it, I believe.

10 Q. I'm just wondering what the
11 significance is of the date 1940 in that
12 sentence?

13 A. I think that's when I got
14 knowledgeable, when I started getting
15 inquiries from customers. I was the
16 medical director without portfolio in 1940.

17 Q. Do you have any understanding,
18 Doctor, as you sit here today, whether or
19 not the heat transfer system described in
20 this series of communications with Mr.
21 Allen was an open system or a closed
22 system?

23 A. A heat transfer system has to be
24 closed, otherwise -- it just has to be
25 closed, inherently.

1 (Discussion off the record).

2 MR. TALLON: Why don't we ask the
3 court reporter to mark as Exhibit 148 a one
4 page document bearing production number
5 Tran 053886.

6 (Transwestern Deposition Exhibit Number
7 148 mark'd for identification).

8 MR. TALLON: Dr. Kelly, would you
9 please take a moment and review that
10 document? And while you're doing so I'll
11 state for the record that that document
12 appears to be a one page letter in Dr.
13 Kelly to Mr. D.W. Palmer dated December 17,
14 1952.

15 (Transwestern Deposition Exhibit Number
16 148 mark'd for identification).

17 A. Yes, sir.

18 Q. Will you identify this document
19 for the record, if you can, Dr. Kelly?

20 A. This is a letter from me to the
21 American Mutual Liability Insurance
22 Company, dated December 17, 1952.

23 Q. And is this the carbon copy of a
24 letter that you actually sent to Mr.
25 Palmer?

1 A. Yes, it is.

2 Q. Was it part of your function as
3 the medical director to send this letter?

4 A. Yes, it was.

5 Q. And did you write this letter at
6 or about the time of the events described
7 in it?

8 A. Yes, sir.

9 Q. Did you intend for Mr. Palmer to
10 rely on the information appearing in it?

11 A. Yes, I did.

12 Q. I want to refer you particularly
13 to the second paragraph. There is a
14 statement starting with the words,
15 "Certainly I do not believe that the fumes
16 evolved at 180 degrees fahrenheit should be
17 breathed." Do you see that?

18 A. Yes, I do.

19 Q. What is the basis for the
20 statement that "I do not believe that fumes
21 evolved at 180 degrees fahrenheit should be
22 breathed"?

23 A. It's my opinion that you would get
24 enough evolved -- material involved that
25 would be higher than the maximum allowable

1 concentration.

2 Q. And why 180 degrees? Where does
3 that number come from?

4 A. He must have asked me in his
5 letter.

6 Q. Would it have made a difference to
7 your response if he said 160 degrees?

8 A. No, I don't think so.

9 Q. One of the questions that you
10 asked Mr. Palmer is if you could let me
11 know the Aroclor used. Was your response
12 in any way dependent upon the Aroclor used?

13 A. Yes, I think so. If I knew which
14 Aroclor it was I could have our research
15 people tell me how much would come off at
16 180 degrees. If it were 1242 it might be
17 one thing, if it were 1260 it might be
18 something else.

19 Q. And your response relates back to
20 an answer that you gave earlier today
21 indicating that lower chlorinated Aroclors
22 are more volatile when heated than higher
23 chlorinated Aroclors?

24 A. That's correct.

25 Q. What is the reason for that

1 distinction?

2 A. It's the nature of the beast.

3 Q. One other thing on this document,
4 Dr. Kelly. The last sentence in the second
5 paragraph states, "The larger capacitor
6 manufacturers, such as General Electric and
7 Westinghouse, have not experienced any of
8 these circumstances." Do you see that?

9 A. Yes, I do.

10 Q. Do you know if, or do you
11 recollect whether Mr. Palmer was inquiring
12 about use of Aroclors for capacitor
13 manufacture?

14 A. I don't recall what he was
15 inquiring about.

16 Q. Do capacitor manufacturers use
17 heated Aroclors, so far as you know?

18 A. Well, they put the capacitor in an
19 oven and heat it up, but they have vacuum
20 on the ovens.

21 Q. Was, so far as you know, the
22 Aroclor already installed in the capacitor
23 at the time that the capacitor is heated?

24 A. Yes. During the manufacture, yes.

25 Q. And the capacitor is sealed at the

1 time that it's heated, so far as you know?

2 A. I really don't know much about it,
3 I've never been in a capacitor plant.

4 Q. Okay. So you don't know the
5 answer to that question?

6 A. I can't answer it.

7 Q. Doctor, do you recollect having
8 had a conversation during the 1960's with a
9 Mr. Louis Redmond of Chrysler Corporation
10 regarding a Pydraul product?

11 A. No, sir, I don't.

12 Q. Why don't we ask the court
13 reporter to mark as Exhibit 149 a three
14 page document bearing production numbers
15 Tran 058086 through 088.

16 (Transwestern Deposition Exhibit Number
17 149 mark'd for identification)?

18 MR. TALLON: Doctor, I'm going to
19 ask you to review this document, please.
20 And while you're doing that, I'll state for
21 the record that the document appears to be
22 a Monsanto Call Report, Organic Division
23 Marketing Department. My question to you,
24 Dr. Kelly, will be whether reviewing this
25 document refreshes your recollection about

1 having had a communication with a Mr. Louis
2 Redmond of Chrysler Corporation during the
3 1960's?

4 A. Yes, sir.

5 Q. Does reviewing any portion of the
6 Exhibit 149, including the handwritten
7 notation on page 2, refresh your
8 recollection as to whether or not you had a
9 communication with Louis Redmond of
10 Chrysler Corporation during the 1960's?

11 A. No, it doesn't.

12 Q. During the period that you were
13 medical director did you from time to time
14 make telephone calls to customers at the
15 request of sales personnel?

16 A. Oh, yes.

17 Q. Was it in part your purpose in
18 making those calls to assist a sales
19 effort?

20 A. Well, indirectly. But the main
21 purpose was to tell the information --
22 depends on the reason for the call. It was
23 either to give the man information as to
24 the toxicological aspects of the product,
25 whether or not there is any potential

1 avenues of harm to a worker from the
2 product and answer what questions they had
3 about the safety of the product. If that
4 helped the sales effort, fine. But the
5 main problem was to be sure our product
6 could be used safely.

7 Q. When you used the term indirectly
8 in your last answer, did you mean to
9 suggest if the information was provided to
10 the person to whom you spoke, then that
11 might aid the sales effort?

12 A. If he didn't want to use the
13 product because he didn't know anything
14 about the toxicity, he was worried about
15 the toxicity, and if I was able to explain
16 to him the safe use of the product, how it
17 had been used safely, that would certainly
18 help the sales effort. But that's the
19 indirect extra dividend of it.

20 Q. Just refer back to that exhibit
21 one more moment, Dr. Kelly, please. And on
22 page 2, can you tell me whether that is
23 Elmer Wheeler's handwriting?

24 A. Yes, it is.

25 Q. Doctor, do you have any

1 recollection of having discussed an
2 employee complaint regarding a Pydraul
3 product where the employee was an employee
4 of Welman International?

5 A. I don't recall it.

6 Q. Why don't we have the court
7 reporter mark as the next exhibit a one
8 page document bearing production number
9 Tran 062752.

10 (Transwestern Deposition Exhibit Number
11 150 mark'd for identification).

12 A. No, sir, this doesn't change my
13 lack of recollection.

14 Q. In other words, reviewing this one
15 page document which appears to be a telex
16 does not refresh your recollection on the
17 subject of having communicated with someone
18 on the subject of a Welman International
19 employee?

20 A. No, sir, it does not.

21 Q. Dr. Kelly, did you see telexes
22 like this one while you were employed by
23 Monsanto?

24 A. Yes.

25 Q. Are you able to ascertain from a

1 review of the document before you the date
2 of this telex?

3 A. No, I am not. 10 November
4 something, but -- I'm not.

5 MR. PREUSS: Not 1134, we don't
6 think.

7 MR. TALLON: Certainly not. I'm
8 going to ask the court reporter to mark as
9 Exhibit 151 a one page document bearing
10 production number Tran 019659.

11 (Transwestern Deposition Exhibit Number
12 151 mark'd for identification).

13 MR. TALLON: Would you take a
14 moment and review that document, Doctor,
15 which I will describe for the record as a
16 document which appears to be a copy of a
17 letter from Dr. Kelly to Dr. Spolyar, dated
18 February 14, 1950.

19 A. Yes, sir.

20 Q. Can you identify the document for
21 the record, please?

22 A. It's a letter from me to Dr.
23 Spolyar of the Indiana State Board of
24 Health, dated February 14, 1950.

25 Q. Earlier we saw an exhibit which

1 was Dr. Spolyar's letter to you. Is this
2 your response to him?

3 MR. PREUSS: Wait a minute. Which
4 one are you talking about?

5 MR. TALLON: Exhibit 144.

6 MR. PREUSS: Thank you.

7 A. Well, I don't know if that was in
8 response to this -- to Dr. Spolyar's
9 letter of February 6th. Waiting eight days
10 in a case like this to an official report
11 of health was not our official procedure,
12 so I think there was some other
13 communication in between. I think I talked
14 to him in between there. But it was in
15 response to the same incident.

16 Q. Are you suggesting by your answer
17 that you had a practice of responding more
18 rapidly than an eight day time frame to a
19 request for information from an official
20 state agency?

21 A. No, from any doctor about a
22 patient.

23 Q. I want to refer you to the third
24 full paragraph in the letter, Doctor. The
25 first sentence states that "The toxicology

1 of Aroclors is somewhat confused." Do you
2 see that?

3 A. Yes.

4 Q. And you're referring in that
5 paragraph to the work of Dr. Drinker,
6 correct?

7 A. Yes.

8 Q. And is the confusion his finding
9 that Aroclor 1254 was considerably more
10 toxic on inhalation than Aroclor 1268?

11 A. Well, it's more than that.

12 Q. What is the confusion?

13 A. The confusion was that Dr. Drinker
14 ran a compound that he said was 1265, which
15 we don't make, but we make a chlorinated
16 diphenyl benzene which is 4465, and that
17 was quite toxic. And then he wrote it up
18 as an Aroclor -- PCB, where it was not a
19 PCB, it was a chlorinated diphenyl
20 benzene. I called Drinker and said, "What
21 goes on? This doesn't look like what our
22 experience has been. This isn't as toxic
23 as you're talking about. Where did you get
24 the 1265? And, in fact, we don't make a
25 1265, we make a 1268 and a 1260." And he

1 said "I got it from Halowax." That was the
2 people we sold the products to. I said "I
3 will send you some honest to goodness 1268
4 that we make ourself. I'll send it from
5 our production line." So we sent it to him
6 and he tested and found it was a tenth as
7 toxic as the material he was talking
8 about. So I'm not -- I must have added to
9 the confusion myself when I say I don't --
10 I find it hard to explain this statement,
11 "The confusion existed in his findings that
12 Aroclor 1254, which is the diphenyl
13 chlorinated to only 54 percent, was
14 considerably more toxic on inhalation." We
15 did not supply him with this material. So
16 I'm a little confused about that.

17 Q. Do you know, independent of the
18 Drinker work, whether 1254 was more toxic
19 than 1268 on inhalation?

20 A. We didn't run 1268 on inhalation,
21 we ran 1242 and 1254. And I don't know
22 whether Drinker -- at this date I cannot
23 tell you whether Drinker ran 1268 on
24 inhalation. I'm not sure.

25 Q. Are you stating, in essence, that

1 you're not sure what you meant today by the
2 confusion described in the third paragraph
3 of this letter?

4 MR. PREUSS: You mean meant then
5 or today?

6 MR. TALLON: Can't describe today
7 what he meant then.

8 MR. PREUSS: Fine.

9 A. Well, I don't know why I brought
10 1254 into it, I'm confused on that myself.
11 But I know Drinker's big problem was
12 calling a chlorinated diphenyl benzene a
13 PCB, when they're not, they're completely
14 different.

15 (Noon Recess).

16 MR. TALLON: All right. We're
17 back on the record after our lunch break.
18 Dr. Kelly, do you have any recollection of
19 having received an inquiry from Unilever,
20 the English company, about the toxicity of
21 Aroclor 1242 during the 1960's?

22 A. No, sir.

23 Q. Why don't we have marked as
24 Exhibit 152 a one page document bearing
25 production numbers Tran 008403, which is a

1 document on Monsanto Chemicals Limited
2 letterhead, dated June 9, 1964.

3 (Transwestern Deposition Exhibit Number
4 152 mark'd for identification).

5 MR. TALLON: Would you take a
6 moment, please, and review that document,
7 Dr. Kelly?

8 A. Yes, sir, I have looked it over.

9 Q. Do you recollect having received
10 the original of Exhibit 152?

11 A. No. I'm sure I received it. It's
12 sort of an interesting article, that Dr.
13 Parsons should be looking for something to
14 kill chickens. I don't know. But, no, I
15 have no recollection of this even after
16 reading this.

17 Q. Setting this particular document
18 aside, do you have a recollection of any
19 communications that you may have had with
20 Unilever on the subject of Aroclors?

21 A. No, sir.

22 Q. Doctor, do you have any
23 understanding whether the term "Killer
24 compound" is a term of art?

25 A. I never heard it before.

1 Q. Why don't we have marked as the
2 next exhibit, number 153, a two page
3 document bearing production numbers Tran
4 012178 and 79.

5 (Transwestern Deposition Exhibit Number
6 153 mark'd for identification).

7 MR. TALLON: Could you take a
8 moment and review that document, Dr. Kelly?

9 A. Yes.

10 Q. While you're doing that I'll
11 describe the document for the record. It
12 appears to be a two page memorandum dated
13 December 19, 1958.

14 A. Yes, sir.

15 Q. Can you identify the document, Dr.
16 Kelly?

17 A. Yes. It's a letter -- this is a
18 document from R.D. Minter and myself to
19 D.F. Smith concerning the labeling of
20 Pydrauls.

21 Q. And do you remember working on
22 this document?

23 A. I have a vague recollection, but
24 no more than that.

25 Q. Is that your signature which

1 appears on page 2?

2 A. Yes, it is.

3 Q. And can you identify Mr. Minter's
4 position in 1958?

5 A. He was in charge of labeling and
6 packaging for the organic division, which
7 was the division that manufactured
8 Pydrauls.

9 Q. Do you know if Mr. Minter is
10 still living today?

11 A. I don't know. He is not working
12 for Monsanto any more.

13 Q. Do you know a Mr. D.F. Smith who
14 was an employee of Monsanto in December of
15 1958?

16 A. Yes. He was, I think, in the
17 marketing department, industrial fluids. I
18 don't know if he's there.

19 Q. And what was Mr. C.E. Caspari's
20 position with Monsanto in December of 1958?

21 A. He was an associate counsel. He
22 is dead.

23 Q. And what was Mr. Newcombe's
24 position with Monsanto in 1958?

25 A. He also was, I believe, in the

1 marketing business. I don't know anything
2 about his whereabouts.

3 Q. Doctor, are you able to state
4 today whether you drafted any portion of
5 this two page memorandum?

6 A. I'm sure I did. But this is
7 Minter's secretary did it, but I signed
8 it. I'm sure I helped in the drafting of
9 it.

10 Q. Let me just ask you a couple of
11 questions about it, given your
12 understanding -- or knowledge of the
13 document, rather. There is a -- the
14 document appears to relate to a labeling
15 issue with respect to Pydraul products,
16 correct?

17 A. Yes.

18 Q. It is suggested by this memorandum
19 that the label state, among other things,
20 "Contains chlorinated hydrocarbons,"
21 correct?

22 A. Yes.

23 Q. Is the term chlorinated
24 hydrocarbons synonymous with
25 polychlorinated biphenyls?

1 A. Oh, no. Chlorinated hydrocarbons
2 is a generic term that relates to anything
3 having chlorine, hydrogen and carbon in
4 it. Carbon tetrachloride, which used to be
5 used for cleaning typewriters, is a
6 chlorinated hydrocarbon. So chlorinated
7 biphenyl is a chlorinated hydrocarbon, but
8 all hydrocarbons -- but they make up only
9 a small percentage of chlorinated
10 hydrocarbons.

11 Q. To your knowledge, Dr. Kelly, did
12 any of the Pydraul products described in
13 the second paragraph of this memo contain
14 polychlorinated biphenyls?

15 A. Yes. I know the Pydrauls did,
16 yes.

17 Q. Do you know if all of those
18 products listed there included
19 polychlorinated biphenyls as a constituent
20 element?

21 A. To the best of my recollection,
22 yes.

23 Q. Are you aware today of any reason
24 why the proposal was to state "Contains
25 chlorinated hydrocarbons" as opposed to

1 "Contains polychlorinated biphenyls"?

2 A. Oh, I think it complied with the
3 law. The law said anything that contains
4 chlorinated hydrocarbons shall have that
5 statement on it.

6 Q. Right. Is there any reason why
7 -- that you know of today why the
8 suggestion was not "Contains
9 polychlorinated biphenyls"?

10 A. No. I don't know of any reason.

11 Q. Doctor, just one or two other
12 questions. There is a sentence in the last
13 paragraph on the first page which states
14 "However, we have never had such a caution
15 statement during the many years of their
16 manufacture and it would very probably
17 cause considerable unrest in the
18 transformer plants." Do you see that?

19 A. Yes, sir.

20 Q. Do you know to what that statement
21 refers, that is to say, what is meant by
22 considerable unrest in the transformer
23 plants?

24 A. Well, I would imagine that it
25 means here the people have been using this

1 compound for years, it comes in the same
2 way with a warning statement or caution
3 statement on it, they're saying "What goes
4 on? Have you changed the product?" So I
5 think that unrest is a term, probably, I
6 would not use today. I'd say inquiry in
7 the transformer plants.

8 MR. PREUSS: Just for my
9 clarification, did you preface your
10 question with respect to limiting it to
11 transformer fluids, which I think that
12 paragraph does?

13 MR. TALLON: I only read that
14 sentence. Certainly the paragraph, I
15 believe, refers to Pyranol and Interteen,
16 which I believe are dielectric fluids,
17 correct?

18 A. That's correct.

19 MR. PREUSS: But it does say in
20 the case of transformer fluids which are
21 composed of, and then it goes on to speak
22 of the transformer fluids.

23 MR. TALLON: Right. Doctor, do
24 you have an understanding today of the
25 difference between the usage of Pydraul

1 fluids and Pyranol and Inerteen on the
2 other hand?

3 A. Yes.

4 Q. Can you tell us what that
5 understanding is?

6 A. Some are used in transformers and
7 some are used in hydraulic presses.

8 Q. Which is which?

9 A. The Pyranol or Inerteen are trade
10 names for the dielectrics of G.E. and
11 Westinghouse. And Pydrauls are Monsanto's
12 trade name for its use in hydraulic fluids.

13 MR. PREUSS: So the Pyranol and
14 Inerteen refer to transformer fluids,
15 correct?

16 A. Yes. Pyranol is G.E.'s trademark
17 for their transformer fluid, Inerteen is
18 Westinghouse's.

19 MR. TALLON: And both of those
20 companies were customers of Monsanto?

21 A. Yes.

22 Q. Doctor, do you recollect
23 expressing any disagreement with the last
24 paragraph on -- or, rather, the only
25 sentence on page 2 of this two page

1 memorandum?

2 A. What was the first --

3 Q. Yes. Do you recollect having
4 expressed any disagreement with respect to
5 that statement?

6 A. No.

7 Q. Doctor, I want to show you a one
8 page document which doesn't have a
9 production number on it. It does have a
10 designation at the bottom that says
11 "Attachment 3-2." And I'll ask the court
12 reporter to mark that as Exhibit 154 and to
13 show it to you.

14 (Transwestern Deposition Exhibit Number
15 154 mark'd for identification).

16 MR. TALLON: Would you take a
17 moment to review that document?

18 A. Yes, I remember it.

19 Q. Can you describe it for the
20 record, please?

21 A. This is a memorandum by L.A. Watt,
22 dated October 11, 1937, in which he writes
23 some safe handling -- or some safe
24 handling data and possible ill-effects, or
25 the ill-effects in experimental animals,

1 and he quotes me -- he quotes -- he
2 mentions that he talked to me before these
3 paragraphs were written and we agreed they
4 could be used not only in the Aroclor
5 booklet, but quoted in correspondence as
6 that may be necessary.

7 Q. Do you recall discussing the first
8 three paragraphs of this memorandum with
9 L.A. Watt?

10 A. Yes, I do.

11 Q. And what was Watt's position in
12 October 1937?

13 A. He was a head of what they called
14 the technical services department of the
15 organic chemical division of the Monsanto
16 company.

17 Q. And what was his job function, if
18 you know?

19 A. Well, among other things, he was
20 helping in writing the safe handling data
21 on products of that division before I
22 showed up. And he obviously had other
23 duties in the technical services.

24 Q. Do you know if Mr. Watt is still
25 living today?

1 A. I know he isn't.

2 Q. The memorandum by Mr. Watt, dated
3 October 11, '1937, has at the foot of it a
4 designation "Attachment 3-2." Do you know
5 whether this single piece of paper that
6 constitutes the exhibit is part of a
7 greater document, that is to say, a
8 document with additional pages?

9 A. No, sir.

10 Q. Do you know what experimental work
11 is referred to in the first paragraph of
12 this memorandum?

13 A. I think -- I believe it is
14 Drinker's work.

15 Q. And when the phrase "high
16 temperatures" is used in the first
17 paragraph, do you know to what that
18 refers? Are there a range of temperatures?

19 A. I don't know the range.

20 Q. Do you know what is meant by the
21 phrase "systemic toxic effects" as it is
22 used in the first paragraph?

23 A. Yes. It just means ill-effects on
24 the body as a whole, rather than local
25 effects on the skin.

1 Q. Do you know what particular
2 systemic toxic effects are referred to as a
3 result of the experimental work in animals
4 referred to in that paragraph?

5 A. Yes.

6 Q. Which?

7 A. Liver.

8 Q. Anything else?

9 A. No, sir.

10 Q. Do you know if the language
11 encompassing paragraph 1 of this memorandum
12 was used in any labeling or product
13 development brochure produced by Monsanto?

14 A. No, I don't know for sure. I
15 don't recall what happened to the booklets,
16 but we both -- both Watt and I agreed that
17 it could be used in the Aroclor booklets.

18 Q. Do you recall seeing an Aroclor
19 booklet which included the language that
20 oral ingestion or exposure to vapor at high
21 temperatures will lead to systemic toxic
22 effects?

23 A. I can't recall whether I -- it
24 was in that exact language or not.

25 Q. Do you recall ever seeing a

1 product brochure or label that included a
2 reference to systemic toxic effects?

3 A. Of some sort or other, yes, I've
4 seen those.

5 Q. Do you know which particular
6 brochures or booklets you're thinking of?

7 A. Since 1937 we've probably had 40
8 different Aroclor booklets, and I can't
9 pick one out. But usually in every Aroclor
10 booklet we had a statement on toxicity and
11 safe handling, that was almost universal.

12 Q. When you're using the term Aroclor
13 booklet, how are you using it?

14 A. Well, that's the name of the
15 booklet. It says Aroclor on it.

16 Q. Was there a separate booklet for
17 each of the Aroclor products?

18 A. No. Not necessarily. They had
19 booklets that encompassed the whole range
20 of Aroclors, they had booklets, or
21 bulletins or brochures that listed specific
22 Aroclors for specific purposes. If an
23 Aroclor were going to be used in a
24 transformer, they had -- Aroclors in
25 transformers is what the title would be.

1 If they were going to be used as a
2 plasticizer, they would say Aroclors as
3 plasticizers, and so on.

4 Q. Do you today recollect having seen
5 an Aroclor booklet dealing with the use of
6 Aroclors as lubricating fluids?

7 A. I can't say I remember it.

8 Q. Do you have a recollection of
9 having ever seen any product literature
10 that dealt with the product Turbinol 153
11 that included the language "systemic toxic
12 effects"?

13 A. Not under those -- under that
14 name, I do not. But some of the
15 ingredients that were used in Turbinol may
16 have been listed under OS numbers or MCS
17 numbers that would have included it.

18 Q. Do you recall seeing a booklet or
19 brochure for MCS-153 that included the
20 language "systemic toxic effects"?

21 A. I don't recall it. I certainly
22 may have.

23 Q. Do you recall seeing a product
24 brochure or other document relating to
25 OS-81 that included the words "systemic

1 toxic effects"?

2 A. I've seen the bulletins, but I
3 cannot recall at present what it included.
4 I very probably did.

5 Q. But you don't recall?

6 A. No. But that was our policy, to
7 include it in all new products, new
8 development products.

9 Q. Do you, by the way, ever recall
10 seeing a label for any of the three
11 products, those we've just named, that
12 included the language "systemic toxic
13 effects"?

14 A. That would not be usually put on a
15 label, no.

16 Q. Why would that not be usual?

17 A. Because there is only so much you
18 can put on a label, and you put on a label
19 the information to keep a person from
20 getting harmed by the product.

21 Q. I want to refer you to the second
22 paragraph of this one page exhibit,
23 Doctor. There is a reference to an
24 acne-form skin eruption. Is that a
25 reference to chloracne?

1 A. Yes.

2 Q. What is chloracne, exactly?

3 A. Chloracne is a skin eruption
4 similar to teenage acne that is more
5 serious, it may be accompanied by
6 pigmentation that is somewhat more severe,
7 that is caused by exposure to chlorinated
8 compounds. Not necessarily only PCB, any
9 number of chlorinated compounds cause
10 chloracne.

11 Q. Is chloracne caused by exposure to
12 PCBs?

13 A. Not by exposure, by sufficient
14 exposure. Prolonged exposure.

15 Q. Is the chloracne which is caused
16 by sufficient exposure to PCBs a systemic
17 condition?

18 A. That's what it's believed to be,
19 and I believe it, also.

20 Q. And how do you define systemic as
21 used in your response to my question?

22 A. That is an action on the various
23 elements of the skin caused by absorption
24 of the offending agent and not due to local
25 contact with the skin. Not due to local

1 action on the skin, rather than local
2 contact.

3 Q. And are you familiar with the term
4 dermatitis?

5 A. Yes.

6 Q. And how do you define dermatitis?

7 A. Dermatitis is either an
8 inflammation or an infection of the skin.

9 Q. And is there a difference between
10 a systemic condition resulting in chloracne
11 and dermatitis resulting in chloracne?

12 A. Well, dermatitis is a name for the
13 disease of the skin, and chloracne is a
14 dermatitis, but it's caused by systemic
15 action. Just like hives from strawberries
16 is a dermatitis due to ingestion of
17 strawberries and a systemic reaction to
18 strawberries.

19 Q. What is the systemic function
20 implicated by chloracne caused by
21 sufficient exposure to PCBs?

22 A. What is the systemic function? I
23 don't know what that means.

24 Q. What system is it that causes
25 chloracne based on sufficient exposure to

1 PCBs?

2 A. Presumably, something to do with
3 fat metabolism.

4 Q. During the period that you were
5 medical director did you commission any
6 studies to determine the relationship
7 between chloracne and exposure to PCBs?

8 A. We knew that if you got excessive
9 amount -- excessive exposure you may get
10 chloracne.

11 Q. And can you place in time when you
12 first knew that?

13 A. Yes. 1937.

14 Q. And upon what do you base that
15 answer?

16 A. There was information in the
17 literature that Swann Chemical Company had
18 lawyers -- had workers develop chloracne
19 in their PCB department due to the use of
20 an off-specification benzene in the
21 manufacture of a material.

22 Q. Doctor, the October 11, 1937 memo
23 refers to the use of protective clothing,
24 in paragraph 3?

25 A. Yes, sir.

1 Q. And for what purpose was
2 protective clothing recommended?

3 A. If you were in an operation where
4 you're liable to have spills or splashes
5 you put something on to keep it from
6 getting on your skin.

7 Q. And, Doctor, one other question.
8 Have you ever seen a label for Turbinol
9 153, MCS-153 or OS-81 that included a
10 reference to chloracne?

11 A. No, sir. I said before it did not
12 list what would happen. On a gasoline tank
13 you say do not use matches, they don't say
14 don't use matches, it's going to blow you
15 into the next county.

16 Q. Did you ever see a product
17 brochure or specifications for one of those
18 three products that included a reference to
19 chloracne?

20 A. Yes. I cannot recall at present,
21 but I'm sure we did have information
22 relating to the possible occurrence of
23 chloracne in relation to two of the
24 products. I did not see -- I do not
25 recall any on Turbinol. Is it Turbinol?

1 A. Yes.

2 Q. Turbinol 153.

3 A. The OS's and the MCS's, it's my
4 recollection that there were bulletins on
5 that that included possible ill-effects.

6 Q. Are you referring in your answer
7 specifically to OS-81 and MCS-153 or OS
8 products and MCS products generically?

9 A. I thought OS-51 was specific, but
10 I'm not sure. Was it 51 or 61?

11 Q. 81.

12 A. I can't be sure.

13 Q. Why don't we mark as Exhibit 155 a
14 one page document -- just before we do
15 that, Dr. Kelly, we were just talking about
16 Exhibit 154, which was the memo from Mr.
17 Watt. Do you recall getting a copy of that
18 at or about the time it was dated?

19 A. I don't remember, but it would be
20 standard office procedure that I would.

21 Q. Did you maintain a file in your
22 office or for use by your offices with
23 respect to labeling of PCB-based products?

24 A. Yes, sir.

25 Q. I was about to ask the court

1 reporter to mark as Exhibit 155 a one page
2 document bearing a number of document
3 number designations, the most recent of
4 which may be T 091748. It appears to be a
5 one page document, dated February 12,
6 1954.

7 (Transwestern Deposition Exhibit Number
8 155 mark'd for identification)?

9 MR. TALLON: Would you take a
10 moment, please, and review that document?

11 A. Yes, sir, I've read it.

12 Q. Can you identify the document?

13 A. It's a letter memorandum from me
14 to Dr. Newman, who was in charge of our
15 plant at Newport, England, dated February
16 12, 1954.

17 Q. Was it part of your job to write
18 this memo?

19 A. Yes, sir.

20 Q. Did you intend for Dr. Newman to
21 rely on the information in it?

22 A. Yes, sir.

23 Q. And did you write it on or about
24 the date that it is dated, that is to say,
25 February 12, 1954?

1 A. Yes, sir.

2 Q. Were you responding to some
3 inquiry from Dr. Newman in authoring this
4 memo?

5 A. Yes. I'm sure, because the last
6 paragraph says don't worry about asking me
7 these questions, so he must have asked me
8 some questions.

9 Q. Do you remember if Dr. Newman's
10 inquiry to you was a written one?

11 A. Yes. I'm sure -- I feel quite
12 sure he didn't call me from England.

13 Q. In 1954?

14 A. Yes.

15 Q. I wanted to refer you to the
16 handwriting which is somewhat legible that
17 appears towards the middle of the page. Is
18 that your handwriting?

19 A. It doesn't look like it. I can't
20 even make it out.

21 Q. The third paragraph of the
22 memorandum states, "What we were really
23 worrying about was the possibility that a
24 man would develop hepatitis," and so
25 forth. To what worry does that refer?

1 A. It refers to the possibility that
2 a man would develop hepatitis and blame the
3 paint that he used at a time in the past as
4 the cause of his hepatitis.

5 Q. There is a sentence which follows
6 the sentence I just read from. I did not
7 read the full sentence, but there is a
8 sentence following the sentence I just read
9 from stating, "I am afraid that we might be
10 convicted by association," et cetera?

11 A. Yes.

12 Q. Is the meaning of that sentence
13 that you were afraid that Monsanto might be
14 held liable for such a condition on the
15 part of a painter?

16 A. Well, I don't know about the
17 liability. I mean, a painter may believe
18 that Aroclor paint had some association
19 with his hepatitis.

20 Q. And so what --

21 A. I can't address myself to your
22 liability question.

23 Q. What did you mean when you used
24 the term "we might be convicted"?

25 A. In somebody's mind.

1 Q. There is a sentence in the first
2 paragraph of this memorandum that states,
3 "We have run animals for about 60 days at
4 seven times this and found some liver
5 damage." Do you see that?

6 A. Yes, sir.

7 Q. Does that sentence refer to a
8 study or a series of studies?

9 A. It refers to a series of studies
10 that we were running at the University of
11 Cincinnati by Dr. Treon, T-r-e-o-n.

12 Q. And to the best of your
13 recollection, when were those studies
14 completed?

15 A. Sometime in '54.

16 Q. When you used the term series of
17 studies, are you referring to more than one
18 report resulting from a study?

19 A. No. I think it's all parts of the
20 same study. In other words, this man
21 started out presumably around 7 milligrams
22 per cubic meter and then did some more
23 lower level.

24 Q. And what does the term liver
25 damage refer to in that same sentence?

1 MR. PREUSS: What is the nature of
2 the liver damage?

3 MR. TALLON: Yes. What is the
4 nature of the liver damage?

5 A. Effects of the liver, cloudy,
6 swelling. I didn't go into the medical
7 aspect of exactly what type of microscopic
8 damage was done.

9 Q. Right. The memorandum does not
10 specify the types of liver damage. I'm
11 wondering now what you were referring to.
12 You mentioned cloudy and swelling, was
13 there anything else?

14 A. No. There was some disease at the
15 cellular level.

16 Q. What do you mean by the phrase
17 disease at cellular level?

18 A. Well, the level -- the liver
19 cells at the individual microscopic
20 cellular level showed changes in their
21 structure due to the effects of the
22 Aroclor.

23 Q. Have you ever heard of Aroclor
24 having the effect of causing enzymatic
25 changes in liver function?

1 A. Yes.

2 Q. What have you heard?

3 A. That it does sometimes.

4 Q. And what enzymatic changes have

5 you heard that Aroclor has caused in liver

6 function?

7 A. Again, it depends on the amount,

8 if they have a serious amount. Remember,

9 we're talking about enzymes. They were not

10 running liver enzymes in 1954.

11 Q. Right.

12 A. So the enzymes that they run now

13 in the usual liver panel is GGT, SGOT and

14 SGPT.

15 Q. And setting aside for a moment the

16 amount of Aroclor involved, what are the

17 possibilities that you know about with

18 respect to the enzymatic changes?

19 A. You can't set aside the exposure

20 levels.

21 Q. What are the possibilities?

22 A. Of what?

23 Q. What changes might occur.

24 A. Might occur from nothing to very

25 serious changes.

1 Q. What are the very serious ones?
2 A. Swelling of the liver, damage to
3 the liver cells.
4 Q. Anything else?
5 A. No. I can't be sure of what -- I
6 cannot recall the details of the high
7 exposure levels in experimental animals.
8 Obviously, some of the animals died.
9 Q. Was the death related to liver
10 dysfunction?
11 A. Whether it was solely due to the
12 liver or not, I can't say. But I believe
13 the liver played a major part in it.
14 Q. You indicated, Doctor, that in
15 1954 work wasn't being done on enzymes,
16 liver enzymes, is that correct?
17 A. That's correct.
18 Q. Do you recall when that work first
19 began?
20 A. I can't be sure of the date.
21 Q. Can you approximate it?
22 A. Late '60's.
23 Q. One other question on this
24 document, Doctor. If you look at paragraph
25 3, the document states, "We have, however,

1 been concerned with the level of Aroclor
2 during spray painting." Do you see that?

3 A. Yes.

4 Q. What was the concern referenced in
5 that sentence?

6 A. Well, anybody who's seen spray
7 painting knows that they blow a lot of
8 paint out. The possibility of a man spray
9 painting, spraying inside a booth, he can
10 get a pretty sizable exposure.

11 Q. Why don't we mark as Exhibit 156 a
12 two page document bearing production
13 numbers Tran 019922 and 019923.

14 (Transwestern Deposition Exhibit Number
15 156 mark'd for identification).

16 MR. TALLON: Would you take a
17 moment and review that, please?

18 A. Yes, sir, I've read it.

19 Q. Can you identify the document for
20 the record?

21 A. It's a document from me to Dr.
22 Barrett at our English subsidiary on
23 Aroclor toxicity, dated September 20, 1955.

24 Q. And did you author this memo in
25 the discharge of your responsibilities as

1 medical director of Monsanto?

2 A. Yes, I did.

3 Q. Was it part of your job to do so?

4 A. Yes, it is -- it was.

5 Q. Did you author this memo at or
6 about the date that it is dated?

7 A. Yes, sir.

8 Q. And did you intend for Dr. Barrett
9 to rely on the information in it?

10 A. Yes.

11 Q. Now, I wanted to refer you to the
12 second paragraph on the first page, Dr.
13 Kelly. Did you get a chance to read that
14 already?

15 A. Yes, I did.

16 Q. The paragraph states, among other
17 things, "Frankly, there was not too great a
18 difference between the two compounds." Do
19 you see that?

20 A. Yes, sir.

21 Q. Was that a correct statement when
22 made?

23 A. Yes, sir. I was referring to the
24 toxicity.

25 Q. The first sentence of the third

1 paragraph on that page, Doctor, states, "I
2 don't know how you would get any particular
3 advantage in doing more work." Correct?

4 A. Yes.

5 Q. Do you recollect that Dr. Barrett
6 was making a suggestion or recommendation
7 that more work of some kind be done?

8 A. Yes. What he wanted to do was
9 find out a level that would kill the
10 animals. I couldn't figure that one out,
11 because all I wanted to do was find out
12 what's a safe level at work, not what's a
13 level that would kill people.

14 Q. And your response to him was,
15 essentially, there is no need for this?

16 A. No. "What are you trying to
17 prove?"

18 Q. The last paragraph on page 1
19 begins with the sentence, "MCC's position
20 can be summarized in this fashion," is that
21 correct?

22 A. That's correct.

23 Q. And MCC in that sentence is
24 referring to Monsanto Chemical Company?

25 A. Yes, sir.

1 Q. The paragraph goes on to state,
2 "We know Aroclors are toxic but the actual
3 limit has not been precisely defined." Was
4 that a true statement when made?

5 A. Yes. But it would require a
6 little bit of interpretation. The acute
7 limit to what? To inhalation for people or
8 rats, rabbits? Probably in '55 I could
9 have been a little more explanatory to
10 him. But the connotation on the basis of
11 the previous correspondence was we've got a
12 safe level, why do we need to find out
13 anything more.

14 Q. The paragraph goes on to state,
15 "It does not make too much difference, it
16 seems to me, because our main worry is what
17 will happen if an individual develops any
18 type of liver disease and gives a history
19 of Aroclor exposure." Do you see that?

20 A. Yes, sir.

21 Q. And was that a main worry?

22 A. Well, it was a concern that there
23 are a great deal of opinions made not on
24 the basis of scientific evidence, but just
25 of unscientific belief.

1 Q. And the paragraph goes on to read,
2 "I am sure that juries would not pay a
3 great deal of attention to MACs." Right?

4 A. I think that's true.

5 Q. And MACs is an abbreviation for
6 maximum allowable concentration?

7 A. That's correct.

8 Q. And does this sentence express a
9 concern that juries would hold Monsanto
10 responsible for the situation described in
11 that paragraph?

12 A. That they might.

13 Q. Well, actually, the sentence says
14 "I am sure that juries would not pay a
15 great deal of attention." So that was a
16 concern of yours, correct?

17 A. I was sure they wouldn't pay a
18 great deal of attention, whether they would
19 hold Monsanto liable or blame the man for
20 not paying attention to the warning labels
21 on this paint, if we were ever making it as
22 a paint for household use. You realize you
23 read just that one paragraph there, if you
24 look at the second page --

25 Q. We're going over to that.

1 A. Fine.

2 Q. The paragraph on the second page,
3 Doctor, refers to the use of Aroclors, and
4 I believe you're contrasting between the
5 situation of use in an industrial setting
6 and use in the home, is that what you mean
7 by householders?

8 A. Yes, sir.

9 Q. And you indicate, "If, however, it
10 is distributed to householders where it can
11 be used in almost any shape and form and we
12 are never able to know how much of the
13 concentration they are exposed to, we are
14 much more strict." Do you see that?

15 A. Yes, sir.

16 Q. What is the -- in what sense were
17 you much more strict?

18 A. Well, we would have -- I think I
19 should have said there we would be much
20 more strict, because we did not -- we were
21 not at that time selling anything to the
22 householders. But what I meant to imply
23 there was that if we sold a spray paint
24 containing Aroclor into a household and
25 said do not breathe the fumes in confined

1 spaces, we had no way of knowing whether
2 this man might go into a closet and spend
3 an hour and a half spraying this paint all
4 over the closet, and he may have troubles
5 from that.

6 Q. Troubles referring to what?

7 A. Possible ill-effects.

8 Q. Such as liver damage or chloracne?

9 A. He'd never get chloracne from one
10 dose -- I mean, from -- it has to be
11 repeated for chloracne. He'd get eye
12 irritation, nose irritation.

13 Q. Liver damage?

14 A. It's possible. But he may have an
15 awful lot of complaints that were -- of
16 illnesses that were not due -- conceivably
17 not due at all to the Aroclors, such as
18 diabetes or tumor of the lung, which he
19 would allege to the Aroclor.

20 Q. Let me show you a document, Dr.
21 Kelly, that we'll ask the court reporter to
22 mark as 157, and ask you how it relates to
23 your memorandum of September 20, 1955?

24 (Transwestern Deposition Exhibit Number
25 157 mark'd for identification).

1 A. Yes, sir.

2 Q. And the question, Dr. Kelly, is
3 how does that relate to your memo of
4 September 20, 1955?

5 A. I'm trying to find the error in
6 the second paragraph that I referred to in
7 my memorandum of September 22nd. Well, I
8 think the only thing different, it was an
9 awkward -- the third paragraph in my
10 memorandum of September 20th was a little
11 formal, "Of course, from the standpoint of
12 volatility in the case of inhalation or
13 absorption from the gut from the point of
14 view ingestion are important. Frankly,
15 there was not too great a difference
16 between the two compounds." But that did
17 not refer to absorption, that could refer
18 to volatility, could refer to an awful lot
19 of things. So I tried to police up my
20 language a little bit by saying the
21 volatility is important in the case of
22 inhalation toxicity, and absorption into
23 the intestinal tract is important from the
24 standpoint of oral toxicity. I think
25 that's better phraseology. "Frankly, I

1 think there was not a great deal of
2 difference".

3 Q. Meaning there is not a great deal
4 of difference in the toxicity between 1254
5 and 1242?

6 A. That's right. I mean, maybe a
7 factor of 2 or something like that.

8 Q. Did you author Exhibit 157, the
9 September 22, 1955 addendum as part of your
10 function as medical director of Monsanto?

11 A. Yes, I did.

12 Q. And did you write it on or about
13 September 22, 1955?

14 A. Yes, I did.

15 Q. And did you intend for Dr. Barrett
16 to rely on the information therein?

17 A. Yes, I did.

18 Q. You've identified Dr. Newman
19 before. Who was Dr. D.V.N. Hardy in
20 September 1955?

21 A. Hardy was, I think, in technical
22 service over there, or in research over
23 there. He was not a physician, he was not
24 an industrial hygienist.

25 Q. Why don't we have the court

1 reporter mark as Exhibit 158 a one page
2 document bearing production number Tran
3 004748.

4 (Transwestern Deposition Exhibit Number
5 158 mark'd for identification).

6 MR. TALLON: Take a moment and
7 review that, please, Dr. Kelly.

8 A. Yes, sir, I've read it.

9 Q. Can you identify that document for
10 the record?

11 A. This is a letter by Elmer P.
12 Wheeler of the medical department to a Dr.
13 Johnstone of General Motors Corporation in
14 Saginaw, Michigan, dated 11 August '65.

15 Q. Have you seen this document before
16 today?

17 A. I must have. I see I'm carboned
18 up on the top and I checked off showing
19 that I read it.

20 Q. Up in the upper right-hand corner
21 of the document there is a grid of sorts,
22 is this a stamp affixed to documents within
23 your department in 1965?

24 A. That's a stamp -- that was the
25 way we would put -- our secretary would

1 put on the carbon this stamp and we would
2 -- the author of the letter would show
3 what should be done, whether it should just
4 be filed, thrown away or sent to any of
5 these other people to read. And the second
6 column showed after the person had read it
7 and he put it in his own, or either back in
8 the central file. I don't know, someplace.

9 Q. There is some initials in that
10 stamped grid including R.E.K.; that's you,
11 right?

12 A. Yes.

13 Q. There is two checkmarks, one
14 indicating that you should get, and one
15 indicating that you got and read, is that
16 correct?

17 A. That's correct.

18 Q. Did this document come from your
19 file, so far as you know?

20 A. I haven't the slightest idea.

21 Q. The other initials on the stamp
22 grid include JTG; is that Mr. Garrett?

23 A. That's correct.

24 Q. And the bottom one is EPW; is that
25 Mr. Wheeler?

1 A. Right.

2 Q. And I am unable to read the second

3 one; is that just WH?

4 A. That's Dr. Hunt.

5 Q. And MNJ?

6 A. Dr. Johnstone. He was my

7 full-time associate.

8 Q. And RAM?

9 A. A part-time physician there who

10 did mostly medical dispensary work, but we

11 clued him on to things that he might be

12 interested in. As you notice, he did not

13 get a copy of this.

14 Q. Actually, you could conclude from

15 looking at this stamp that only you and Mr.

16 Wheeler got copies of this?

17 A. That's correct.

18 Q. Do you recollect ever instructing

19 Mr. Wheeler not to release information

20 about the constituent elements of Pydraul

21 625?

22 A. No, sir.

23 Q. Do you know if Mr. Wheeler was

24 under some constraint not to reveal the

25 constituent elements of Monsanto products?

1 A. Some of these are -- the patents
2 are held both by Monsanto and by other
3 companies, and so we are not able to --
4 were not able to release the information
5 unless we had the authority of the other
6 patent holder. And I think that was the
7 case of 625.

8 Q. You believe that 625 was a
9 patented compound which was patented with
10 another company?

11 A. I can't say that positively, but I
12 know there were cases where that is the
13 reason we were unable to tell the person
14 what was in it.

15 Q. There were other circumstances
16 under which the medical department declined
17 to release information about the
18 constituent elements of a particular
19 product?

20 A. Yes. I think. There were some
21 products that were company confidential
22 there were some products that were company
23 confidential.

24 Q. What does company confidential
25 mean?

1 A. You didn't tell everybody. Just
2 like Coca-Cola didn't tell everybody about
3 the ingredients of Coca-Cola. They told
4 them what they were, but they didn't give
5 the details of it or whether -- what
6 particular corrosion inhibitors were in
7 there, what viscosity -- what extenders
8 were in there, any oxydants. There are a
9 lot of things in a product.

10 Q. Are you indicating that the
11 composition of a particular product would
12 be a trade secret?

13 A. Yes.

14 Q. Do you know if that was the case
15 with Pydraul 625?

16 A. I don't know.

17 Q. Doctor, we touched on this
18 earlier, but let me ask another question in
19 light of the language used in this
20 document. Did you ever hear anyone express
21 a preference for using the language
22 chlorinated hydrocarbons versus
23 polychlorinated biphenyls?

24 A. You mean anybody --

25 Q. Anybody at Monsanto?

1 A. No. I never heard it.

2 Q. Did you ever get a direction from
3 Monsanto management to refer to
4 polychlorinated biphenyls as chlorinated
5 hydrocarbons?

6 A. No, sir.

7 Q. Did you ever give Mr. Wheeler an
8 instruction or a suggestion to refer to
9 polychlorinated biphenyls as chlorinated
10 hydrocarbons?

11 A. No, sir.

12 Q. Why don't we mark as Exhibit 159 a
13 single page document which, again, bears a
14 series of production numbers, including PRR
15 004414.

16 (Transwestern Deposition Exhibit Number
17 159 mark'd for identification).

18 MR. TALLON: Will you review that,
19 please?

20 A. Yes, sir, I've read it.

21 Q. Can you identify the document?

22 A. Yes. This is a letter memorandum
23 from Mr. Garrett of the medical department
24 to Mr. Patrick, the safety director of the
25 Krummrich plant, K-r-u-m-m-r-i-c-h,

1 concerning Aroclors in department 246.

2 Q. Do you recollect seeing this memo
3 back in 1955?

4 A. Yes, I do.

5 Q. And were you aware that Mr.
6 Garrett had sent this memo out back in
7 November 1955?

8 A. Yes.

9 Q. Had he discussed the memorandum
10 with you?

11 A. I doubt if he did. I don't recall
12 that.

13 Q. What do you remember about the
14 existence of this memo in 1955?

15 A. Well, I remembered it when I saw
16 it.

17 Q. Do you remember discussing with
18 Mr. Garrett the reasons for his sending
19 this memo to Mr. Patrick?

20 A. Yes. The best of my recollection,
21 they were trying to get the people not to
22 eat at the site of operations, but going
23 over to the cafeteria we had available for
24 them, whether they brown bagged their lunch
25 or not.

1 Q. There is a reference on the
2 "Subject" line to "Department 246
3 (Aroclors)." Was department 246 the
4 department at the Krummrich plant which
5 manufactured Aroclor products?

6 A. Presumably. I can't say that for
7 sure -- but I believe it was. Garrett
8 called it that, so presumably. But I don't
9 know that -- I don't know the number of
10 department.

11 Q. Did you concur in the opinion that
12 eating of lunches should not be allowed in
13 the department 246?

14 A. I concurred in the final
15 decision. I didn't concur in the reasons.

16 Q. Why didn't you concur in the
17 reasons?

18 A. Oh, because I didn't think there
19 was any possibility of Aroclor or other
20 vapors contaminating the lunch so people
21 would get sick if they ate their lunches
22 there. It was just a matter of general
23 cleanliness, where they can wash their
24 hands, and it's just not a good idea to eat
25 lunch where you're working. And I think

1 Garrett was sort of talked into trying to
2 give them more ammunition to stop the
3 habit.

4 Q. Are the reasons stated in this
5 memo not accurate?

6 A. Yes, I think the last one, "it
7 would be extremely difficult on the basis
8 of past literature reports to counter such
9 claim," I don't know what literature
10 reports he's talking about in this last
11 sentence.

12 Q. Do you have a recollection of
13 telling Mr. Garrett to withdraw this
14 memorandum as an expression of the opinion
15 of the medical department?

16 A. No. I thought it was a tempest in
17 a tea pot, not to worry about it.

18 Q. Do you believe that it is
19 impossible for a food to become
20 contaminated under the circumstances
21 described in this memorandum?

22 A. There is a difference between
23 contamination and harm. If you get a drop
24 of something on it, it's contaminated. But
25 that doesn't mean it's going to hurt you,

1 if it makes any difference to you if you
2 eat the sandwich. I couldn't conceive of
3 any operation where a fellow would be
4 eating his lunch in the department where it
5 was going to cause him any ill-effects.
6 It's just not a good idea. I can't give
7 you any medical reasons, but it just looks
8 like a good idea not to eat where you're
9 working.

10 Q. Do you disagree with the statement
11 made in paragraph 1 that Aroclor vapors and
12 other process vapors could contaminate the
13 lunches?

14 A. It depends on how much
15 contamination. I mean, contamination is a
16 couple molecules of Aroclor vapor settling
17 on a sandwich. But I don't think -- that
18 is not much contamination, it's
19 infinitesimal. So I think he had -- a
20 person has to quantify it, because there
21 weren't Aroclor vapors and other process
22 vapors floating around in that department
23 where it would -- where you pick a
24 sandwich up and it would be greasy. I
25 certainly disagree with that interpretation

1 of that statement.

2 Q. Were there any Aroclor vapors that
3 you know about in that department in 1955
4 or earlier?

5 A. There might have been times when
6 you'd smell some and a lot of times where
7 you couldn't smell it. But they were never
8 higher than the maximum allowable
9 concentration.

10 Q. Is it possible that a chronic
11 exposure as a result of eating lunch in the
12 department could cause toxicity?

13 A. No way.

14 Q. So that just couldn't happen?

15 A. It couldn't happen.

16 Q. In other words, this memorandum --
17 the reasons articulated in this memorandum
18 are incorrect?

19 A. They're incorrect from my point of
20 view. Whether Garrett still believes that,
21 you have to ask him.

22 Q. Was this memorandum countermanded
23 by any other memorandum during the period
24 of your service as medical director, so far
25 as you know?

1 A. Not that I know of.

2 Q. Let me ask the court reporter to
3 mark as Exhibit 160 a two page document
4 bearing production numbers Tran 012123 and
5 224. It's a two page document dated March
6 15, 1962.

7 (Transwestern Deposition Exhibit Number
8 160 mark'd for identification).

9 A. Yes, I've read it.

10 Q. Can you identify the document for
11 the record?

12 A. Yes. This is a document -- a
13 letter dated March 15, 1962 from me to Dr.
14 Marcus Key of the United States Public
15 Health Service.

16 Q. Do you have a recollection of
17 authoring the letter to Dr. Key?

18 A. A vague recollection, yes, sir.

19 Q. Do you recollect whether you wrote
20 this memorandum in the discharge of your
21 responsibilities as medical director?

22 A. Yes, I did.

23 Q. And did you intend for Dr. Key to
24 rely on the information in it?

25 A. Yes, I did.

1 Q. And did you write it on or about
2 March 15, 1962?

3 A. Yes, I did.

4 Q. Do you recollect the inquiry to
5 which you were responding in this letter,
6 Dr. Kelly?

7 A. No, sir, I do not.

8 Q. There is a reference in the last
9 paragraph on the first page that states,
10 "To our knowledge, there have been only
11 three instances where chloracne has
12 occurred." Do you see that?

13 A. Yes, sir.

14 Q. To what does that refer?

15 A. That refers to two cases of
16 chloracne that were reported in the
17 literature and one case of -- and one
18 incident of chloracne in a thermometer
19 factory where workers, female workers were
20 sticking their hands into the liquid
21 Aroclor to fill up bellows thermometers. A
22 bellows thermometer is like an onion-shaped
23 leather pouch. That's an integral part of
24 an oven thermometer. And these people had
25 chloracne. They told me about their

1 dermatitis, and inferred that it was
2 chloracne. Inasmuch as I had never seen
3 chloracne from PCBs, I went up to see the
4 place, and I saw that several women were
5 dunking their hands with the bellows and
6 filling it up, and I said why don't you get
7 some sort of a forceps to push it down so
8 you don't have to put your hands in it. So
9 they did that and it got well. So that's
10 one of them. The other was something in
11 the literature, a capacitor plant in
12 England. And I don't recall where the
13 third one was. None of those were our
14 workers. And I do not even know if the
15 English plant was -- European operation
16 was due to Monsanto PCB, because there were
17 five manufacturers in England, whereas we
18 were the only one in the United States, we
19 might have had 20 percent of the market in
20 Europe at the most.

21 Q. Monsanto is the only manufacturer
22 of PCB-based products in the United States?

23 A. Was the only one.

24 Q. Was the only one. When you
25 referred to the thermometer plant, where

1 was that located?

2 A. Someplace in New England. I don't
3 recall. New York, I believe. Someplace in
4 upstate New York. I'm not sure.

5 Q. When you referred to one case,
6 were you referring to one person at that
7 factory that had chloracne or the factory
8 being the case where many or some had
9 chloracne?

10 A. Two or three had it. The other
11 case that I said was -- that I referred to
12 was, I believe, the one in New Haven,
13 Connecticut or someplace in Connecticut
14 where a heat transfer unit developed some
15 leaks and after a long time they figured
16 out that these people had chloracne. They
17 had to tell some of the workers that they
18 did have chloracne, because they didn't
19 know they had any problem at all, so it was
20 a pretty mild episode.

21 Q. I missed the end of that. Would
22 you mind reading it back?

23 (The requested portion of the
24 record read by the reporter).

25 MR. TALLON: Just referring to the

1 phrase that the court reporter just read
2 back, Dr. Kelly, did you mean that your
3 understanding is that the workers didn't
4 know what they had and it was chloracne?

5 A. No. What I'm saying is that one
6 or two of the people had chloracne, they
7 didn't know they had it, but they were sent
8 to the occupational group in Connecticut
9 and there they diagnosed it was chloracne,
10 so they went back to the plant and said
11 let's see all your workers and they saw a
12 couple -- there were only about eight or
13 ten workers, and some of them, they said
14 "Oh, yes, you've got some chloracne." The
15 worker said, "Where? What do you mean?"
16 They said, "You got these pimples here."
17 He said, "Oh, okay." So it was pretty
18 mild.

19 Q. Did you visit that Connecticut
20 plant?

21 A. No, I did not.

22 Q. You did visit the thermometer
23 factory?

24 A. That's correct.

25 Q. And you believe that was someplace

1 in New York?

2 A. I believe it was, yes.

3 Q. Do you remember when you visited
4 the thermometer factory?

5 A. Sometime before '62.

6 Q. And can you be any more specific
7 than that?

8 A. No, I can't.

9 Q. Do you recollect whether the
10 Connecticut incident was before or after
11 '62?

12 A. It's been written up by Dr. Meggs,
13 and I'm sure it's in that group of papers.
14 I've been shown it in every deposition.
15 The date will be on it.

16 Q. And you referred to a reference to
17 a capacitor plant in England?

18 A. Well, Europe. I'm not sure if it
19 was England.

20 Q. And you said that that was
21 referred to in literature. What were you
22 referring to?

23 A. Yes, it was in either the British
24 -- I think in the British Journal of
25 Industrial Hygiene, but I don't know the

1 year.

2 Q. Do you believe it was before 1962?

3 A. I think so. Because I said there
4 were three cases, three instances, and I
5 can't think of what would be the third one
6 if it hadn't been that.

7 Q. Did you ever get longitudinal
8 information on the conditions at the
9 Connecticut plant, that is to say, what
10 happened after your initial hearing about
11 it?

12 A. Yes. They called me a month or so
13 later and said we got no problems, the
14 persons had no other illnesses at that
15 time, so they were quite well with the
16 exception of their chloracne on their
17 forearms, if that's what you mean by
18 longitudinal.

19 Q. Did you get any information after
20 that one month later?

21 A. I think that was the one
22 follow-up. I never heard from them again.
23 They still used the stuff, so I presume
24 everything was under control.

25 Q. Did you have follow-up with

1 respect to the New York thermometer
2 factory?

3 A. That's what I was talking about.
4 I mean, that follow-up was a month later,
5 approximately.

6 Q. Which was a month later, New York
7 or Connecticut?

8 A. Who?

9 Q. We were talking about two separate
10 -- at least two separate issues. One was
11 the New York thermometer factory and one
12 was the Connecticut heat transfer system.

13 A. Oh. Well, that -- Dr. Meggs, who
14 was a -- who is a very enthusiastic
15 occupational physician, head of the
16 Department of Occupational Medicine in the
17 State of Connecticut was following it up
18 very closely, writing papers about it, so I
19 relied on him much. As soon as, they got
20 rid of the leaks they got rid of the
21 chloracne.

22 Q. And other than the information
23 that you acquired through Dr. Meggs' work,
24 did you get any other information about
25 what happened after the initial incident at

1 the Connecticut plant?

2 A. No, sir.

3 Q. And did you get any -- you've
4 already described, I believe, that a month
5 after your visit to the New York
6 thermometer factory you got a follow-up
7 report?

8 A. That's right.

9 Q. Did you get any further follow-up
10 reports?

11 A. Not that I recall.

12 Q. Do you recall any follow-up
13 reports with respect to the English or
14 European factory that you've described?

15 A. Well, I don't know at the time
16 whether the follow-up report -- whether
17 the report included the follow-up. I don't
18 think the report was just okay, we've got
19 some chloracne here and somebody sits down
20 and writes a paper. I think, as I recall
21 the paper, it was -- the paper was written
22 sometime after the original episode of the
23 chloracne and was able to show that the
24 condition had improved following
25 ventilation and et cetera, and that there

1 were no systemic effects from the material.

2 Q. Doctor, just one other question.
3 Looking at your letter to Dr. Key of March
4 1962, the last sentence in the first
5 paragraph on the first page says, among
6 other things, "We have summarized our
7 available data relating to possible skin
8 effects if the Aroclors are misused." Do
9 you see that?

10 A. Yes, sir.

11 Q. And do you recollect what you
12 meant by the term misused?

13 A. Yes. By having -- breathing the
14 fumes at elevated temperatures or in
15 confined spaces and getting prolonged or
16 repeated skin contact, that's what I mean
17 by misused. Disregarding our safety
18 instructions.

19 Q. Why don't we mark as the next
20 exhibit, number 161, a one page document
21 bearing production number Tran 009115.

22 (Transwestern Deposition Exhibit Number
23 161 mark'd for identification).

24 MR. TALLON: Would you review
25 that, please, Dr. Kelly?

1 A. Yes, sir. Yes, sir, I've read it.

2 Q. That document appears to be a
3 memorandum dated May 27, 1964 from Elmer
4 Wheeler to Frank Nemits, correct?

5 A. Yes, sir.

6 Q. Have you seen that document before
7 today?

8 A. I don't recall seeing it.

9 Q. Do you have a recollection of ever
10 having discussed with Mr. Wheeler whether
11 the label "Caution, harmful if swallowed.
12 Keep out of the reach of children" was a
13 sufficient precautionary statement to be
14 provided to customers?

15 MR. PREUSS: Of 1232?

16 MR. TALLON: Of 1232.

17 A. This is not our label. He was
18 suggesting the minimum for the customer to
19 put on his label, as I read this. And I
20 don't recall talking to Elmer about it.
21 But if you read the paragraph before it, it
22 says the ultimate responsibility for the
23 proper labeling of a formulation remains
24 with the customer, and he said the minimum
25 precautionary statement, I think, that

1 would be necessary would be this.

2 Q. I understand.

3 A. So'without knowing what the
4 customer was using this for, I don't know
5 what it was. Maybe it was, I don't know, a
6 skin lotion or something. I don't know
7 what this fellow was trying to do with it.
8 I have no comment on it.

9 Q. I'm just wondering whether you
10 recollect ever having had a discussion with
11 Mr. Wheeler about whether the statement on
12 the bottom of that page was a sufficient
13 precaution even for a customer?

14 MR. PREUSS: Yes or no.

15 A. I did not have a discussion with
16 Wheeler, no. The answer is no, if that was
17 the question.

18 MR. TALLON: That was the
19 question.

20 A. Yes. No, I did not.

21 Q. Doctor, do you think that is a
22 sufficient caution?

23 A. I'd have to know what the fellow
24 was using. I have no idea what the
25 customer is doing.

1 Q. But wouldn't you recommend that
2 the same cautions that were included on
3 your PCB-based product be included on a
4 PCB-based product manufactured by a
5 customer of yours?

6 MR. PREUSS: I object, no
7 foundation without knowing what the
8 product's use is.

9 A. I still don't know. Labeling
10 depends on what the product is. Maybe
11 there is some sort of a product that this
12 fellow had that they couldn't get the
13 Aroclor out by any means possible. I don't
14 know.

15 Q. Couldn't get it out, what do you
16 mean?

17 A. Maybe he had some sort of a
18 formulation that ended up in a solid. I
19 don't know. So, I just don't know.

20 Q. You just can't comment one way or
21 the other?

22 A. I can't comment without knowing
23 how this Aroclor was used and what was the
24 final product.

25 Q. Did you ever recommend to

1 customers of Monsanto that they include the
2 same labeling that Monsanto used on its
3 PCB-based products?

4 A. No, sir, I did not.

5 (Recess).

6 MR. TALLON: What does the term
7 defatting of the skin mean?

8 A. You lose the fat that is present
9 in the outer skin layer and it becomes
10 chapped, in parentheses, or dry or
11 wrinkled.

12 Q. Why didn't we mark as the next
13 exhibit a two page letter dated May 14,
14 1970 bearing production numbers Tran 061402
15 and 03.

16 (Transwestern Deposition Exhibit Number
17 162 mark'd for identification).

18 MR. TALLON: Would you take a
19 moment and review that, please, Dr. Kelly?

20 A. Yes. Yes, sir, I've read it.

21 Q. Can you identify it?

22 A. Yes. This is a letter from me to
23 Dr. Drury of the Massachusetts Audubon
24 Society, dated May 14, 1970, concerning the
25 history of PCB toxicology and ecology

1 association.

2 Q. And you were the author of this
3 letter?

4 A. Yes, I was.

5 Q. And it is a letter that you wrote
6 in the discharge of your duties as medical
7 director?

8 A. Yes.

9 Q. And you intended for Dr. Drury to
10 rely on the information in this letter?

11 A. Yes.

12 Q. You wrote it on or about the date
13 that it is dated?

14 A. Yes, sir.

15 Q. This is actually the file copy,
16 correct?

17 A. I don't -- yes. But that just
18 meant to be filed. I don't know whether
19 -- I forget whether this would be a file
20 copy or came out of Wheeler's file or
21 somebody's. I just don't know.

22 Q. I could be clearer. I mean to say
23 this is a carbon copy or Xerox copy of your
24 original?

25 A. Yes.

1 Q. And you, indeed, sent a letter to
2 Dr. Drury that you signed?

3 A. Yes.

4 Q. And this is a copy of it?

5 A. Oh, yes.

6 Q. One other thing, by the way. Your
7 stamp grid in the upper right-hand corner
8 of the first page of the document has a
9 legend on it we did not mention before,
10 which is "Destroy." Do you see that?

11 A. Yes, sir.

12 Q. Was there a policy in effect in
13 the medical department while you were
14 medical director with respect to the
15 destruction of documents?

16 A. Well, that has been answered in
17 two parts. The "Destroy," from the point
18 of view of the destructive process
19 initiated by the medical department was,
20 what they decided was suppose somebody
21 wrote in and asked us for money and we
22 wrote them back and said sorry, we aren't
23 going to do this, and said throw the copy
24 away, that would be it as far as we're
25 concerned. Monsanto had what they called a

1 record retrieval system which was really a
2 record destruction system, which every five
3 years or so you were supposed to go through
4 your files and discard papers that you
5 didn't need any more. And so we followed
6 that as well as we could. Some things --
7 toxicological letters, as a rule, we kept
8 all the time, if they were from customers
9 we kept them all the time. So -- but
10 there was a considerable thinning out of
11 letters on the part of the company so they
12 wouldn't be overwhelmed by paperwork after
13 20 years.

14 Q. Do you remember the first date
15 when the document retrieval program that
16 you described went into effect at Monsanto?

17 A. It would have to be a wild guess,
18 I don't know. I thought it was in the
19 '50's.

20 Q. You mentioned toxicological
21 studies and customer inquiries were saved,
22 right?

23 A. Yes, sir.

24 Q. Were those types of documents
25 specifically exempted by the document

1 retrieval program or was that your
2 decision?

3 A. It was my decision. I don't think
4 the document retrieval system, if that's
5 -- I don't know if that's the term they
6 used -- but spelled out criteria of which
7 documents were given the pitch. They just
8 said go through to be sure you get rid of
9 things that you don't need. That's the
10 impression I got.

11 Q. Was it called a document retention
12 system?

13 A. It was retention, yes. It really
14 was a retention. But the answer was, it
15 was -- in a sense it turned out to be
16 destruction.

17 Q. Do you recall whether that system
18 exempted any category of documents in the
19 medical department from destruction?

20 A. Well, we exempted on our own
21 volition.

22 Q. Understood. Now I'm asking about
23 whether the program exempted any category
24 of documents in the medical department from
25 destruction?

1 A. I don't recall whether it did or
2 not.

3 Q. The letter of May 14, 1970, in the
4 third full paragraph on the first page
5 states, among other things, "None of the
6 European data nor United States data, nor
7 any of the thousands of samples that we
8 have analyzed shows any residues of
9 chlorinated biphenyl compounds in this
10 series of less than 5 chlorine atoms per
11 biphenyl molecule." Do you see that?

12 A. Yes, sir.

13 Q. So far as you know, does Aroclor
14 1242 include at least 5 chlorine atoms per
15 biphenyl molecule?

16 A. Does it --

17 Q. At least 5 chlorine atoms per
18 biphenyl molecule?

19 A. They may have some -- 5 chlorine
20 atoms would be 1254 and 1242 would be
21 probably 4 chlorine atoms, and there may be
22 some other ones with three in there, three
23 chlorine atoms. But the average is -- 42
24 were you asking about?

25 Q. Yes.

1 A. The average of 42 would be four,
2 but that means some were chlorinated to
3 more than four, some tracks, some tracks
4 less than four. The majority of them were
5 to four. Now, I think this is true in
6 1970, but I don't believe it's true today.

7 Q. You don't believe what is true
8 today?

9 A. A finding of lower chlorinated
10 PCBs in the environment.

11 Q. Meaning that studies subsequent to
12 the date of this letter have shown residues
13 of chlorinated biphenyl compounds of less
14 than 5 chlorine atoms per biphenyl molecule
15 in the environment?

16 A. Yes, I think so.

17 Q. Do you believe that to be as a
18 result of improved detection techniques?

19 A. Yes, sir.

20 Q. So would it be fair to say that at
21 the time of your letter the improved
22 detection techniques could have detected
23 lower chlorinated biphenyls in the
24 environment?

25 MR. PREUSS: I object to the form

1 of the question. Improved techniques that
2 existed at that time or exist now?

3 MR. TALLON: That exist now.

4 A. Yes, I think if they found it now,
5 they could find it then.

6 Q. Turn, please, to the second page
7 of that letter, Dr. Kelly. In the second
8 full paragraph it states, "At any rate,
9 Monsanto is withdrawing PCB from sale for
10 those uses where it cannot be controlled."
11 Do you see that?

12 A. Yes, sir.

13 Q. And what did you mean when you
14 wrote "uses where it cannot be controlled"?

15 A. Controlled to prevent escape into
16 the environment. By that I mean open uses,
17 plasticizers, paints, coatings, industrial
18 fluids. We withdrew almost everything
19 except electrical and -- electrical uses.

20 Q. When you used the phrase "uses
21 where it cannot be controlled," did you are
22 intend to exclude closed system uses where
23 the possibility of leaks existed?

24 A. We did at first, but then we --
25 the first wave of withdrawal was the

1 frankly open uses, carbonless carbon paper
2 type, paint, waxes, greases. Then the next
3 one -- and hydraulic fluids where there
4 is, naturally, the die cast machine, you
5 are losing a certain amount of hydraulic
6 fluid every time you push that ram out.
7 The next one was heat transfer uses and
8 compressor uses, because there were losses
9 from those operations. And so the last one
10 was the electrical ones.

11 Q. What accounted for that priority?

12 A. Beg pardon?

13 Q. What accounted for that, if you
14 can prioritize?

15 A. Well, the fact that there were no
16 -- start with the last one first. There
17 were no substitutes for it, the electrical
18 uses, at the time I wrote this. In fact
19 the government told us to keep on
20 manufacturing the stuff because the heat
21 -- the fire retardancy in transformers was
22 an enormous value in places like subways,
23 railroad trains, the White House, Busch
24 Stadium, it had to be used until they came
25 up with a substitute. The other one was

1 where there were substitutes and there were
2 open uses, we stopped it. The substitutes
3 were not as good, obviously, otherwise we
4 wouldn't have been selling the stuff
5 before.

6 Q. What about the middle category,
7 which was closed systems, where there was
8 some possibility of leakage?

9 A. We found out that there were leaks
10 in those cases and we stopped using it.

11 Q. What do you mean, you found out
12 that there were leaks in those cases?

13 A. Well, there were reports of
14 finding PCBs in the outflows of various
15 plants, manufacturing plants throughout the
16 country. We found out that some of the
17 stuff came from what might have been
18 considered closed uses.

19 Q. And when, to your best
20 recollection, did you find that out?

21 A. '70 or '71, I'm not sure of the
22 exact date.

23 Q. You were aware before '70 or '71
24 of the possibility of accidental leaks in
25 closed systems, though, correct?

1 A. Oh, yes.

2 Q. Why don't we mark as 163 a two
3 page letter dated April 13, 1967 bearing
4 production numbers Tran 009764 and 765.

5 (Transwestern Deposition Exhibit Number
6 163 mark'd for identification).

7 MR. TALLON: Would you take a
8 moment and review that, please?

9 A. Yes, sir.

10 Q. Can you identify the document for
11 the record?

12 A. Yes. This is a letter from me to
13 a Doctor -- a Mr., I don't know if it's
14 Fain -- Fain, F-a-i-n, dated April 13,
15 1967.

16 Q. Do you recollect sending this
17 letter to Mr. Fain?

18 A. No, I do not.

19 Q. Do you know whether you wrote it
20 in the discharge of your responsibilities
21 as medical director?

22 A. Yes, I did.

23 Q. Do you know whether you intended
24 for Mr. Fain to rely on it?

25 A. Yes, sir, I did.

1 Q. Did you write it on or about April
2 13, 1967?

3 A. Yes, sir.

4 Q. Is this, in fact, a carbon copy or
5 Xerox copy of your letter to Mr. Fain?

6 A. Yes, it is.

7 Q. And you signed the original?

8 A. Yes.

9 Q. There is a BCC on page two of the
10 letter to Mr. D.H. Bechtold.

11 A. I think he's a marketing -- was
12 in marketing in the St. Louis office.

13 Q. And there are visible cc's to Mr.
14 V.W. Sponseller and Mr. Larry Bradford, do
15 you see that?

16 A. Yes.

17 Q. Who are those gentlemen?

18 A. I don't know who they are.

19 Q. Do you know, Dr. Kelly, with what
20 company or firm Mr. Fain was associated in
21 Bellaire, Texas?

22 A. No, I don't.

23 Q. The letter in paragraph 3 on page
24 1 states, "The fluid may be absorbed
25 through the unbroken skin of rabbits in

1 doses resulting in death, but, again, the
2 minimum lethal dose is such that accidental
3 massive skin exposures to man do not
4 present a hazard."

5 A. Yes.

6 Q. What is meant by the terminology
7 accidental massive skin exposures?

8 A. I'm thinking if a pipe broke and a
9 man was walking next to it or was pulling
10 on a valve with a monkey wrench and it
11 broke off and he got doused with the stuff,
12 that would be a massive skin exposure. By
13 the time he takes his coveralls and
14 underwear off, he's got no problem.

15 Q. Did you ever call for a study when
16 you were medical director of what level of
17 skin exposure would present a hazard?

18 A. No, sir. I mean, we could
19 experiment with any animals, but I don't
20 think we went to any higher species.

21 Q. Did you extrapolate from animal
22 studies as to what level of skin exposure
23 would be hazardous to man?

24 A. Yes.

25 Q. What level?

1 A. You could get pretty much. I
2 mean, we didn't quantify it. Here we had a
3 compound that we had been using for years,
4 we knew there were occasions in our own
5 workers where they did get pretty massive
6 exposure and no ill-effects.

7 Q. And what do you mean when you use
8 the term pretty massive exposure in that
9 answer?

10 A. Well, we had breaks in our
11 production lines, a pump would spring a
12 leak in the seal and spray them and he'd
13 get doused, a certain percentage of his
14 coveralls would get wet. He'd take them
15 off and take a shower and that was it, no
16 problem.

17 Q. Were any of the employee
18 situations which you were just describing
19 situations where soaking or immersion
20 occurred for greater than half an hour?

21 A. I don't think so.

22 Q. Why don't we mark as Exhibit 164 a
23 one page document bearing production number
24 Tran 039644.

25 (Transwestern Deposition Exhibit Number

1 164 mark'd for identification).

2 MR. TALLON: Would you take a
3 moment and review that document, please?

4 A. Yes. Was there a question?

5 Q. No. Only a request that you read
6 it.

7 A. Yes, I did.

8 Q. And do you recognize the letter?

9 A. Yes, I do.

10 Q. Can you identify it for the
11 record?

12 A. It's a letter from me to a Dr.
13 Robertson of Ohio State University
14 Hospitals, August 8, 1970.

15 Q. Is it August 8th or August 18th?

16 A. 18th, sorry.

17 Q. Is this a carbon copy of a letter
18 that you, in fact, sent to Dr. Robertson?

19 A. Yes.

20 Q. Did you write the letter to Dr.
21 Robertson in your capacity as a medical
22 director of Monsanto?

23 A. Yes, I did.

24 Q. You intended for him to rely on
25 the information in the letter?

1 A. Yes, sir.

2 Q. And you wrote it on or about
3 August 18, 1970?

4 A. Yes, sir.

5 Q. I want to refer you to the third
6 paragraph of the letter, and more
7 particularly to the discussion of Aroclor
8 1242. The last sentence of the paragraph
9 states, "It," and I believe that refers to
10 Aroclor 1242, "has a relatively low order
11 of acute toxicity, although it does exhibit
12 a higher toxicity from a long range point
13 of view." Do you see that?

14 A. Yes, sir.

15 Q. And what is the -- what do you
16 mean when you said that 1242 has a
17 relatively low order of acute toxicity
18 although it does exhibit a higher toxicity
19 from a long range point of view?

20 A. Well, I can't put it any more
21 simply. From an acute point of view it's
22 not very toxic. If you inhale the material
23 over a prolonged period of time, six, eight
24 weeks, like we did in our experiments, you
25 can get problems.

1 Q. And does long range in that
2 sentence mean six or eight weeks?

3 A. Well, that's long range for
4 inhalation, it's not long range for oral
5 feedings. We did not have the results of
6 our -- there were no results -- no long
7 range oral feedings on the Aroclors in
8 August 18, 1970. They were commenced, but
9 we didn't have any results.

10 Q. Were there long range toxicity
11 studies in existence in August 1970 with
12 respect to inhalation?

13 A. Just as I said, the six weeks, six
14 to seven weeks. That's considered long
15 range in inhalation, from an inhalation
16 point of view.

17 Q. Were there long range studies on
18 any other exposure?

19 A. To what?

20 Q. To Aroclor 1242.

21 A. We might have had 20 days on skin
22 or something like that, but not any longer
23 than that.

24 Q. The sentence states it has a
25 relatively low order of acute toxicity.

1 What is the relative comparison being made
2 in that sentence?

3 A. Geheral industrial chemicals.

4 Q. And what is the relative
5 comparison being made through the use of
6 the phrase "a higher toxicity"?

7 A. Well, it's higher from -- if you
8 look at it from acute toxicity it's
9 practically non-toxic, so it's pretty low.
10 It's like brake fluid, hydraulic oil or
11 something like that. From a long range
12 point of view, it does, from the inhalation
13 point of view, we do get toxicity from it,
14 and we -- at that time we may have been
15 getting our range finding testing
16 preparatory to our two year feeding tests,
17 and that time it showed that repeated
18 smaller doses over a long period of time,
19 90 days or something like that, could cause
20 toxicity. So I don't know how to explain
21 it any more than that to you.

22 Q. To what, relatively speaking, does
23 Aroclor 1242 have a higher toxicity from a
24 long range point of view, general
25 industrial chemicals?

1 A. I would think so. Well, no. I
2 was just saying -- to paraphrase it I can
3 say we got almost really zero toxicity.
4 Not quite zero toxicity from the acute
5 point of view, but we do have some from a
6 long range point of view. So I'm saying
7 higher, certainly, when viewed as a long
8 term toxicity experiment, it has higher
9 toxicity than when viewed as a low -- from
10 an acute point of view. It doesn't mean
11 it's higher toxicity than regular run of
12 the mill industrial chemicals which really
13 haven't been tested from the long term
14 point of view. So I am equating or
15 comparing long range toxicity to acute
16 toxicity, two types of testing. Acute
17 toxicity, really nothing to worry about;
18 almost, very close to zero toxicity. I
19 mean practically non-toxic from the
20 standpoint of rats. Ounce and a half per
21 kilogram, which is a big dose. From the
22 long term point of view it does have some
23 toxicity, but that's not unusual in an
24 industrial chemical. You're looking for
25 some toxicity, we expected toxicity in an

1 industrial chemical. So I'm comparing the
2 same compound in two different tests.

3 Q. When you used the term in your
4 answer just now an ounce and a half per
5 kilogram, are you referring to per kilogram
6 of body weight?

7 A. Yes.

8 Q. When you referred in your answer
9 of a moment ago to a 90 day study of
10 exposure to small amounts, to what study
11 were you referring?

12 A. The Treon study of inhalation.
13 That was milligrams per cubic meter of air.

14 Q. And was that the Treon study to
15 which you referred earlier today or a
16 different one?

17 A. The same one.

18 Q. Do you recall the inquiry to Dr.
19 Robertson to which you were responding?

20 A. I sure don't. I don't know what
21 he was doing. I don't recall anybody
22 talking about placentas and Aroclor in the
23 same memorandum. I should have remembered
24 it, but I don't.

25 Q. Dr. Kelly, during this period of

1 your service as medical director of
2 Monsanto, do you recollect having had
3 direct communications with persons you
4 believed to be representatives of Texas
5 Eastern Transmission Company?

6 A. I don't recall them. I mean, I
7 may, but I -- you know, in 35 years you
8 get an awful lot of inquiries about a lot
9 of chemicals. This may look like a lot of
10 PCB, but, really, this is small in
11 comparison to a lot of our compounds.

12 Q. What is small in comparison to a
13 lot of our compounds?

14 A. The amount you've been showing me
15 on -- most of them are questions about --
16 they're not questions, problems with a
17 compound, just asking for information about
18 it. But there are an awful lot of other
19 compounds from phosphorus to phthalic
20 anhydride to God knows what that we get
21 inquiries on. I'd say we would get -- I
22 don't know how many a week, but quite a
23 few. So what was the question? Sorry.

24 MR. PREUSS: That's why we want to
25 wait for questions.

1 A. Sorry. I talk to too much.

2 MR. TALLON: No, that was fine.

3 (Discussion off the record).

4 MR. TALLON: Actually, I think the
5 question was, did you recollect having had
6 any direct communications during your
7 career at Monsanto with anyone you believed
8 to be a representative of Texas Eastern
9 Transmission Company?

10 A. I do not, although I may have. I
11 do not recall it.

12 Q. Do you recollect today having had
13 any discussions or communications with
14 persons you believe to be representatives
15 of the Transwestern Pipeline Company?

16 A. No, sir.

17 Q. Have you ever heard of the Texas
18 Eastern Transmission Company before this
19 moment?

20 A. I don't believe I did.

21 Q. Have you ever heard of the
22 Transwestern Pipeline Company before this
23 moment?

24 A. Before this moment? I mean, they
25 talked to -- this was the case they told

1 me about yesterday. I heard yesterday
2 about it.

3 Q. Right.

4 A. Not before yesterday.

5 Q. Excluding your conversations with
6 Mr. Preuss, do you recollect having heard
7 anything about Texas Eastern Transmission
8 Company?

9 A. No, sir.

10 Q. Or Transwestern Pipeline Company?

11 A. No, sir.

12 Q. All right. Why don't I show you a
13 document which bears production number
14 TW2-2003500. And for the record, the
15 document is captioned "Transcription of
16 Bates numbered document 004013879".

17 (Transwestern Deposition Exhibit Number
18 165 mark'd for identification).

19 A. Yes, sir, I've read it.

20 Q. Does reading the document which we
21 have now marked as Exhibit 165 refresh your
22 recollection with respect to any
23 communication with persons you believe to
24 be representatives of Texas Eastern
25 Transmission Company?

1 A. Well, this document doesn't refer
2 to who Edmondson is or who Fletcher is.

3 Q. I know.

4 A. It really doesn't refresh me at
5 all.

6 Q. Does the name O.M. Fletcher mean
7 anything to you?

8 A. No, sir.

9 Q. Does the name E.E. Edmondson mean
10 anything to you?

11 A. No. There may be more in the
12 file.

13 Q. Why don't you set that aside, Dr.
14 Kelly. Why don't we mark as Exhibit 166 a
15 one page document bearing production number
16 TW2-2004803, which appears to be a letter
17 on the stationery of Monsanto Chemical
18 Company, dated August 18, 1958.

19 (Transwestern Deposition Exhibit Number
20 166 mark'd for identification).

21 A. Yes, sir, I've read it.

22 Q. Do you recognize it?

23 A. I recognize what it is, yes, but
24 -- I mean, I don't recall it, but I
25 recognize it.

1 Q. What is it?

2 A. It's a letter from me to Mr.
3 Edmondson of the Texas Eastern Transmission
4 Corporation, dated August 18, 1958,
5 concerning fluid OS-81.

6 Q. Do you have any recollection of
7 having written the letter to Mr. Edmondson
8 of Texas Eastern Transmission Corporation?

9 A. No, I don't.

10 Q. Do you have any recollection of
11 having written to any person about the use
12 of fluid OS-81 as an inside lubricant for a
13 gas compressor?

14 A. No, sir.

15 Q. Do you know whether OS-81 was ever
16 used as an inside lubricant for a gas
17 compressor?

18 A. From this memorandum it looks like
19 somebody told me it was. Whether it was
20 -- well, that's the only -- I know
21 nothing about pipelines, so I do not know
22 whether OS-81 was used. I have no
23 knowledge as to how -- whether it was used
24 as a gas compressor, no, sir, I don't.

25 (Discussion off the record).

1 MR. TALLON: Was there something
2 about this document that you associated
3 with pipelines?

4 A. Well, I figured that Texas Eastern
5 transmission must have been using a
6 pipeline.

7 Q. And why did you figure that?

8 A. Well, I think that's the way --
9 if you got a gas compressor and you got a
10 Transmission company, they aren't going to
11 send the stuff in tank cars, they use a
12 pipeline.

13 Q. So you're aware that Texas Eastern
14 Transmission Company is a gas company?

15 A. No. But I don't know -- I
16 thought a gas compressor was something that
17 compressed the gas.

18 Q. And do you recollect that as a
19 result of having read this letter, or are
20 you just making that statement as a
21 statement of general knowledge?

22 A. You mean -- what was the -- make
23 what statement? General knowledge?

24 Q. You said a gas compressor was
25 something used to compress gas.

1 A. Unless it has a different meaning
2 than the two words would imply, I think
3 that's what it does.

4 Q. I was just wondering, Dr. Kelly,
5 because there is nothing in the letter
6 itself which talks about a pipeline or the
7 use of this gas compressor to compress
8 gas.

9 A. Except that's the name of the
10 thing. We got an inside lubricant.

11 Q. Right.

12 A. Which goes inside something.

13 Q. Right.

14 A. And something owned, presumably of
15 interest to Texas Eastern Transmission
16 Corporation. And I think from general
17 knowledge I know that transmission
18 companies who have a gas compressor have
19 gas inside them -- the pipeline. That's
20 the business of transmission. But nobody
21 told me Texas Eastern transmission is a
22 pipeline company.

23 Q. Do you have a recollection of Mr.
24 Edmondson or any other person telling you
25 about occasional leaks occurring with

1 respect to gas compressor operations?

2 A. No, sir. Unless there were
3 telephone calls, but I don't recall them at
4 all. And if these are the only two bits of
5 communication, I would just have to surmise
6 that there could be leaks.

7 Q. Why would you surmise that there
8 would be leaks?

9 A. Well, he's talking about, in this
10 letter of April 13th, that the people --
11 there is some concern about is it a health
12 and safety standpoint. His last question
13 refers to the repair of it. Another point
14 in question, repair of the compressers. So
15 someplace along the line I inferred that he
16 was having possibilities of exposure during
17 the normal operation of these things.
18 That's the only basis I can think of at the
19 present time as to why I answered this
20 question that way. He was inquiring about
21 the health and safety, and I presume that
22 there had to be leaks.

23 Q. Do you have an understanding
24 whether Exhibit 166 is your response to the
25 preceding Exhibit, 165?

1 A. Yes. Because right on the front I
2 said "Thank you for your letter of August
3 13th," which is Exhibit 165.

4 Q. Let me show you another document
5 which is -- actually, we'll use this copy,
6 it's a three page document comprising a
7 retyped copy of document Bates numbered
8 TW2-2006486, a notarial statement and a
9 photocopy of TW2-2006486.

10 (Transwestern Deposition Exhibit Number
11 167 mark'd for identification).

12 MR. TALLON: Doctor, I'll state
13 for the record that the first page of the
14 three page exhibit I've handed you is a
15 recently typed version of the last page of
16 the exhibit, the last page of the exhibit
17 being somewhat difficult to read.

18 A. Yes, sir.

19 Q. Have you read the document?

20 A. Yes, I have.

21 Q. And have you looked at the third
22 page of the exhibit?

23 A. Yes. It looks pretty close. I
24 mean, it looks like a good translation, or
25 a good transcription.

1 Q. Do you recall having sent the
2 letter which comprises the third page of
3 the exhibit and is retyped on the first
4 page?

5 A. No, I don't. But this certainly
6 clarifies my answer to a couple of your
7 questions.

8 Q. In what way does it clarify?

9 A. I must have talked to Davis about
10 this, and said, "What is this Texas Eastern
11 Transmission Company, and what are they
12 doing?" So he probably told me it's a
13 pipeline company. So I think that on the
14 basis -- I think I must have talked to him
15 in the five days between the first two
16 letters.

17 Q. And who is the Mr. Davis referred
18 to?

19 A. He's in the marketing group of
20 Monsanto.

21 Q. Do you recall having any
22 communications with Mr. Davis?

23 A. You mean oral or written?

24 Q. Either.

25 A. I don't recall them, no. But it

1 seems obvious that if he reported to me,
2 there was some -- if I said he reported to
3 me that Texas Eastern people had burning
4 skin irritation, there was a communication
5 there.

6 Q. Do you recollect, by the way,
7 Doctor, if Mr. Davis or anyone else
8 reported to you that in many instances of
9 working around compressers the use of
10 gloves is not feasible?

11 A. I don't recall that.

12 Q. Do you have any knowledge as to
13 where that information derives from?

14 A. Well, it must have been from
15 Davis, because I haven't -- I mean, I see
16 down here I said that, so I got it from
17 somebody. I didn't -- I've never seen a
18 pipeline compressor.

19 Q. A what?

20 A. A pipeline compressor.

21 Q. Do you recollect, Dr. Kelly --
22 well, let me point out something to you.
23 In the first paragraph of Exhibit 167 there
24 is a request that you make, stating "Our
25 Mr. Davis has reported to me that some of

1 your men have exhibited burning and skin
2 irritation," do you see that?

3 A. Yes.

4 Q. And it goes on to say, "I would
5 appreciate it if you could have your safety
6 or medical department furnish me further
7 details"?

8 A. Yes, sir.

9 Q. Do you recollect whether you were
10 furnished with further details of any kind?

11 A. No, sir, I don't recollect that at
12 all.

13 Q. You don't remember one way or the
14 other?

15 A. Either way.

16 Q. Okay. And understanding you have
17 limited recollection of this document, are
18 you able to say whether the letter is one
19 that you wrote in the discharge of your
20 duties as medical director at Monsanto?

21 A. Yes, I think so.

22 Q. And understanding that, do you
23 believe that you intended for Mr. Fletcher
24 to rely on the information in this
25 document?

1 A. Yes, I did.

2 Q. And do you believe that you wrote
3 it on or about the date that it is dated?

4 A. Yes, sir.

5 Q. There is a reference to -- in the
6 second paragraph of Exhibit 167 to the fact
7 that skin contact with the material should
8 not cause any more of a reaction than if
9 one were exposed to a paint remover. Do
10 you see that?

11 A. Yes, sir.

12 Q. Do you have any knowledge today of
13 what kind of paint remover you're referring
14 to in this passage?

15 A. Any kind. I mean, this stuff will
16 take paint off, paint remover takes paint
17 off, and this will cause defatting of the
18 skin. And any paint -- I was referring to
19 an organic paint remover, not a water base
20 paint remover, which I understand there
21 have been some in the last two or three
22 years, for latex paints and other paints.
23 But this refers to an organic paint
24 remover, whether it's a hydrocarbon or
25 acetone or something else.

1 Q. In your answer of a moment ago
2 when you said this stuff takes off paint,
3 were you referring to OS-81?

4 A. Yes.

5 Q. Were you referring to Aroclors
6 more generally?

7 A. Yes, liquid Aroclors.

8 (Recess).

9 MR. TALLON: Let me show you, Dr.
10 Kelly, a document which is Bates stamped
11 TW2-2007037 through 043, and I would ask
12 you to disregard the first page, or read it
13 if you like, I'm mostly interested in the
14 attachment to it.

15 (Transwestern Deposition Exhibit Number
16 168 mark'd for identification).

17 A. Yes, sir, I've read it.

18 Q. Do you recollect having seen the
19 OS-81 technical bulletin which comprises
20 most of Exhibit 168?

21 A. I have no specific recollection of
22 seeing it. I know I've seen it.

23 Q. And do you know under what
24 circumstances you saw it?

25 A. Probably when it first came out,

1 when they asked me about the toxicity and
2 safe handling data on the bulletin.

3 Q. Could you turn to the last page,
4 please?

5 A. Yes, sir.

6 Q. That's a page captioned "Toxicity
7 and safe handling information"?

8 A. Yes, sir.

9 Q. Do you recollect having drafted
10 any of the language which appears there?

11 A. I don't recollect it, but I'm sure
12 I have. I'm sure I did it.

13 Q. Do you recommend or do you
14 recollect recommending for inclusion in the
15 -- in this portion of the technical
16 bulletin any information about systemic
17 toxic effects of exposure to OS-81?

18 A. No, sir, I don't see that. But I
19 do see the last paragraph, "If, however,
20 the material is used at elevated
21 temperatures, repeated or continuous
22 breathing of fumes must be avoided by
23 workmen".

24 Q. I'm sorry?

25 A. "Must be avoided by workmen." I

1 mean, the inference there is if you don't
2 avoid it you're going to have problems.
3 But I don't see anything specific about
4 systemic illness.

5 Q. Do you recollect having discussed
6 the information appearing on the last page
7 of this technical bulletin with Roger
8 Hatton?

9 A. No, sir, I don't recall.

10 Q. Do you know who Roger Hatton was?

11 A. Yes.

12 Q. Or is.

13 A. I thought he was a research and
14 development man in industrial fluids.

15 Q. Do you have a recollection of
16 discussing the use of OS-81 by any customer
17 with Roger Hatton?

18 A. No, sir, I don't recall it.

19 Q. I want to ask the court reporter
20 to mark as Exhibit 169 a multi-page
21 document titled "MCS-153 Transfer to
22 Marketing and Recommended Product
23 Strategy".

24 (Transwestern Deposition Exhibit Number
25 169 mark'd for identification).

1 MR. TALLON: Would you take a
2 moment and review that, please?

3 A. A moment?

4 Q. Well, such time as you need. But
5 I'll tell you I want to ask you initially
6 whether you have seen this document earlier
7 than today.

8 A. I'm skipping all the part about
9 marketing and things like that.

10 Q. Yes.

11 A. I've never seen this before, that
12 I recall.

13 Q. You don't recollect ever having
14 discussed this document with Roger Hatton?

15 A. No, sir.

16 Q. Does reviewing this document in
17 any way refresh your recollection as to the
18 use of OS-81 by Texas Eastern Transmission
19 Corp.?

20 A. No, sir.

21 Q. Does the review of this document
22 in any way refresh your recollection as to
23 discussions you may have held with Roger
24 Hatton concerning Texas Eastern
25 Transmission Corp.?

1 A. No, sir.

2 Q. I take it, Dr. Kelly, when I ask
3 you about Texas Eastern Transmission Corp.
4 you basically draw a blank, is that it?

5 A. That's yes.

6 Q. You mentioned a few moments ago
7 something about general knowledge about gas
8 compressers, do you have any understanding
9 today whether a gas compressor is a closed
10 system or open system?

11 A. No, I don't. I didn't think I
12 said I knew much about a gas compressor, I
13 think I said I don't know anything about
14 them. I mentioned -- I said it was an
15 internal compressor, so I figured it was
16 inside something. But I don't know
17 anything about it.

18 Q. So you don't know whether or not a
19 gas compressor is an open system or closed
20 system?

21 A. Well, I think common knowledge of
22 anything would say that if you've got a
23 compressor, if you're compressing
24 something, it's got to be closed, otherwise
25 there is no compression.

1 Q. And do you know whether or not
2 such a compressor would be subject to
3 leaks?

4 A. Well, I think almost all
5 compressers can leak. I've gone through
6 this, but to answer your question, it does
7 not --

8 Q. Refresh your recollection?

9 A. No, sir.

10 Q. I'm going to ask the court
11 reporter to mark as the next document a
12 single page bearing production number Tran
13 001382, and the next one we're going to
14 mark is Tran 001383.

15 (Transwestern Deposition Exhibit Number
16 170 & 171 mark'd for identification).

17 MR. TALLON: Looking first, Dr.
18 Kelly, at Exhibit 170, I'd ask you if
19 you've ever seen that label before, if
20 that's what it is?

21 A. I feel pretty sure I have, but I
22 don't have any specific recollection of
23 seeing it.

24 Q. Do you have any particular
25 recollection of having recommended

1 additions of language to this label?

2 A. No specific recollection. But I
3 do know that it was quite an established
4 procedure that the medical department would
5 approve this caution statement.

6 Q. Can you tell, Dr. Kelly, from the
7 language which appears following the word
8 "Caution" the approximate date of this
9 document?

10 A. No, I can't. No. It's something
11 before 1972, because we had environmental
12 labels on them at that time.

13 Q. Can you examine for a moment the
14 next exhibit, which is a label for Turbinol
15 153, formerly MCS-153.

16 A. Is there a question?

17 Q. Yes. Could you examine it,
18 please?

19 A. Yes, I could.

20 Q. Have you seen this before?

21 A. I was waiting for a question.

22 Q. I thought you were still examining
23 it.

24 A. No. I said I did examine it.

25 Q. I didn't hear you. Sorry. I was

1 entranced by the document. Do you
2 recollect seeing this particular label
3 before?

4 A. No, sir, I do not.

5 Q. Do you recall having recommended
6 any additions of language to this document?

7 A. Do I recall recommending any
8 addition?

9 Q. Of language to the -- to this
10 document?

11 A. Addition of language to this
12 label?

13 Q. Yes.

14 A. I do not recall that.

15 Q. Are you able to ascertain from a
16 review of the document the approximate date
17 of the label?

18 A. No, sir.

19 Q. Do you believe these two exhibits,
20 by the way, to be labels, photocopies of
21 labels?

22 A. I would certainly think they are.

23 Q. Is the language -- well, the
24 language on the exhibit for MCS-153
25 following the word "Caution" appears to be

1 the same as the language following the word
2 "Caution" on the label for Turbinol 153,
3 correct?

4 A. Yes, sir.

5 Q. Does that help you at all in
6 dating it?

7 A. No. Because I don't ever remember
8 seeing a Turbinol label before. And I
9 cannot make out these codes at the bottom.
10 That is fraught with errors, you might
11 think 153 means January of '53 and 253
12 means February of '53, but some labels I've
13 seen, that doesn't follow at all.

14 Q. But to just touch on one other
15 point, you indicated in your testimony of a
16 moment ago that given the language in the
17 label for MCS-153 you thought it predated
18 1972?

19 A. That's correct.

20 Q. Based on that same analysis, do
21 you believe that the label for Turbinol 153
22 is dated before 1972?

23 A. I would think so, because we
24 generally put the environmental label on
25 new shipments, whether it was shipments of

1 Turbinol or MCS, after 1972. I don't
2 know. But that was about the time we
3 stopped industrial fluids, the manufacture
4 of industrial fluids.

5 Q. What was about the time that you
6 stopped manufacturing?

7 A. The industrial fluids.

8 Q. What was the time?

9 A. It was around '72. '71, '72.

10 Q. Do you know whether or not
11 production of Turbinol 153 terminated?

12 A. No, sir, I don't.

13 Q. Let's mark as the next document a
14 document bearing production number
15 TW2-2006525 through 6528, which is a letter
16 on Monsanto Chemical Company stationery,
17 dated September 25, 1961.

18 (Transwestern Deposition Exhibit Number
19 172 mark'd for identification).

20 MR. TALLON: Would you please
21 review that?

22 A. Yes, I will. Yes, sir, I've read
23 it.

24 Q. Do you recognize that document?

25 A. No, sir. I don't think I've ever

1 seen it before.

2 Q. Would you turn to the last page of
3 the document, please?

4 A. Yes, sir.

5 Q. Do you know, Dr. Kelly, whether
6 you approved the language appearing under
7 paragraph numbered 3, starting with "This
8 item consists"?

9 A. I don't know if I did. I may and
10 I may not have, I don't know.

11 Q. Do you recall, Dr. Kelly, ever
12 communicating with any representative of
13 the Cooper Bessemer Corporation about
14 compressor operations?

15 A. Cooper who?

16 Q. Cooper Bessemer.

17 A. No, sir, I do not.

18 Q. Let's mark as the next exhibit a
19 two page memorandum bearing production
20 numbers Tran 002552 and 2553.

21 (Transwestern Deposition Exhibit Number
22 173 mark'd for identification).

23 A. Yes, sir, I've read it.

24 Q. Have you seen that document
25 before?

1 A. I don't recall having seen it.

2 Q. Do you recollect whether Mr.
3 Garrett ever told you that he was holding a
4 request to discuss the toxicity of Turbinol
5 153 with Texas Eastern Gas Transmission
6 Corp.?

7 A. No, sir, I don't recall that.

8 Q. Do you recollect that Mr. Garrett
9 ever told you that he was holding a request
10 to discuss the toxicity of Turbinol 153
11 without regard to with whom the discussion
12 was to be held?

13 A. No, sir.

14 Q. Do you recollect ever discussing
15 the toxicity of Turbinol 153 with Mr.
16 Garrett?

17 A. I don't recall. I don't recall
18 it. I don't know what the toxicity refers
19 to. I don't know if he's referring to
20 toxicity to fish or toxicity to humans or
21 toxicity to animals, because he's talking
22 about fish in the first paragraph and he
23 goes down in the third paragraph and he
24 talks about toxicity, so I don't know
25 whether he's talking about fish or what.

1 The answer is no.

2 Q. Okay. Do you remember having a
3 conversation with Mr. Garrett where the
4 subject was Turbinol 153?

5 A. No, sir, I don't.

6 Q. Do you remember having a
7 conversation with anybody where the subject
8 was Turbinol 153?

9 A. No. I don't recall much about
10 Turbinol. I recall practically nothing
11 about Turbinol 153. After all, this was a
12 small amount to one company. We're talking
13 about fifty thousand dollars in sales to
14 one company, so I don't recall it.

15 Q. What's the basis of the statement
16 that we're discussing fifty thousand
17 dollars in sales?

18 A. Well, it was in that big
19 memorandum from Hatton transferring it to
20 market.

21 Q. Is it your understanding that
22 fifty thousand dollars in sales would
23 represent a fairly small portion of the
24 overall income of that department?

25 A. No. It's important, but -- I

1 mean, any sales is important, but this is
2 to one company, and I don't recall an awful
3 lot of conversation about Turbinol. I
4 don't recall any, in fact.

5 Q. This next document should be
6 brief. Could you mark a two page document
7 bearing production numbers Tran 003826 and
8 3827 as Exhibit 174.

9 (Transwestern Deposition Exhibit Number
10 174 mark'd for identification).

11 A. Yes, sir, I've read it.

12 Q. Have you seen that document before
13 today?

14 A. No, sir. Not that I can recall.

15 Q. Do you recollect having had a
16 discussion with anyone where the subjects
17 discussed in this document were a topic of
18 conversation?

19 A. There is no date on this document,
20 there is no -- nothing that shows who
21 wrote it or to whom it went.

22 Q. Right.

23 A. So, no, I don't.

24 Q. Do you recognize the handwritten
25 notation at the top of the first page as

1 being someone's handwriting?

2 A. Someone's, yes, but I don't
3 recognize it.

4 Q. Okay. Do you have any knowledge
5 or information as to the source of this
6 document within Monsanto?

7 A. No, I have no idea about it.

8 Q. Let's look at Exhibit 175, which
9 will be a two page letter dated January 7,
10 1964, bearing production numbers Tran
11 012120 and 012121.

12 (Transwestern Deposition Exhibit Number
13 175 mark'd for identification).

14 MR. TALLON: Please review that.

15 A. Yes, I've read it.

16 Q. Can you identify it?

17 A. This is a letter from me to Mr.
18 Spore of Shenango Ceramics, dated January
19 7, 1964.

20 Q. This is a carbon copy of a letter
21 that you actually sent to Mr. Spore?

22 A. Yes, sir.

23 Q. Did you write this letter in your
24 capacity as medical director of Monsanto?

25 A. Yes, I did.

1 Q. Did you intend for Mr. Spore to
2 rely on the information in it?

3 A. Yes, I did.

4 Q. Did you write it on or about
5 January 7, 1964?

6 A. Yes, sir.

7 Q. I refer you, Dr. Kelly, to the
8 third paragraph on the first page. The
9 first sentence states, "The fact remains
10 that I would not recommend the use of
11 Aroclor 1262 at temperatures above 150 to
12 160 degrees fahrenheit without the
13 provision of exhaust ventilation to remove
14 any vapors that might be released." Do you
15 see that?

16 A. Yes, sir.

17 Q. What is the reason, Dr. Kelly,
18 that you use the range 150 to 160 degrees
19 fahrenheit in that explanation to Mr.
20 Spore?

21 A. He might have asked me. I don't
22 really know why he asked that.

23 Q. Did you ever recommend against
24 using Aroclor 1262 at temperatures above
25 160 degrees fahrenheit in any other

1 context?

2 A. Recommend against using it?

3 Q. Yes.

4 A. I don't know if I did or not.

5 Q. Do you have any present

6 understanding as to the significance of the

7 degree range 150 degrees to 160 degrees

8 fahrenheit as used in this letter?

9 A. No, sir, I don't.

10 Q. Was Aroclor 1262 more volatile or

11 less volatile than Aroclor 1242?

12 A. Less volatile.

13 Q. Are you familiar, Dr. Kelly, with

14 work done in Sweden by a Sorhan Jenssen?

15 A. Yes, I am.

16 Q. Can you describe the circumstances

17 under which you first became familiar with

18 that work?

19 A. Yes. Something appeared in a

20 Swedish newspaper in 1966 or '67, I'm not

21 exactly sure of the date, and eventually it

22 showed up in the United Kingdom's

23 newspapers, and people from Dr. Jenssen

24 found what that he believed to be PCB was

25 present in the feathers of birds, and some

1 people -- I mean, this information finally
2 got to our research group. I don't know if
3 he found that in the feathers of the birds
4 or he found it in the land in Sweden or in
5 the water off Sweden. I don't know whether
6 he found it in the birds -- in the
7 feathers, I believe. And it got into the
8 -- came to the knowledge of our people in
9 London, our London plant, London office,
10 and they wrote us and asked if we knew
11 anything about it. We said this is all
12 news to us. So then we said why don't you
13 talk to Jenssen and find out what he
14 knows. So Wood went over there and he
15 communicated with the management in St.
16 Louis about this and said maybe we ought to
17 find out more about what Jenssen and
18 Widmark have been doing with this, because
19 at that time there was confusion with DDT,
20 he was looking for an interference with
21 DDT, and was looking for DDT in the
22 ecosystem, and he found out that he had
23 this interference in his chromatograph, and
24 eventually he found out the interfering
25 compound was PCB. Whose PCB, I don't think

1 he identified it. We probably had less
2 than 20 percent of the market in Europe.
3 So we thought well, we'd better find out
4 about this. So we sent a group of people
5 over, including our Mr. Wheeler from the
6 medical department, and talked to Jenssen
7 and Widmark. And they came back and said
8 this man has got some pretty sophisticated
9 instrumentation, spectrophotometers with
10 gas chromatography. I'm not good at
11 explaining this completely, but it was
12 pretty sophisticated. We didn't have it,
13 Monsanto didn't have it. So Wheeler came
14 back and said it looks like this man may be
15 on to something, let's get the equipment
16 and check it out.

17 Q. Did you say Wheeler?

18 A. Wheeler.

19 Q. And did Monsanto purchase the
20 necessary equipment to check it out?

21 A. Yes. It took a little while. I
22 mean, this was not an off the counter item.

23 Q. Do you know how long it did take?

24 A. No, I don't. Months rather than
25 weeks.

1 Q. Is it fair to say that the results
2 of the Swedish work were considered serious
3 by Monsanto' at the time?

4 A. Well, first, we wanted -- yes, it
5 was certainly considered important, I think
6 is the term rather than serious. First of
7 all, we really didn't know what it was. It
8 was all news to us. And we decided let's
9 find out if it really is PCB out there, and
10 where else is it. So, yes, it was
11 important to us.

12 Q. And how soon after the disclosure
13 of the Swedish work to Monsanto in St.
14 Louis did Mr. Wheeler go to Sweden?

15 A. I think we found out about it in
16 '67 and Wheeler went over there in like May
17 of '68. I believe I'm correct in the
18 dates.

19 Q. In answer to my question about the
20 seriousness of the information a moment ago
21 you said that Monsanto considered it
22 important. What was the reason for
23 considering the information important?

24 A. Well, about that time the question
25 of non-biodegradability became important,

1 it was given a lot of attention by
2 scientists and ecologists, and if we had a
3 product that was out in the environment and
4 conceivably getting into the feathers of
5 birds, we ought to find out more about it.

6 Q. In your use of the term
7 non-biodegradability just now, are you
8 referring to the fact that if PCBs are
9 found in bird feathers or in soil it is not
10 biodegrading?

11 A. No. Biodegrading -- I'll have to
12 qualify that. No. That is not the test
13 for biodegradability. If you take a piece
14 of gravel, that doesn't biodegrade. And we
15 had thought that PCB was a compound that
16 was very inert, much similar to a piece of
17 gravel, and if we put the -- if a PCB got
18 into the river or estuary or the ocean it
19 would go to the bottom and lie there like a
20 piece of gravel. Well, something -- if it
21 gets into the birds feathers we know that
22 something is happening. It isn't lying
23 there like a piece of gravel, there is some
24 metabolism by some of the marine organisms
25 that eventually finds its way in the food

1 chain up into the birds. And that's why it
2 was important to us.

3 Q. Have you heard the term before
4 "Persists in the environment" applied to
5 PCBs?

6 A. Yes.

7 Q. And what does that term mean to
8 you?

9 A. It doesn't biodegrade.

10 Q. Is the finding of PCBs in the
11 feathers of birds evidence of the
12 persistence of PCBs in the environment?

13 A. Not necessarily. I mean, it's a
14 question of there is some metabolism in the
15 food chain that gets it up to the birds.
16 Whether that is -- skips all the lower --
17 I mean, now we're speaking theoretical.
18 Whether this is in the food chain, it
19 starts with the algae and then goes to the
20 shrimp and then it goes to the mackeral and
21 then it goes to the Peregrine Falcon or the
22 Bald Eagle and finally ends up in those
23 feathers, that is one way, it has to be
24 metabolized. But persistence,
25 non-biodegradability is -- you find

1 material in birds and in humans that is
2 biodegradable, obviously, it's in there.
3 Food is biodegradable, it's in there. You
4 take minerals that can't be biodegraded,
5 they can be changed and metabolized and get
6 into the person's body.

7 Q. In the example you just gave of
8 PCBs going into algae, into shrimp, into
9 mackeral, and so forth, and ultimately
10 into the feathers of Bald Eagles, is that
11 PCB being metabolized or not being
12 metabolized?

13 A. It's being metabolized. That's a
14 phenomenon called bioaccumulation. There
15 is a little bit in the algae, the shrimp.
16 The mackeral eats the shrimp, he ends up
17 with more PCBs. The Peregrine Falcon eats
18 the mackeral and it ends up with more
19 PCBs. So it's metabolized and accumulated.

20 Q. When you say it ends up with more
21 PCBs, what do you mean?

22 A. Well, there is more PCBs in the
23 Peregrine Falcon than there was in a
24 shrimp.

25 Q. Because --

1 A. Of bioaccumulation.

2 Q. And what is the mechanism that
3 results in the greater quantity of PCBs in
4 the falcon than the fish?

5 A. Because if algae comes up --
6 these are all theoretical numbers. If the
7 algae comes up with one part per million,
8 the shrimp eats a lot of algae, so he gets
9 a lot of PCBs, even though it's there in
10 one part per million, so he may end up with
11 a hundred parts per million in his body, so
12 the mackeral eats a lot of shrimp and he
13 ends up with a higher level of PCB in its
14 body than the shrimp has. So along comes
15 the eagle and it may eat the mackeral's
16 liver, and finds out that there is more --
17 the mackeral has a higher quantity of PCB
18 in its liver and its fat than -- much more
19 than way down at the bottom of the food
20 chain, the algae, so here is the falcon
21 eating the liver and some of the fat of the
22 fish and ends up with a higher level of PCB
23 than those lower in the food chain.

24 Q. What characteristic of PCBs is it
25 that results in bioaccumulation, if it's

1 one characteristic?

2 A. I don't know.

3 Q. Is there learning on that topic
4 or --

5 A. I'm sure there is people more
6 knowledgeable than I that could tell you.

7 Q. Did you communicate with Mr.
8 Wheeler before he traveled to Sweden on his
9 trip in May of '68, if that's when it was?

10 A. Yes.

11 Q. And for what purpose did you
12 communicate with Mr. Wheeler?

13 A. I said go over there and find out
14 everything you can. I mean, the purpose
15 was to find out is this really PCB, how is
16 he finding it. We haven't found it. I
17 mean, we haven't gone down -- were able to
18 get down to levels that he was talking
19 about. So find out what he's done and how
20 he did it. Can we do it. We, meaning
21 Monsanto, not the medical department.

22 Q. Why was Mr. Wheeler selected to go
23 on this trip?

24 A. Well, he was a -- the member of
25 the medical department, and the medical

1 department was probably in a sense at that
2 time closer to environmental problems than
3 anybody, any other group in the company.
4 We sent also a research man, a production
5 man and an analytical chemist from an
6 analytical chemist's department.

7 Q. And who was the research man who
8 accompanied Mr. Wheeler?

9 A. I thought it was Bill Richard, Dr.
10 Richard. I believe that was it.

11 Q. And who was the production man?

12 A. I don't know. Bob, Robert
13 Keller. Dr. Robert Keller was the
14 analytical man.

15 Q. Did those gentlemen render a
16 written report upon return from Sweden?

17 A. I'm sure they did.

18 Q. Do you remember whether they did
19 or not?

20 A. Yes, I'm sure. Yes, I know they
21 did.

22 Q. Were you present during any
23 discussion where the results of their trip
24 to Sweden was a topic for conversation?

25 A. I don't know if I was there when

1 the whole group was there. But, after all,
2 Wheeler was in the office next to me and we
3 talked it over when he came back, what did
4 you find out and where do we go from here.

5 Q. And did Mr. Wheeler find out from
6 you where do we go from here, to use your
7 term?

8 A. Yes. I think the whole task force
9 was sort of formalized, and they came up
10 with an agenda for action. I don't recall
11 the details of it. But the main -- the
12 first thing was let's get this instrument
13 and let's start finding out ourselves about
14 this.

15 Q. Were you a member of the task
16 force to which you have referred?

17 A. No, I was not.

18 Q. Who was on the task force?

19 A. It was Wheeler and Keller, and I
20 don't know who else. Maybe Richard. But I
21 don't know who else was on it.

22 Q. Did Dr. Richard report to you upon
23 his return?

24 A. No. I mean, he never reported to
25 me at any time, he was in the research

1 department. Wheeler reported to me, but I
2 think they sent their report and their
3 recommendations to everybody concerned from
4 the head of the organic division, whoever
5 it was at that time, to anybody concerned
6 with PCBs.

7 Q. Did you ultimately conclude that
8 the Swedish work was sound?

9 A. Yes.

10 Q. And approximately when did you
11 reach that conclusion?

12 A. Gosh, I guess by the end of '58
13 -- '68.

14 Q. And what factors went into that
15 conclusion, from your point of view?

16 A. Well, I think that -- I think
17 limited work in our analytical laboratory,
18 whether it was with new instrumentation or
19 not, was part of it, and then there was a
20 fellow out in California, Risebrough, who
21 came up with some similar information.

22 Q. How did you learn of Dr.
23 Risebrough's work?

24 A. I don't know if he called me or we
25 read it in the San Francisco Chronicle, I

1 don't know.

2 Q. Do you know if Dr. Risebrough
3 submitted a draft of the paper he was
4 proposing to publish to Monsanto for
5 comments?

6 A. I don't recall whether he did or
7 not. We had pretty friendly relations with
8 Risebrough, we'd give him samples and stuff
9 like that when he asked for them.

10 Q. Do you recollect which Aroclors
11 were identified as a result of the Swedish
12 work?

13 A. Yes. Nothing below 1254.

14 Q. And do you recall which Aroclors
15 were identified as a result of Risebrough's
16 work?

17 A. Nothing below 1254.

18 Q. Did you participate in any
19 discussions in 1968, Dr. Kelly, where the
20 subject of the discussion -- or a subject
21 of the discussion was the affect on the
22 future of PCB-based products of the Swedish
23 work?

24 A. Well, first of all, I'm not sure
25 of the date, I mean, when we did

1 participate in discussions as to where we
2 would go if we found out based on what
3 information we found out, not only the
4 Swedish work, it would be work that was
5 done by Risebrough. By that time the
6 government was getting very much interested
7 in the presence of PCB in the environment,
8 and they were doing investigative work,
9 too. It wasn't only based on Sweden.
10 Sweden and Risebrough started the ball
11 rolling, but everybody was examining for
12 PCB following those two people.

13 Q. And in the period following -- I
14 don't know if you just can't identify the
15 date, but do you recall participating in
16 discussions in '68 about the future of
17 PCB-based products following on the Swedish
18 work?

19 MR. PREUSS: I think he said that
20 he couldn't recall whether it was '68 or
21 not.

22 A. Yes. We had two meetings with the
23 executive committee on -- development
24 committee, but I don't know the dates. And
25 I had numerous meetings with the head of

1 the organic division.

2 MR. TALLON: And who was that, the
3 head of the organic division?

4 A. I think it was whoever was the
5 chief at that time -- I mean, the
6 vice-president in charge of it. But I
7 don't recall. They've had quite a few
8 changes in that, so I don't know who was
9 there in 1968 or '69.

10 Q. Was it Howard Bergen?

11 A. No, he wasn't the vice-president.
12 It was either Mason or Menkler. I mean, I
13 don't know. Bergen wasn't that high in the
14 organization.

15 Q. Let me show you a document, Dr.
16 Kelly, which bears production numbers Tran
17 008619 through 008622

18 (Transwestern Deposition Exhibit Number
19 176 mark'd for identification).

20 A. Yes, sir, I've read it.

21 Q. Have you seen this before?

22 A. I think I have. I don't know
23 whose it is, there doesn't seem to be any
24 signature on the bottom of it.

25 Q. I would note for the record that

1 there is a little bit of handwriting on the
2 bottom right-hand corner of the last page,
3 it looks like it says "R.E. Keller".

4 A. That's Keller, not Kelly.

5 Q. Keller, right.

6 A. But whether he wrote it or whether
7 this was his copy or not, I don't know.

8 Q. You think you recall the
9 circumstances under which you think you may
10 have seen this?

11 A. I guess when it was -- somebody
12 put all this together and sent it around to
13 the people interested. But I don't know
14 any more than that.

15 Q. Would you just take a moment to
16 glance at the first entry on the first
17 page, "12/15/66, Report of new chemical
18 hazard-New Scientist, December '66,
19 Jensen's work".

20 A. Yes.

21 Q. You stated earlier you were unsure
22 of whether the first awareness you had of
23 Jensen's work was '66 or '67, does
24 reviewing that entry or any information on
25 this page refresh your recollection as to

1 when you learned of Jensen's work?

2 A. No, because I think the New
3 Scientist is an English publication and
4 that generally doesn't cross my desk. So
5 -- but then when Widmark sent a letter to
6 Ford, that was practically '67, Ford is at
7 Monsanto, and then I don't know when that
8 -- when the publicity was, sometime before
9 Wood visited Sweden. The press release, I
10 don't know when that was. But the news
11 story was what caused Wood to go over to
12 Sweden in January of '67.

13 Q. You had testified earlier, I
14 believe, that you thought that Mr. Wood
15 might have visited Sweden later on in May
16 of '68.

17 A. Gee, did I say that? I was
18 wrong.

19 MR. PREUSS: What was that
20 question again?

21 MR. TALLON: Let me just --

22 A. He said that I testified earlier
23 that Wood went over in '68.

24 MR. TALLON: Do you recall when
25 Wood went to Sweden?

1 MR. PREUSS: Or did you say
2 Wheeler?

3 MR. TALLON: That's the next
4 question.

5 A. Certainly whoever compiled this
6 sounds like if Wood went to Sweden in '67,
7 that's when he went.

8 Q. And what was Wood's job at the
9 time?

10 A. He was sort of technical service
11 in England, the English operation.

12 Q. Do you recollect communicating
13 with him before he visited Sweden?

14 A. Gosh, I don't know if I did or
15 not. I think I did, because I said, "Why
16 don't you go over and find out more about
17 this?"

18 Q. Do you attach any significance to
19 the fact that according to this chronology
20 Mr. Wood visited Sweden 16 days after the
21 press release of January 10, 1967?

22 A. No. And I don't even know who LKB
23 Instrument Company is. I don't know --
24 maybe they were the people who manufactured
25 that sophisticated analytical tool that

1 Jensen was using.

2 Q. Let me show you a document Bates
3 stamped -- one page document Bates stamped
4 Tran 007566.

5 (Transwestern Deposition Exhibit Number
6 177 mark'd for identification).

7 MR. TALLON: Why don't you take a
8 look at that document, please, Dr. Kelly.

9 A. Yes, sir, I read it.

10 Q. Doctor, I have just a few
11 questions on this document. Mr. Benignus
12 was in St. Louis?

13 A. Yes.

14 Q. What was his job?

15 A. He was in the functional fluids
16 department, but he was mostly in the
17 dielectric part.

18 Q. And Mr. Buchanan was in St. Louis?

19 A. Yes.

20 Q. What was his job?

21 A. Someplace in marketing, I don't
22 know. I mean, in this same field.

23 Q. Mr. Cameron in Brussels, do you
24 know what his job was?

25 A. No, I don't.

1 Q. Do you know if Mr. Buchanan is
2 still living today?

3 A. I don't know. He's younger than
4 I, so he ought to be.

5 Q. G.R. Graham is listed as being in
6 New York, do you know who that refers to?

7 A. I don't know any of those next
8 five people with the exception of Wood.

9 Q. In other words, you don't know
10 Steenrod, Evans or Baxter?

11 A. No, I don't.

12 Q. After Mr. Baxter's name there is a
13 Ruabon?

14 A. That's a plant in Wales, I think.
15 That's a location, just like London.
16 Ruabon is a geographical location.

17 Q. Is there an organizing principal
18 to the list of recipients of this
19 memorandum which you can discern from
20 looking at it?

21 A. No, I can't.

22 MR. TALLON: Why don't we break
23 there.

24 (Deposition Recessed)

25