

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OHIO
WESTERN DIVISION

MARY A. DENDINGER, ET AL AND
ETTA M. WALLACE, ET AL,

Plaintiffs

vs.

B.F. GOODRICH, ET AL,

Defendants

Civil Action

No. C87-7117

(Hon. Nicholas J.
Walinski)

Deposition of RICHARD R. MONSON, M.D., Sc.D.,
taken on behalf of the Plaintiffs, pursuant to the
Federal Rules of Civil Procedure, before Wendy Wagner,
Registered Professional Reporter, a Notary Public
within and for the Commonwealth of Massachusetts, at
the offices of Irene M. Arabian, 65 East India Row,
Boston, Massachusetts 02110, commencing at 12:00 P.M.
on Monday, October 17, 1988.

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UPL 11453

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Etta M. Wallace, et al, Plaintiffs.

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9 for B.F. Goodrich, et al, Defendants.

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I N D E XDeposition of:

Richard R. Monson , M.D., Sc.D.

<u>Direct</u>	<u>Cross</u>	<u>Redirect</u>	<u>Recross</u>
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4	81	83	85
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EXHIBITS

<u>Number:</u>	<u>For Ident.</u>
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1 - A five-page document entitled "Statement for OSHA Hearings on Vinyl Chloride" dated 6/27/74.	26
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2 - A multi-page document.	26
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URL 11455

RICHARD R. MONSON, M.D., Sc.D.,

a witness called by the plaintiffs, first having
been duly sworn, on oath deposes and says as
follows:

Direct Examination

by Mr. Delli Bovi

Q Would you state your full name and home address,
please?

A Richard Redding Monson, 191 Buckminster Road,
Brookline, Mass.

Q When did you initially have involvement on a
professional level with vinyl chloride?

A 1973.

Q How did your involvement start at that time?

A I was contacted by CMA, Chemical Manufacturers
Association, the right of proposal to study vinyl
chloride workers.

Q Do you recall who at the CMA contacted you?

A No.

Q Was the contact from the CMA over the phone or in
writing?

A As best I can tell it was made to someone else at
school who then referred them to me. I don't
recall anything in writing initially.

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URL 11456

1 Q Did you have in 1973 or 1974, prior to the
2 submission of your final report, any written
3 communications with anyone at the CMA?

4 A I sent them a proposal but I never received
5 anything in writing from them.

6 Q Was the proposal submitted in 1973?

7 A Yes.

8 Q What was your understanding of what the CMA wanted
9 from you in terms of a proposal?

10 A They wanted a study of people who worked with
11 vinyl chloride basically a mortal study.

12 Q Did they indicate to you, that is the CMA, why
13 they wanted this study conducted?

14 A As best I recall it had to do with work, the work
15 from Italy on the effects of vinyl chloride in
16 rats.

17 Q Prior to the contact from the CMA were you aware
18 of the results of the Italian studies?

19 MR. BUNDA: Objection to the form of
20 the question. I'm not sure that there were any
21 Italian studies meaning more than one but
22 nevertheless you can go ahead and answer.

23 A I don't remember.

24 Q Did the CMA indicate to you whether they wanted

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1 you to study workers involved in the production of
2 vinyl chloride monomer, workers involved in the
3 production of polyvinyl chloride, workers involved
4 in the use of polyvinyl chloride resins or all
5 three?

6 A Again, I don't remember what they asked for. What
7 I proposed was people who produced polyvinyl
8 chloride, PVC.

9 Q Did the CMA, when it contacted you in 1973,
10 indicate the identities of the companies that
11 would be supporting any vinyl chloride research?

12 A I don't recall.

13 Q Do you have a copy of the proposal that you
14 submitted to the CMA in 1973?

15 A Yes.

16 Q Do you have it with you?

17 A I don't have it with me.

18 Q What was the scope of your proposal in terms of
19 the worker population that you anticipated
20 studying?

21 A As best I can recall it was -- well, I don't think
22 I knew what the worker population was to be
23 specifically. I basically designed a study that
24 would be applied to a general study design.

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UPL 11458

1 Q Did the CMA discuss with you focusing on
2 particular health effects related to vinyl
3 chloride exposure?

4 A I think cancer was the main health effect that
5 they were concerned about.

6 Q What type of study did you propose to the CMA?

7 A I proposed initially doing a proportional
8 mortality study which would be an analysis of
9 death certificates. And I also proposed a
10 retrospective cohort study where workers would be
11 followed up for mortality.

12 Q Was the PMR study that you proposed one that would
13 encompass all deaths?

14 A Yes.

15 Q Did you propose a cancer proportional mortality
16 ratio study?

17 A I don't recall if I did or not.

18 Q What would be the difference between the two?

19 A Well, on a proportional mortality study you
20 basically compare a cause of death as a proportion
21 of all causes of death. And a proportional cancer
22 mortality study you would take a specific cancer
23 as a proportion of all cancers. And at the time I
24 was writing this computer program where one

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UPL 11459

1 analyzes both types of things and it is something
2 I would sort of do as part of any study.

3 So the PCMR would be subused in the
4 PMR study. It's not something you automatically
5 do but it's something you consider.

6 Q Have you at any time before today attempted to
7 take the proportional mortality ratio study that
8 Dr. Chiazze did at Georgetown and determine PCMRs?

9 A One can do it with the data he has. One can
10 approximate it.

11 Q Have you done it or have you approximated it?

12 A I've approximated it.

13 Q What have you determined in terms of PCMRs using
14 Dr. Chiazze's data for total cancers, other and
15 unspecified cancers, buccal cavity cancers and
16 colon cancers?

17 A Can I look at the paper?

18 Q Certainly.

19 A Table VI, Page 627.

20 Q Which paper are you referring to now, Doctor?

21 A This is the 1977 Journal of Occupational Medicine
22 paper.

23 Q Go ahead.

24 A You want actual numbers? I can compute the

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UPL 11460

1 numbers with a calculator.

2 Q Certainly if you can do that this morning I would
3 prefer.

4 A Well, for males the -- PMR is the same as
5 proportional mortality ratio so I'll just say
6 PMR -- the PMR on all cancers is 119.

7 Now what specifically did you want in
8 terms of proportional cancer mortality?

9 Q Colon.

10 A One can approximate the proportional cancer
11 mortality by dividing the cause, specific PMR by
12 the all cancer PMR. So, for colon which is the
13 same as intestinal I would divide the intestinal
14 PMR which is 139 by the all cancer PMR which is
15 119. So 139 divided by 119 is 117.

16 Q And what about for females?

17 A Females would be 156 divided by 131 which is 119.

18 Q Using Dr. Chiazze's results how would you classify
19 a parotid gland cancer?

20 A I assume it's under buccal cavity and pharynx
21 although I don't know for sure.

22 Q Have you attempted to determine prior to today
23 whether the PCMRs for colon cancers in men and
24 women reported by Dr. Chiazze are statistically

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JRL 11481

1 significant?

2 A Not formally.

3 Q Have you attempted to do so informally?

4 A Well, let's see, one can't actually do it with
5 these data in a formal sense because you don't
6 have the actual data that Chiazze used.

7 Q Have you at any time requested any of
8 Dr. Chiazze's raw data or attempted to obtain it?

9 A No.

10 Q Did Dr. Chiazze determine that the PMRs for colon
11 cancers among both white males and white females
12 were statistically significant?

13 A I'll have to look and see, it doesn't seem to be
14 in the table. I don't see any results where he
15 did but he may very well have if I read through it
16 carefully.

17 Q When you designed your proposal to submit to the
18 CMA in 1973 what was your result for proposing
19 both a PMR study and a retrospective cohort study?

20 A I'm sorry, proposed both the PMR and the
21 retrospective cohort?

22 Q Yes.

23 A The PMR was to give results as quickly as possible
24 because one has to have only death certificates to

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1 do that. The problem that might arise from a PMR
2 study is that you don't have all the death
3 certificates on a defined group of workers.

4 With the retrospective cohort study
5 you would follow-up workers in the factory and get
6 death certificates on people who have terminated,
7 on people who have died while working or while
8 retired and then one can compare death rates than
9 death proportions.

10 Q Did the CMA indicate during your discussions with
11 it in 1973 what they were looking for in terms of
12 bottom line results, that is what they wanted you
13 to determine was either true or not true?

14 A As best I recall they wanted the study done and
15 that's what I remember.

16 Q Did you submit a joint proposal to the CMA with
17 any other researcher?

18 A No, I was the only one that was the author.

19 Q The CMA did not accept your proposal?

20 A Yes.

21 Q Why was that?

22 A I don't know.

23 Q Did you ever have any discussions with anyone at
24 the CMA as to why your proposal was not accepted?

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JRL 11463

1 A I don't believe I did.

2 Q The CMA instead accepted the Tabershaw proposal?

3 A Yes.

4 Q How did his proposal or the work ultimately done
5 by Tabershaw differ from what you had proposed?

6 A They ultimately published a retrospective cohort
7 study.

8 Q Did Tabershaw to your knowledge do a PMR study
9 initially?

10 A Not to my knowledge.

11 Q Were you furnished with any information in
12 document form by the CMA in 1973 in connection
13 with your proposal submission?

14 A I don't believe so.

15 Q Did the CMA indicate to you whether the type of
16 study that they wanted done had ever been done by
17 anyone before?

18 A I'm not sure I follow. What do you mean by "type
19 of study"?

20 Q Either a PMR study or a retrospective cohort study
21 that inquired into potential vinyl chloride
22 carcinogenicity?

23 A Did they indicate a study -- had a study been done
24 of vinyl chloride workers or are you just talking

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JHL 11464

1 in a general sense?

2 Q I'm talking about the epidemiologic studies
3 dealing with vinyl chloride and cancer.

4 A I don't recall. I don't recall if they did.

5 Q Have you determined prior to today whether or not
6 any epidemiologic studies were done to your
7 knowledge by the CMA or the PVC resin industry
8 prior to 1973 dealing with vinyl chloride
9 carcinogenicity?

10 A Have I determined that studies have been done?

11 Q Have been done or have not been done.

12 A I haven't determined either way. I'm not aware
13 that any was done.

14 Q In connection with the literature review that you
15 did for Mr. Bunda, have you reviewed any of the
16 scientific or medical journal papers or articles
17 prior to 1970 dealing with the health effects
18 associated with exposure to vinyl chloride?

19 A I've looked in the past on health effects related
20 to acroosteolysis.

21 Q Was this before 1973, during 1973 or after 1973?

22 A I was aware of that particular relationship. I'm
23 not sure when I became aware of it.

24 Q How much time elapsed between your initial

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JAL 11465

1 proposal submission to the CMA and its rejection?

2 A I don't recall.

3 MR. BUNDA: I'll object to the
4 characterization of "rejection." I think that is
5 a mischaracterization of what his testimony has
6 been.

7 Q Did the CMA accept your proposal?

8 A They didn't fund it.

9 Q Do you recall when in 1973 your proposal was
10 submitted to the CMA?

11 A I think it was in the spring or early 1973.

12 Q When did you receive word that the CMA would not
13 fund your proposal?

14 A I don't recall.

15 Q Do you recall whether it was in 1973?

16 A I believe so but I don't specifically recall.

17 Q Did you submit a proposed cost to the CMA along
18 with your proposal?

19 A I don't believe so.

20 Q What was your next involvement with the vinyl
21 chloride chemical following your contact by the
22 CMA in 1973?

23 A When Maurice Johnson reported the three cases of
24 angiosarcoma among workers at one Kentucky plant I

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11-11-11486

1 guess -- let's see, how did it go? Johnson worked
2 for Goodrich so I knew this was a Goodrich plant.

3 And since 1971 we had been studying
4 rubber workers at Goodrich. As part of that study
5 I was collecting death certificates for all of
6 B.F. Goodrich. And what I had done was taken the
7 rubber worker death certificates and put them in
8 my study pile and all the others I put in another
9 pile.

10 And when Maurice Johnson reported the
11 three cases of angiosarcoma I went to the other
12 pile and pulled out certificates from Kentucky for
13 people who had been working at the two plants that
14 Goodrich had in Kentucky.

15 Q Did you as a result of your inspection of those
16 death certificates discover whether or not there
17 were angiosarcoma cases at the B.F.G., Louisville
18 facility in addition to those reported by Maurice
19 Johnson?

20 A Eventually I did. I don't know whether they were
21 there at the time. What I did after that was I
22 was in touch with the people at CDC, we eventually
23 worked with Waxweiler on the NIOSH study.

24 I think I also got some death

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DRL 11467

1 certificates from Goodrich, I think more were
2 coming in. I was getting certificates regularly
3 and whether the cases with angiosarcoma were there
4 at the time I pulled them out of my file or
5 whether they came over the next six months I'm not
6 sure.

7 Q Do you recall how many total angiosarcoma deaths
8 have been reported to date out of that
9 B.F. Goodrich facility in Kentucky?

10 A No.

11 Q Have you performed work in the past for any of the
12 following companies: Firestone?

13 A No.

14 Q Conoco?

15 A No.

16 Q Tenneco?

17 A No. I hesitate only because I send a computer
18 program to people who work for some companies but
19 I don't do any work for them so I provide them a
20 service.

21 Q Occidental?

22 A No.

23 Q Union Carbide?

24 A I may have consulted once with an epidemiologist.

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URL 11468

1 Q Do you recall who that was?

2 A Susan Austin.

3 Q What did it concern?

4 A I'm not even sure that I did. I know I talked to
5 her once and whether it was informal or formal I
6 don't recall.

7 Q Do you recall whether or not one of the topics of
8 the consultation was vinyl chloride?

9 A I'm quite sure it wasn't. The topic, had I done
10 any formal consulting, would have been in the use
11 of my computer program.

12 Q Have you done any work in the past for Uniroyal?

13 A No. Again, with Firestone and Uniroyal they were
14 a part of the rubber worker study we were involved
15 in but they worked with the University of North
16 Carolina. We had a certain amount of contact with
17 them but never any funding through them or worked
18 for them.

19 Q Diamond Shamrock?

20 A No.

21 Q What PVC manufacturers other than Goodrich
22 participated in the Harvard study?

23 A Well, the Harvard study was only with Goodrich and
24 URW, United Rubber Workers. We also did a rubber

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URL 11469

1 worker study with Armstrong and one with, I think
2 Mansfield was the other one. Whether they make
3 PVC or not I don't know.

4 Q The work that you did for Goodrich was reported in
5 the Lancet in 1974?

6 A I wouldn't say work "for Goodrich," it was funded
7 by Harvard.

8 Q Who was it funded by?

9 A Harvard.

10 Q Did Harvard have a contract with Goodrich?

11 A Yes, we had a contract with Goodrich and UAW to
12 study rubber workers, this was outside of the
13 contract.

14 Q How long had Harvard been under contract with
15 Goodrich?

16 A Since 1971.

17 Q When that contract was first funded in 1971 did
18 Goodrich determine or did Harvard determine
19 whether there were particular chemicals utilized
20 in the rubber industry that would be the subject
21 or the focus of the study?

22 A I don't think either determined at that time that
23 there were specific chemicals to be studied. The
24 intent was for Harvard to write a study proposal

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JRL 11470

1 to Goodrich and to URW.

2 Q Did Harvard propose, when it submitted that
3 document, looking at any particular chemicals
4 utilized in the rubber industry?

5 A There were several studies proposed but I think
6 the best way to characterize them was the
7 mortality study and the morbidity study. I did
8 the mortality study and that was a general survey
9 of the mortality among Goodrich workers in Akron.

10 Q Was there any focus prior to the 1974 Maurice
11 Johnson announcement on vinyl chloride as it
12 related to the 1971 proposal that was submitted to
13 Goodrich?

14 A No, because that wasn't a URW plant so that wasn't
15 part of our contract at all.

16 Q You reported in the Lancet article in 1974 what
17 you characterized as an unusual cancer of the
18 nasopharynx.

19 A I don't have the paper.

20 Q Certainly.

21 A One thyroid and one nasopharynx.

22 Q Do you classify --

23 MR. BUNDA: Where is the reference
24 you're pointing to for "unusual"?

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URL 11471

1 MR. DELLI BOVI: The word "unusual" is
2 contained on Page 2 of that article.

3 A Right here.

4 MR. BUNDA: No, the reference is there
5 were two unusual other types of cancer, thyroid
6 and nasopharynx.

7 Q Is the nasopharynx an unusual cancer?

8 A Yes.

9 Q Is that classified as a buccal cavity cancer?

10 A It would be under buccal cavity and pharynx,
11 that's the grouping.

12 Q Have you attempted to determine prior to today the
13 the rate at which people in the United States die
14 from buccal cavity cancers?

15 A Well, I have the rates in my computer program so
16 there is some number of rate of dying, yes. I
17 can't tell you what it is.

18 Q Do you have an estimate as to the percentage of
19 buccal cavity cancers as compared to total
20 cancers?

21 A No, I don't.

22 Q Do you know whether or not it's less than
23 1 percent?

24 A I don't know. I would have to look it up. It's

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URL 11472

1 very age dependent so it depends on which age
2 group you are talking about.

3 Q In what way are those cancers age dependent?

4 A All causes of death usually have different rates
5 and different proportions by age. If you're
6 talking about proportions it's harder to tell
7 whether they go up or down with age. Obviously
8 death rates go up with age.

9 Q Have you looked into buccal cavity cancers or more
10 particularly parotid gland cancers and attempted
11 to determine the extent to which those are age
12 dependent?

13 A No, I haven't.

14 Q Did you submit any papers to Goodrich reporting
15 the results of your study other than the paper
16 that was published in the Lancet?

17 A I'm sure we sent drafts to them but nothing
18 independent other than the draft.

19 Q Did Goodrich at any time make any changes
20 editorial or otherwise in any of the drafts that
21 you submitted to it?

22 A I'm not aware that they did, they may have.

23 Q Was any restriction imposed on you by Goodrich at
24 the time you were commissioned to do the study

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UPL 11475

1 with respect to either the use of your raw data or
2 the publication of your results?

3 MR. BUNDA: Let me just interject
4 here for a second. Are you talking about the 1971
5 study that was jointly funded by Goodrich?

6 MR. DELLI BOVI: No, I'm talking about
7 the 1974 study.

8 MR. BUNDA: I'm confused because I'm
9 not sure that Goodrich commissioned the 1974
10 study. My understanding from the testimony was
11 that he did that and it was funded by Harvard.
12 I'm not sure you ever established that Goodrich
13 asked him to commission the study in '74.

14 Q Did Goodrich commission any study in '74 either of
15 you or Peters or Harvard concerning vinyl chloride
16 carcinogenicity?

17 A No.

18 Q Did Goodrich impose any restrictions on you or
19 Peters or Harvard concerning the use of the death
20 certificates which they forwarded to you after the
21 announcement of Maurice Johnson?

22 MR. BUNDA: Obviously I think that's a
23 mischaracterization. We haven't established that
24 they forwarded any death certificates after

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JRL 11474

1 Maurice Johnson.

2 I believe the testimony was that he
3 already had those from his earlier study of the
4 overall rubber worker population. I object on the
5 basis it mischaracterizes the evidence and
6 therefore is improper.

7 Q Dr. Monson, you got additional death certificates
8 from Goodrich after Maurice Johnson's announcement,
9 correct?

10 A Yes.

11 Q When Goodrich forwarded those additional death
12 certificates to you did they impose any
13 restrictions on your use of those certificates or
14 the data that you gathered as a result of the use
15 of those death certificates?

16 A I don't believe so.

17 Q Did you and Peters first report the results of
18 your '74 study to the Occupational Safety and
19 Health Administration?

20 A First report, I don't believe so.

21 Q The article in the Lancet was published in August
22 of 1974?

23 A Right.

24 Q Is that correct?

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UPL 11475

- 1 A Yes.
- 2 Q Do you recall when it was submitted?
- 3 A I suspect it was submitted in June or July. They
- 4 have a pretty good turnaround. It may have been
- 5 May or June.
- 6 Q That report that was published in the Lancet was a
- 7 PMR study?
- 8 A Yes.
- 9 Q Did you have at any time after you submitted that
- 10 report an opportunity to do a retrospective cohort
- 11 study of the Goodrich employees?
- 12 A No.
- 13 Q Did you propose doing such a study?
- 14 A No.
- 15 Q Were you asked by Goodrich to do such a study?
- 16 A There were already two such studies going on.
- 17 Q Those were which ones?
- 18 A The NIOSH one and the Tabershaw one.
- 19 Q Did either of those studies deal exclusively with
- 20 the Goodrich plants?
- 21 A No.
- 22 Q Do you know whether Tabershaw or NIOSH ever broke
- 23 down the retrospective cohort studies that they
- 24 did on an individual plant or an individual PVC

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JHL 11/16

1 manufacturer basis?

2 A I don't know.

3 Q Do you have an opinion today as to whether such a
4 breakdown of the industry-wide data for individual
5 plants or individual resin manufacturers would be
6 helpful?

7 MR. BUNDA: For what? I'm going to
8 object to the form of the question on the basis of
9 relevancy and vagueness.

10 Q You can go ahead and answer.

11 A Would you repeat the question?

12 MR. DELLI BOVI: Could you read it
13 back, please.

14 (The last question was read.)

15 A I haven't thought about it. The study we did was
16 the two B.F. Goodrich plants that was separate.
17 Beyond that I can't think of any specific reason
18 why it would be helpful unless one had more
19 information about the plants.

20 Q Were you originally scheduled to appear before
21 OSHA in June of 1974 along with Dr. Peters?

22 A I don't believe so. My recollection of what
23 happened before that time was that there was a
24 meeting, I thought it was in New York, that

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JRL 1147

Selikoff organized. I know Peters went somewhere and gave a presentation, a verbal presentation. And whether it was New York or OSHA I don't remember specifically what the context was.

Q Did you participate in the New York Academy of Sciences Conference on vinyl chloride in 1974 or 1975?

A No.

MR. DELLI BOVI: Would you mark these two for me.

(A five-page document entitled "Statement for OSHA Hearings on Vinyl Chloride" dated 6/27/74 was marked as Plaintiffs' Exhibit No. 1 for Identification.)

(A multi-page document was marked as Plaintiffs' Exhibit No. 2 for Identification.)

Q Have you had any contact either verbal or direct written contact with either Dr. Doll, Dr. Chiazze, Dr. Harbison, Dr. Zenz, Dr. Shindell or Mr. Peterson in connection with this case?

A No. I've met Chiazze recently but we haven't talked about this case. I met Doll last year but,

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JRL 11478

- 1 again, we didn't talk about the case.

2 Q Did you have any discussions with Dr. Chiazze
3 concerning vinyl chloride when you met with him?

4 A No.

5 Q Would you take a look at plaintiffs' Exhibit 1
6 Monson and identify it for me if you can. It says
7 "Statement for OSHA Hearings on Vinyl Chloride,"
8 June 27, 1974.

9 Do you recall whether that statement
10 was jointly prepared by you and Dr. Peters?

11 A It was, yes.

12 MR. BUNDA: Just a second, let him
13 read it.

14 A Okay.

15 Q You've had an opportunity to review that
16 submission, Doctor?

17 A Yes.

18 Q You reported to OSHA in June of 1974 that the
19 observed cancers at the Goodrich facilities which
20 you studied exceeded by 50 percent the number of
21 cancers expected.

22 A Right. Can I see the paper? I think these are
23 the same numbers in the paper. I just want to
24 check to make sure that they are.

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JRL 11479

1 Q Sure.

2 A These are the same numbers as in the Lancet paper.

3 Q Have you attempted to determine at any time prior
4 to today what the reason for that increase was?

5 A I'm not sure what you mean by "determine."

6 Q Have you rendered an opinion or do you have an
7 opinion as to what the reason for that 50 percent
8 increase in observed cancer deaths over expected
9 cancer deaths at the Goodrich facilities was?

10 A Most of it was due to an excess of liver cancer.
11 There were a total of 13 excess deaths, 13,
12 observed number is 13.1 greater than the expected
13 number. 7.3 of that is due to liver cancer of the
14 biliary tract.

15 Q And my question, Doctor, is whether you have an
16 opinion as to what the reason was for the
17 50 percent increase in observed versus expected
18 cancer deaths at the Goodrich facility?

19 MR. BUNDA: I object. I think that's
20 been asked and answered. The doctor indicated it
21 was liver cancer.

22 Q You can go ahead and answer.

23 A Can you phrase it in a different way?

24 Q Sure. Why were people who worked at the Goodrich

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URL 11480

1 plant dying of cancer at greater than expected
2 rates?

3 A Well, my presumption was it had something to do .
4 with the exposure in the work place.

5 Q To what?

6 A Vinyl chloride.

7 Q Have you formed an opinion prior to today as to
8 whether or not that was the probable cause for the
9 increases in the cancer death rates?

10 A Well, cancer proportions.

11 Q Cancer proportions.

12 A But in a proportional study there is usually one
13 reason for an increase, just the methodology that
14 proportion cancer tends to be higher in all
15 proportional studies so that's just an artifact
16 way the data is analyzed. But beyond that I
17 presume that the angiosarcoma was due to vinyl
18 chloride monomer exposure.

19 Q What about the brain cancers?

20 A When we reported this we reported five observed
21 brain cancers and 1.2 expected. I point out that
22 there were other cancers where the observed number
23 was greater than expected and I have kept an open
24 mind whether or not the other cancers that

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URL 11481

1 occurred were due to vinyl chloride or not. That
2 literature has been not consistent on other
3 cancers.

4 Q Do you have an opinion today as to whether or not
5 vinyl chloride causes cancers or probably causes
6 cancers other than angiosarcoma of the liver?

7 A I would say possibly causes cancers other than
8 angiosarcoma.

9 Q And do you have an opinion today as to what
10 cancers vinyl chloride possibly causes other than
11 angiosarcoma of the liver?

12 A The three that have been on the possible list I
13 think in most people's minds has been brain
14 cancer, lung cancer and lymphatic hematopoietic,
15 those are the three categorizations that have been
16 reported in some studies but not in other studies.

17 Q What are the cancers that are on your possible
18 list?

19 A Those three groupings.

20 Q When this statement marked plaintiffs' Exhibit
21 Monson 1 was submitted to OSHA in June of 1974,
22 did you agree with the last sentence of the
23 statement that reads "At this point the only way
24 to assure an end to this this serious hazard is to

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JRL 11482

1 eliminate exposure."

2 A Yes.

3 Q Do you agree with that statement today?

4 A Yes.

5 Q Have you had an opportunity before today to read
6 Dr. Peterson's testimony before the Occupational
7 Safety and Health Administration in 1974?

8 A Is that Peterson or Peters?

9 Q Peters, I'm sorry.

10 A I don't recall that I have. I may have read it at
11 that time but I don't recall.

12 Q I'm going to hand you plaintiffs' Exhibit
13 Monson 2. Would you take a look at that document,
14 read it if you wish and identify it for me if
15 you're able to.

16 A What do you mean "identify it"?

17 Q Have you seen that document before?

18 A I don't recall that I have but I may have.

19 Q Would you take a look through the document and
20 tell me whether a review of it refreshes your
21 recollection as to whether or not you've seen it
22 before?

23 A I'll go through it quickly.

24 MR. BUNDA: Take your time. You're

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JRL 11483

1 entitled to look at it.

2 MR. DELLI BOVI: Certainly.

3 THE WITNESS: Do you want to look at
4 it?

5 MR. BUNDA: Yes, I do.

6 Q Dr. Peters indicated on the first page of his
7 statement to OSHA "But we wish to stress two
8 points: One, multiple cancer sites seem to be
9 involved and two, cancer is increasing over time
10 in this population."

11 Did you in 1974 agree with those
12 points expressed by Dr. Peters?

13 A Yes.

14 Q Do you agree with them today?

15 MR. BUNDA: About whether he said them
16 then or whether they were true then or whether
17 they are true today?

18 Q Whether they were true then.

19 A They were true then based on the data that we were
20 presented.

21 Q What about today?

22 A In terms of -- I guess I'm not sure of your
23 question. Do I feel any different today about
24 what was said then or do I feel that there is

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URL 11484

1 increasing cancer today relative to 15 years ago?

2 Q Let me ask you how you feel today about what was
3 said by Dr. Peters in 1974.

4 A I agree with what he said in 1974.

5 Q Do you believe today that he would have reached
6 the halfway point in terms of the occupational
7 cancer deaths caused by vinyl chloride exposure?

8 A I don't know.

9 Q Having reviewed plaintiffs' Exhibit Monson 2 is
10 your memory refreshed as to whether you've seen
11 that document before?

12 A I don't recall. I haven't seen it.

13 Q Dr. Peters was asked at Page 779 of the OSHA
14 hearing transcript, "Doctor, of the workers who
15 have already been exposed to high levels or any
16 levels over a long or short period of time would
17 you recommend any further exposure?" Dr.
18 Peterson's answer was "I recommended no exposure
19 for anybody."

20 Can you tell me whether or not I've
21 accurately read the question and the answer.

22 A Again, it's Peters not Peterson.

23 Q I'm sorry.

24 A I'm sorry, again, did you switch the page?

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JPL 11485

1 Q Starting on the bottom of Page 779.

2 A Now what's the question? He said that, yes.

3 MR. BUNDA: That's what the document
4 says.

5 Q Let me ask you, Dr. Monson, the same question that
6 Dr. Peters was asked in 1974. Doctor, of the
7 workers who have already been exposed to high
8 levels or any levels over a long or short period
9 of time would you recommend any further exposure?

10 MR. BUNDA: I'm going to object to the
11 question on the basis that the word "workers" is
12 vague and ambiguous.

13 A Are you casting this question as if it were 1974?

14 Q No, I'm casing this question as if it were
15 October 17, 1983.

16 A I'm still not sure of the context, that's the
17 problem. Also any answer I give will be as an
18 epidemiologist rather than as a clinician.

19 Q Certainly.

20 A Dr. Peters was a clinician partially where I've
21 never been a clinician. I can't see where anyone
22 would recommend exposure to anybody in the work
23 place.

24 Q What about exposure to substances shown to have

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UPL 11486

1 caused cancer in humans?

2 A Again, there is no reason why a physician would
3 recommend exposure, I mean that isn't the proper
4 context.

5 Q As an epidemiologist today would you recommend or
6 advise against the exposure of any worker to vinyl
7 chloride monomer?

8 A One makes recommendations as an epidemiologist to
9 minimize exposure to all substances in the work
10 place.

11 Q So your recommendation today would be what?

12 A I think the phrase that is used a lot and that I
13 think is a good working rule is "as low as
14 possible."

15 Q You discussed the PMRs for cancer in one of your
16 earlier answers in connection with death rates for
17 all causes among industrial populations. Is it
18 your opinion that when industrial populations are
19 studied the PMRs for all cancers are normally more
20 than one?

21 A Yes.

22 Q In what range would you place them in the normal
23 context?

24 A I think over the years I've said anywhere between

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URL 11487

1 10 and 20 percent.

2 Q What is the reason for that?

3 A Because causes other than cancer tend to be less
4 than one.

5 Q Did you write an article in the Journal of
6 Occupational Medicine in June of 1976 entitled
7 "Observations on the Healthy Worker Effect?

8 A 1986.

9 Q 1986.

10 A Yes.

11 Q Are the opinions that you expressed in that
12 article in 1986 of the same opinions that you hold
13 today with regard to the healthy worker effect?

14 MR. BUNDA: I'm going to object unless
15 you can make specific reference to what opinion
16 you're describing so he can understand the
17 context.

18 Q You can go ahead and answer if you can.

19 MR. BUNDA: Do you understand what
20 opinions he's talking about? Generally a lawyer
21 will trick you to buy into the whole article and
22 then comes back and asked you whether --

23 MR. DELLI BOVI: I'm going to object
24 to Mr. Bunda. Either he can answer the question

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UHL 11488

1 or he can't answer the question. He doesn't have
2 to be coached by you and I don't need your
3 characterization of my questions because that's
4 not my intent.

5 MR. BUNDA: Why don't you make
6 specific reference to what opinions you're talking
7 about. I think it's unfair to take the whole
8 article and broadly ask that question so I'm going
9 to object to the form of the question.

10 Q Would you read the summary of that article,
11 Doctor, and tell me whether the opinion expressed
12 in that summary is the opinion that you hold
13 today?

14 A Yes.

15 Q Now on Page 431 you indicated in the second
16 paragraph from the bottom, the left-hand column
17 "This observation has led to a view that the HWE
18 is of little or no consequence in interpreting
19 data on cancer mortality." Is that a statement
20 that you made in 1986?

21 A Yes.

22 Q Do you agree with that today?

23 A Yes.

24 Q Thank you.

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JRL 11489

1 Q Do you have an opinion as to the duration of the
2 healthy worker effect among vinyl chloride workers
3 or workers occupationally exposed to vinyl
4 chloride?

5 A I have no information on vinyl chloride workers
6 separately from other workers.

7 Q What about your review of the medical or
8 scientific literature on that issue?

9 A I'm not sure that I looked specifically at healthy
10 worker effect questions in vinyl chloride workers.
11 I may have but I don't recall having done it.

12 Q Would you take a look again at Page 431 of the
13 article. A reference to Fox and Collier indicates
14 Fox and Collier observed that in their cohort of
15 vinyl chloride workers the HWE last about 15
16 years.

17 A I said that's in one study, yes.

18 Q Have you reviewed prior to today any other studies
19 that reported different duration of the healthy
20 worker effect in vinyl chloride workers other than
21 that reported by Fox and Collier?

22 A I've reviewed other studies. I don't recall, I
23 don't recall what other studies said about healthy
24 worker effects.

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URL 11490

1 Q What effect would a 15-year healthy worker effect
2 duration for vinyl chloride workers have on a
3 proportional mortality ratio study?

4 A I'm not sure I follow your question. The 15 years
5 they use as an example for vinyl chloride workers
6 I think is common for all populations so it's a
7 general question you're asking rather than a
8 specific one.

9 Q For all industrial populations?

10 A Yes, as a first approximation.

11 Q When you reported the results of your study of
12 B.F. Goodrich workers in the Lancet in 1974, did
13 you make any assumptions about the duration of the
14 healthy worker effect?

15 A No.

16 Q Assuming that you used a 15-year healthy worker
17 effect duration, do you have an opinion as to
18 whether that would have an effect on the expected
19 number of cancer deaths reported in your 1974
20 article?

21 A It's hard to tell because there is really two
22 parts to the healthy worker effect. There is this
23 15-year average that Fox and Collier reported and
24 that other people sort of talked about, that tends

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UPL 11491

1 to wear off.

2 There is also the general question of
3 comparing an employed population to the general
4 population which may last for the entire length of
5 follow up so there is really two parts to the
6 healthy worker effect.

7 Q Based on your review of the literature when was
8 vinyl chloride first reported to be a suspected
9 human carcinogen?

10 A I'm not quite -- what do you mean by the term
11 "suspected human carcinogen"? It was first
12 reported -- let's see, the angiosarcoma were
13 reported cases, were reported at the end of 1973.
14 And I think the rat or other data were reported in
15 '70 or '71.

16 Q One of the articles that you reviewed prior to
17 today was an article by Dr. Viola appearing in
18 Medicina del Lavoro.

19 A An article or a paper?

20 Q A paper.

21 MR. BUNDA: I'll object to the
22 question. I think it was a translation.

23 A There is a report here, there is three separate
24 Viola things.

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URL 11492

1 Q You authored a document dated March 24, 1988
2 entitled "Review of Epidemiological Literature on
3 Health Effects on Vinyl Chloride."

4 A Right.

5 Q Was the 1970 Viola paper which you reviewed or the
6 translation of that paper the same translation
7 that I'm now handing you that has previously been
8 marked as plaintiffs' Exhibit Wheeler 4 and also
9 bears the number of other exhibit stickers?

10 A Yes.

11 MR. BUNDA: Well, for the record we
12 should indicate that the article that I provided
13 to Dr. Monson came from plaintiffs' counsel and it
14 differs in respect that the one that he saw did
15 not have all the exhibit stickers on it but
16 essentially it's the same copy.

17 Q Have you reviewed any other translation of
18 Dr. Viola's 1970 article other than the one that
19 bears the sticker plaintiffs' Exhibit Wheeler 4?

20 A I don't recall that I have.

21 Q Do you have an opinion, Dr. Monson, as to how or
22 the routes by which vinyl chloride gets into the
23 body?

24 A Well, I guess my opinion is that it's inhaled.

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JRL 11493

1 Q Do you have an opinion as to whether or not it can
2 be ingested?

3 A I don't have any opinion.

4 Q Do you have an opinion as to whether or not it can
5 be absorbed through the skin?

6 A I don't have an opinion.

7 Q Do you have an opinion as to how vinyl chloride is
8 metabolized once it enters the human body?

9 A No.

10 Q Do you have an opinion as to the metabolites
11 either primary or secondary of vinyl chloride?

12 A No.

13 Q Do you know or do you have an opinion where in the
14 human body vinyl chloride is metabolized?

15 A No.

16 Q Do you have an opinion as to whether any of the
17 metabolites of vinyl chloride are themselves
18 carcinogenic?

19 A No.

20 Q Do you have an opinion as to where in the human
21 body the metabolites of vinyl chloride might be
22 found?

23 A No.

24 Q As an epidemiologist I take it you've studied a

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URL 11494

1 number of chemicals suspected or proven to cause
2 cancer in humans?

3 A I've studied groups of people who were exposed to
4 chemicals.

5 Q Do you know anything about chloro ethylene oxide?

6 A I don't believe so unless it has another name.
7 Chloro ethylene oxide?

8 Q Yes, sir.

9 A No, I don't.

10 Q Have you reviewed any studies prior to today that
11 indicate whether or not chloro ethylene oxide is a
12 metabolite of vinyl chloride?

13 A I don't recall that I have.

14 Q Do you have an opinion today as to whether or not
15 vinyl chloride is a human carcinogen?

16 A I think my opinion about the studies for the last
17 15 years are that people who work at vinyl
18 chloride plants who have excess cancer, excess
19 angiosarcoma -- I'm trying to phrase it in a way
20 of how I think or what I think causes might be.

21 If I say a chemical is a cause, if I
22 say in my opinion vinyl chloride causes
23 angiosarcoma, part of that could be that a
24 metabolite of it is also a cause.

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JRL 11485

1 Q Then let's talk about vinyl chloride and it's
2 metabolites.

3 A It's implicit that if vinyl chloride is -- well,
4 put it another way. If a metabolite of vinyl
5 chloride is a cause then vinyl chloride itself is
6 the cause.

7 Q With that assumption in operation do you have an
8 opinion today as to whether vinyl chloride is a
9 human carcinogen?

10 A Yes.

11 Q What is your opinion?

12 A My opinion it is.

13 Q Do you have an opinion today as to whether vinyl
14 chloride is a human mutagen?

15 A No, I don't.

16 Q Do you have an opinion today as to whether or not
17 vinyl chloride is a human teratogen?

18 A No, no, I have no opinion.

19 Q Had the CMA come to you not in 1973 but in 1963
20 and asked you for a proposal to study vinyl
21 chloride carcinogenicity, would you have been able
22 to do and to propose the same type of study that
23 you proposed to the CMA in 1973?

24 A You mean knowing what I knew in 1974 about

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URL 11496

1 epidemiology?

2 Q Yes.

3 A In 1963 I knew nothing about epidemiology.

4 Q Let's talk about the field of epidemiology rather
5 than you personally.

6 A All right.

7 Q Would the field of epidemiology have been able to
8 do and propose to the CMA had they been requested
9 to do so in 1963 precisely the same study that you
10 proposed doing for the CMA when it contacted you
11 in 1973?

12 A I would say generally, yes.

13 Q Do you have an opinion as to whether vinyl
14 chloride or its metabolites are excreted from the
15 body?

16 A Yes, I assume they are excreted.

17 Q In the urine or the feces or both?

18 A I have no opinion.

19 Q Do you intend to express an opinion in this case
20 as to the role, if any, which vinyl chloride
21 played in the cancers that killed Herman Dendinger
22 and Fred Wallace?

23 MR. BUNDA: I'm going to object to the
24 form of the question. I don't know that the

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JRL 11497

1 doctor has an intention to express any opinion
2 except to answer the questions that are put to
3 him.

4 MR. DELLI BOVI: I will reask the
5 question then.

6 Q Do you have an opinion today as to whether vinyl
7 chloride played any role in the cancers that
8 killed Herman Dendinger and Fred Wallace?

9 A Do I have an opinion?

10 Q Yes.

11 A Yes, I have an opinion.

12 Q What is your opinion?

13 A I think it's very unlikely that vinyl chloride had
14 a role in either of their cancers.

15 Q What is the basis for your opinion?

16 A The sum of the epidemiologic evidence on the
17 studies of vinyl chloride workers.

18 Q Is colon cancer a common type of cancer?

19 A Yes.

20 Q Among what particular age groups is it most
21 common?

22 A I can't be as specific but in general it's more
23 common. Well, certainly more common among older
24 people than younger people. Whether it becomes

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UPL 11498

1 less common in very old people I don't know.

2 MR. BUNDA: If we could stop for just
3 a second. Let's go off the record.

4 (Discussion held off the record.)

5 Q From an epidemiologic prospective is it easier to
6 establish causal connections or possible causal
7 connections between an exposure to a potential
8 carcinogen and the development of that carcinogen
9 if the cancer is a rare one?

10 A I don't think being rare by itself necessarily
11 makes it easier to identify a cause.

12 Q Does the degree to which a chemical causes an
13 increase in the rate of particular cancer affect
14 an epidemiologist's ability to discover that
15 causal connection depending on whether or not the
16 cancer is a rare one?

17 A Again, I'm not sure what you mean by "degree."

18 Q Okay. What I'm trying to contrast, for example,
19 is a chemical that causes a 5 percent increase in
20 lung cancer rates as opposed to a chemical that
21 causes a 5 percent increase in thyroid cancers.
22 Is it easier to detect that increase when you're
23 dealing with a rare form of cancer than it is a
24 common type of cancer?

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JRL 11498

1 A I don't have an opinion that it is. I think in
2 certain contexts one might want to make
3 arguments -- 5 percent of course is a very small
4 increase, I don't think any epidemiologic study
5 can detect 5 percent. You could have used another
6 number but --

7 Q What percentage increase do you feel it would
8 require in order for the field of epidemiology to
9 take note of a potential causal connection?

10 A Oh, I would say somewhere between 20 and 40 is
11 where you start being able to collect data that
12 are stable.

13 Q Now at the 20 to 40 percent level will that allow
14 you as an epidemiologist to draw any conclusions
15 with statistical significance or would you need
16 increases in cancer rates even higher than that?

17 A No. You can get statistical significance at any
18 rate depending upon the amount of data you have.

19 Q And the amount of the data is directly
20 proportional to the number of individuals in the
21 cohort?

22 A Partially that, yes.

23 Q Have you attempted in your review of the
24 literature that you reported to Mr. Bunda on

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JRL 11500

1 March 24, 1988 and October 6, 1988, to select out
2 those studies that dealt with workers in the PVC
3 fabrication industry as opposed to workers in the
4 VC or PVC manufacturing industry?

5 A I'm sorry, have I done what?

6 Q Attempted to select out those articles or studies
7 that dealt with PVC fabrication employees as
8 opposed to vinyl chloride monomer manufacturing or
9 PVC resin manufacturing employees?

10 A I'd have to look and see.

11 Q My question is whether in terms of your analysis
12 and in terms of your opinions concerning causation
13 you've attempted to segregate out from all of the
14 studies you've reviewed those that deal with PVC
15 fabrication industry employees?

16 A Yes, the bulk of them were PVC fabrication. PVC
17 fabrication means making PVC from VC; is that
18 correct? Most of the studies are of that sort of
19 study.

20 Q My question remains the same, Dr. Monson, is that
21 whether you attempted to segregate out and to
22 separately analyze the studies of PVC fabrication
23 employees versus studies that dealt with PVC
24 manufacturing or vinyl chloride monomer

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JRL 11501

1 manufacturing employees?

2 MR. BUNDA: Doctor, when he uses PVC
3 fabrication he means taking the resin and making
4 plastic products out of it as opposed to somebody
5 making the PVC.

6 A I wasn't sure about your -- I mean there's a study
7 which is what I would call fabricators taking PVC
8 resin and making something out of it. And most of
9 the other studies are making PVC from vinyl
10 chloride monomer, that's the way I think of it.

11 Q Are there any principal studies of PVC fabrication
12 employees you are familiar with other than
13 Chiazze's and Dr. Shindell's?

14 A In terms of studies? I'm not aware of any other
15 studies. My memory may be incorrect, it may be
16 faulty.

17 Q Is there any reason why you haven't attempted to
18 segregate out and to separately analyze the PVC
19 fabrication employee studies?

20 A Well, I have in the sense that I've looked at
21 Chiazze's that's separated from the VCM studies.

22 Q Have you reviewed Dr. Shindell's study?

23 A I've reviewed the report in here which is Shindell
24 and/or Ulrich's epidemiologic study.

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UPL 11502

1 Q Have you ever reviewed before today or asked for
2 or been furnished with any of Dr. Shindell's raw
3 data?

4 A No.

5 Q When you did your epidemiologic studies of the
6 rubber worker employees, did you use a two-year
7 minimum employment cutoff?

8 A Initially it was five years and then the follow-up
9 was two years.

10 Q What was your reason for using initially a
11 five-year and later a two-year minimum employment
12 threshold if I can call it that?

13 A Basically ease of finding employees who had
14 terminated.

15 Q Any other reasons?

16 A Not that I can think of. I think it was just a
17 matter of we felt that short-term workers would be
18 hard to trace.

19 Q Do you have an opinion as to whether the
20 incorporation into an epidemiologic study dealing
21 with occupational exposures and cancers of
22 employees with a total employment period in the
23 effective industry of three months would have the
24 effect of diluting the results of the study?

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UPL 11503

1 A I think what you want to do is stratify years
2 worked, length of work and split your group into
3 people who have worked varying lengths of time.
4 Q When you did the study of the rubber workers what
5 did you use as the employment cutoff date, was
6 there a period of time prior to the start-up of
7 your study after which you no longer would
8 consider a particular employee?

9 A I'm sure there was. I don't recall but my guess
10 it was was five years before -- well, in the
11 initial study if we took only workers who had
12 worked at least five years we started in 1940,
13 then anyone who started working after 1935 would
14 not have been included. That's my recollection
15 but I I may be wrong.

16 Q Do you have an opinion as to the latency period
17 for cancers caused by vinyl chloride exposure?

18 A I don't have a number in my mind that I think is
19 critical.

20 Q Do you have a range and you can answer it either
21 way you want, with respect to vinyl chloride
22 cancers or occupational cancers in general?

23 MR. BUNDA: I'm going to object to the
24 question "occupational cancers" with respect to

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1 the fact that it's vague and over broad and
2 therefore irrelevant.

3 Q You can go ahead and answer, Doctor.

4 A I'm trying to think of the various circumstances.
5 One can consider radiation as an occupational
6 exposure in some sense and radiation I think one
7 can see cancers say five to 15 years or more
8 commonly 15 to 25.

9 With chemicals there are certainly a
10 range, I don't have anything specific in mind.
11 The vinyl chloride I don't have a number in mind
12 as to the minimum years latency but there is some
13 number that I would look at. I don't have a
14 number in my mind. That's the answer.

15 Q Talking about chemically induced occupational
16 cancers, do you have a general number or a general
17 range in mind in terms of minimum latency periods?

18 MR. BUNDA: Same objection. I think
19 it's vague, over broad and irrelevant.

20 A I don't keep firm numbers in my mind. I can say
21 what other people have done, I'm not sure if that
22 is relevant.

23 Q Do you have an opinion based on the readings of
24 others that you have reviewed concerning the

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UPL 11505

1 latency period for occupationally induced vinyl
2 chloride cancers?

3 MR. BUNDA: Same objection.

4 A. I just don't have a number in my mind. I would
5 want to go through the papers and come up with a
6 number to answer the question in a reasonable way.
7 I don't have a number that I have arrived at that
8 I carry around with me.

9 Q Would you take a look at Dr. Shindell's study if
10 you have a copy of that with you. Did
11 Dr. Shindell attempt to determine the SMRs for
12 colon cancers or parotid gland cancers or buccal
13 cavity and pharyngeal cancers?

14 A Table III. Yes. I don't know what he tried to
15 do. I can only say what's in the paper.

16 Q Does the paper report any SMRs for colon cancer or
17 parotid gland cancer or buccal cavity and
18 pharyngeal cancers?

19 A I'm trying to understand what's in Table II here,
20 what it says. I don't think that he has SMRs.
21 All he has listed here is respiratory cancer and
22 other cancer. In the text he may have had
23 specific ones.

24 Q Have you at any time attempted to utilize

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JHL 11506

1 Dr. Shindell's report to determine the SMRs for
2 colon cancer and parotid gland cancer at the
3 Chrysler facility?

4 A No.

5 Q Would that be something that an epidemiologist
6 would ordinarily do to determine whether there was
7 an increase in the observed number of colon cancer
8 deaths and parotid gland cancer deaths versus the
9 number expected?

10 A Would one compute an SMR, is that what you're
11 asking?

12 Q Yes, Doctor.

13 A That's part of the exercise, yes.

14 Q Do you see anything in Dr. Shindell's report that
15 does that?

16 A As I say I don't see anything in the tables.
17 There may be something in the text.

18 Q Have you read the text before today?

19 A Yes.

20 Q Do you recall --

21 A I don't recall that he did but I can't say that he
22 didn't.

23 Q Can you refer back to Table II, I believe it was,
24 if that was the one you were on before. Do you

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URL 11507

1 know in which of the job categories reported in
2 that table Mr. Wallace and Mr. Dendinger worked?

3 A I don't have it in my mind, no.

4 Q Have you attempted prior to today to determine the
5 total number of cancer deaths in the job
6 categories in which Mr. Wallace and Mr. Dendinger
7 were employed?

8 A No.

9 Q Have you been furnished with any data, Dr. Monson,
10 prior to today that leads you to believe that
11 Mr. Dendinger or Mr. Wallace were occupationally
12 exposed to any carcinogens other than vinyl
13 chloride?

14 A I have the two industrial commission reports here.
15 In Wallace it says was handling many different
16 aromatic and abrasive compounds. I don't know
17 what they were. So some of those could be
18 carcinogens.

19 In Dendinger it says was exposed to
20 pigments which contained other substances and then
21 three of them are methyl ethyl ketone,
22 tetrahydrofuran and toluene.

23 And then it also says the patient
24 claims that the malignant tumors were caused by

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LRL 11508

1 continuous repeated overexposure to polyvinyl
2 chloride, toxic solvents and other carcinogenic
3 substances. That's basically what I've been
4 given.

5 Q Based on the materials that you've been given, do
6 you have an opinion with reasonable professional
7 certainty as to whether Dendinger or Wallace were
8 occupationally exposed to carcinogens other than
9 vinyl chloride?

10 A I don't have an opinion other than what I just
11 said.

12 Q Would you take a look, Doctor, at Table II, I
13 believe it is, to Dr. Shindell's study. I'd like
14 you to assume for the purposes of the next few
15 questions that Mr. Wallace was classified by
16 Dr. Shindell as working in the coating/finishing
17 department and that Mr. Dendinger was classified
18 by Dr. Shindell as working in the
19 inspection/shipping department. Okay, can you
20 assume that for me?

21 A Yes.

22 Q Looking at the respiratory cancer deaths in the
23 two departments in which Mr. Wallace and
24 Mr. Dendinger worked, what was the number of

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JRL 11509

1 expected deaths and what was the total number of
2 observed deaths?

3 A Coating and finishing the expected is 1.4 and the
4 observed is four. Inspection/shipping the
5 expected is 1.17 and the observed is two.

6 Q So in terms of respiratory cancer deaths in the
7 job categories in which Wallace and Dendinger
8 worked the expected number of deaths were 2.57?

9 A Do you want me to calculate it or I'll accept your
10 ratio.

11 Q And the observed number of deaths were six?

12 A Yes.

13 Q Do you have an opinion as to whether or not
14 exposure to vinyl chloride causes lung cancer?

15 A I don't have a firm opinion, no.

16 Q Would the figures reported by Dr. Shindell of his
17 epidemiologic study of the workers at Chrysler and
18 in particular the job categories Mr. Wallace and
19 Mr. Dendinger worked, support the hypothesis that
20 exposure to vinyl chloride causes lung cancer in
21 your opinion?

22 A One would want to look at it in the context of all
23 cancers. One wouldn't want to just pick up one
24 cancer.

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UPL 11510

1 Q Why would you want to look at it in the context of
2 all cancers?

3 A Because the hallmark of vinyl chloride related
4 cancer is angiosarcoma.

5 Q Are you familiar with studies of workers in the
6 PVC fabrication, PVC resin manufacturing and vinyl
7 chloride resin manufacturing industries that
8 showed no incident of angiosarcoma at all?

9 A Again, I didn't follow the question of the three.

10 Q Are you aware of studies in the PVC fabrication
11 industry?

12 A Do you mean PVC manufacturing?

13 Q PVC fabricating.

14 A That's what I'm not following. You mean
15 fabricating is making?

16 Q We've been using fabrication in the context of
17 this case to refer to a company that purchases the
18 manufactured PVC resin and then makes something
19 out of it.

20 A Okay, fine, fine.

21 Q Are you aware of studies in the PVC fabricating,
22 PVC manufacturing and VC manufacturing industries
23 that report no angiosarcoma deaths?

24 A Just to be clear I'm aware of studies in PVC

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URL 11511

1 manufacturing that is where they do the
2 polymerization. I think there are studies where
3 there is no angiosarcoma deaths.

4 Q Is it your opinion that the existence of those
5 studies detracts from the results reached in other
6 studies showing a relationship between vinyl
7 chloride exposure and angiosarcoma of the liver?

8 A No.

9 Q In terms of lung cancer deaths at the Chrysler
10 facility, do the number of actual deaths exceed
11 the number of expected deaths by over 100 percent?

12 A Yes.

13 Q Now I'd like you to take a look next at the other
14 cancer deaths in the job categories in which
15 Wallace and Dendinger worked. Have you attempted
16 prior to today to segregate out and to separately
17 analyze those job categories in which the
18 plaintiffs, decedents in this case, worked for
19 cancer deaths?

20 A I look at Table III which has observed numbers
21 described by the specific causes, that's all I've
22 done.

23 Q You haven't attempted though before today to break
24 out of the data from the job categories in which

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DEP 11512

1 Wallace and Dendinger were placed?

2 A No.

3 Q I'd like you to take a look, Doctor, at the other
4 cancers reported in Table II for the
5 coating/finishing and inspection/shipping job
6 categories. If we total those do those show
7 expected deaths of 4.42?

8 A Yes.

9 Q And observed deaths of eight?

10 A Right.

11 Q Finally, if we look to the total number of cancer
12 deaths in the job categories in which Wallace and
13 Dendinger worked, and you may want to use your
14 calculator on this, would we expect a total of
15 6.99 cancer deaths?

16 A Yes, that seems about right.

17 Q And the total number of observed cancer deaths was
18 double the total number expected?

19 A It's 14, yes.

20 Q Have you seen any study, epidemiologic study of
21 the vinyl chloride monomer manufacturing industry,
22 the PVC manufacturing industry or the PVC
23 fabrication industry where the total number of
24 observed cancer deaths for the entire work force

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UHL 11513

1 or any segment of the work force is more than
2 double the total number of expected deaths?

3 A What you are taking out of here though is you're
4 breaking the study apart so I'm not sure it's a
5 relevant comparison.

6 Q Okay. Would it make sense to you if we're
7 analyzing and attempting to determine the cause of
8 Wallace and Dendigner's cancer to look to the
9 particular job classifications in which those
10 employees worked?

11 A What I'm thinking is -- let me think about it a
12 minute. Certainly looking at what they worked
13 with is relevant, yes.

14 Q So you know from the results of Dr. Shindell's
15 study that the total number of observed deaths in
16 the job categories in which Wallace and Dendinger
17 were assigned were double the number of expected
18 cancer deaths?

19 A Yes.

20 Q Have you read, prior to today, Dr. Shindell's
21 deposition?

22 A No.

23 Q If you were the researcher who uncovered, as a
24 result of an epidemiologic study, results showing

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URL 11514

1 in this case observed cancer deaths in the job
2 categories Wallace and Dendinger worked double the
3 expected number of cancer deaths what would you
4 want to do next?

5 A Well, one thing is to look at the specific causes
6 of cancer. Another thing would be to characterize
7 the work place where they worked. Then try to
8 relate the specific causes to the work place
9 characterization.

10 Q Would another thing you might want to do be to
11 look at the individuals themselves to see whether
12 their work historys or their medical historys were
13 consistent with an occupational exposure, whether
14 the latency period between beginning employment
15 and the development of cancers fit into accepted
16 ranges?

17 MR. BUNDA: I'm going to object to the
18 form of the question. I don't think the question
19 makes any sense, it's vague and ambiguous.

20 You're switching terms. I think your
21 question describes occupational exposures and I
22 think what you're implying by the question is an
23 occupational cause of the cancer so I'm going to
24 object to the question as being vague and

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URL 11515

1 ambiguous.

2 Q You can go ahead and answer.

3 A I think one would want to see if there is an
4 inconsistency with what they were exposed to.

5 Q Would you as an epidemiologist with that data in
6 front of you want to do more?

7 MR. BUNDA: More what?

8 Q Research in an attempt to determine the cause or
9 the potential cause of the increased observed
10 number of cancer deaths versus the expected number
11 of cancer deaths.

12 A Looking at the study these excesses are based on
13 fairly small numbers so it's not clear-cut what
14 the next step should be. Most epidemiologists
15 would say it's useful to continue following the
16 group of people.

17 I think another thing that would be
18 useful to do is to try to characterize the
19 exposure patterns within these various groups and
20 specify what or in fact measure what levels of
21 exposure there has been in the past and at the
22 present.

23 Q And is that what you would recommend to whoever
24 commissioned you to perform that type of a study?

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JRL 11516

1 A Yes.

2 Q Do you have an opinion, Dr. Monson, as to what
3 caused Mr. Dendinger's colon cancer or
4 Mr. Wallace's parotid gland cancer?

5 A No.

6 Q Do you have an opinion as to the way in which
7 vinyl chloride or its metabolites can cause
8 cancers or may cause cancers other than
9 angiosarcomas of the liver?

10 A No.

11 Q Do you have an opinion today as to the reason why
12 the observed number of cancer deaths in the job
13 categories in which Wallace and Dendinger worked
14 is double the number of expected cancer deaths?

15 A No.

16 Q Do you know who commissioned Dr. Shindell's study?

17 A I could look through it and see, it says in the
18 report.

19 Q Do you have an opinion as to when one considers
20 epidemiologic studies done by others one has to
21 take into account the possible bias of the
22 investigator?

23 A I think in general one looks to see where studies
24 come from but I don't think that I feel that there

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UPL 11517

1 is necessarily bias based on who supported the
2 study.

3 Q Have you made any attempt prior to today to
4 determine where Dr. Shindell's study came from?

5 A As I say I assumed it was -- I'm just trying to
6 think what conversations I've had.

7 The study was initiated because
8 Chrysler and a number of suppliers of materials
9 used in the plant were interested in determining
10 whether workers at the Sandusky plant had
11 experienced any unusual mortality as compared to
12 comparable segments of the general population over
13 the same period of time. So I infer from that
14 that Chrysler and the suppliers of materials
15 commissioned the study.

16 Q Would you define the term "observation bias,"
17 please?

18 A Do you have my book?

19 Q I have an article that you wrote in 19 --

20 A '78 probably.

21 Q -- '78 called "Effects of Industrial Environment
22 on Health."

23 A In my book I define observation bias -- I'm just
24 trying to make a general, see if I can come up

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JRL 11518

1 with some general words that I use.

2 Let me put it in the context of when
3 obtaining information on disease, knowledge of
4 exposure will influence the categorization of
5 disease or vice versa.

6 Q Have you attempted to assess the role, if any, of
7 observation bias in Dr. Shindell's study?

8 A I think one observation bias is a matter of
9 opinion rather than a matter of one can't analyze
10 for it.

11 Q In your 1978 article, and if you'd like to look at
12 it I'd be glad to share it with you, did you
13 report that the risk of angiosarcoma among the
14 worker cohort study was more than 1000 times the
15 risk of that cancer among the unexposed
16 population?

17 A That seems more or less the basic data I had.

18 Q Do you have an opinion as to whether there is a
19 level of exposure to any carcinogen below which no
20 cancers will occur?

21 MR. BUNDA: Again, I'm going to object
22 to the form of the question on the basis that it's
23 over broad and vague.

24 Q Let's narrow it then to vinyl chloride.

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UHL 11519

1 A Yes, I think at some very low level it's very
2 unlikely there would be any vinyl chloride caused
3 cancer.

4 Q Do you have an opinion as to what that level or
5 approximately what that level would be?

6 A I believe the current TLV is 1 part per million.

7 Q Is it your opinion, therefore, that the threshold
8 level for cancers is caused by vinyl chloride
9 would be at minimum 1 part per million?

10 A No. I think at minimum it would be above that by
11 a factor of 10 or 100. That is a TLV is said to
12 have some range of uncertainty.

13 Q In the conclusion of your article on "Effects of
14 Industrial Environment on Health," you indicate
15 "There is no absolute process through which we can
16 learn whether a chemical causes a disease.
17 Different persons will collect, analyze and
18 interpret data differently. Errors will be made
19 which are not detected, conflicting results will
20 occur. In the face of such uncertainty, it seems
21 reasonable to err on the side of safety. If there
22 is a suggestion that a substance is carcinogenic,
23 it should be treated as such until further data
24 are available. Exposure to which should be

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UHL 11520

1 reduced period."

2 Was that your opinion with regard to
3 vinyl chloride at the time you wrote that article?

4 A Yes.

5 Q Is that your opinion with regard to vinyl chloride
6 today?

7 A Yes.

8 Q Thank you. One of the articles that you brought
9 with you today was published this year in the
10 British Journal of Industrial Medicine by three
11 Soviet researchers, an article entitled
12 "Increasing Evidence of the Rise of Cancer in
13 Workers Exposed to Vinyl Chloride."

14 A Yes.

15 Q And do the results of that study report mortality
16 for tumors of the digestive organs, respiratory
17 system, bones and connective tissue, brain and
18 skin greater than in the general population?

19 A Can I look at that table?

20 Q Sure.

21 A Let's see, for men there is a deficit of digestive
22 cancer and for women the observed number is
23 greater than the expected.

24 Respiratory, there is no respiratory

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JRL 11521

1 cancer in women so that's a deficit. And in men
2 the observed is greater than the expected.

3 For bone it's hard to tell because
4 there is only one observed number.

5 Skin, again, there is only one
6 observed number so it's a little bit harder to
7 compute a number when the expected number isn't
8 given.

9 Brain, again, in men there is no
10 expected and in women there are two observed and
11 one expected.

12 Q Do you have an opinion as to whether, by the time
13 Viola published in Cancer Research in 1971, vinyl
14 chloride was a suspected carcinogen?

15 A He reported that there were tumors of the zymbal
16 gland in animals so I assume he reported there
17 were carcinogens in rats. I'm not sure if he
18 recorded liver cancer at that time as well or not.

19 Q Would you like to take a look at the summary of
20 the '71 article?

21 MR. BUNDA: The question related to
22 the time before the publication of the article or
23 at least before 1971 as I understood the question.

24 The question as I recall it, was by

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URL 11522

1 the time Viola published in 1971 was vinyl
2 chloride recognized to be a suspected carcinogen
3 or something like that so I'm not sure that
4 reading from that particular article is going to
5 answer the question.

6 A I'm not sure what the term "suspected carcinogen"
7 means. They studied vinyl chloride for some
8 reason and whether it was because it was a
9 suspected carcinogen or some other reason I don't
10 know.

11 Q My question is whether or not at the time that
12 article was published in --

13 A '71.

14 Q -- in May of 1971, was there good scientific basis
15 for concluding that vinyl chloride was a suspected
16 carcinogen?

17 MR. BUNDA: I'm going to object to the
18 form of the question. I think he's indicated some
19 uncertainty about what you mean by "suspected
20 carcinogen."

21 Q If you can answer the question go ahead otherwise
22 I'll try to rephrase it.

23 A First of all this is an animal study. I'm not an
24 expert on animal studies. I didn't know the

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UPL 11523

1 status of animal literature at all before this was
2 published. I'm not an expert in the conduct of
3 research on animals so I don't know whether this
4 report itself was viewed by others as being a good
5 study or not so I just don't know.

6 Q Do you know whether it was as a result of the
7 publication of Dr. Viola's last work that the CMA
8 or the MCA, however it was known at the time,
9 contacted you in 1973?

10 A You know, there were two names that come to my
11 mind about vinyl chloride and animal cancer at the
12 time. One was Viola and one is Maltoni, I'm not
13 sure what was going on specifically. They
14 certainly both were involved in vinyl chloride in
15 rats.

16 Q By the time the MCA or the CMA contacted you in
17 1973, did that group indicate that it had reason
18 to believe that vinyl chloride was a carcinogen?

19 A As best I recall they said there were studies from
20 Italy saying that rats exposed to vinyl chloride
21 had cancers of the zymbal gland and the liver,
22 that's my recollection. So they reported the
23 facts, that's what I remember.

24 Q As an epidemiologist is it your opinion that it is

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URL 11524

1 unethically to knowingly expose humans to suspected
2 carcinogens?

3 A Again, it's a question of level of exposure. I
4 think everyone is exposed to substances that are
5 carcinogens at some level. You certainly don't
6 want to expose people to levels that have some
7 reasonable likelihood of causing cancer.

8 MR. DELLI BOVI: Can we take a break
9 for about five minutes and then I think I can
10 probably wrap it up.

11 (Short recess.)

12 Q In formulating your opinions concerning the role
13 or the nonexistence of the role played by vinyl
14 chloride in the cancers Dendinger and Wallace
15 contracted, did you assume whether or not either
16 of those individuals was exposed to vinyl
17 chloride?

18 A I assume they were exposed to PVC raw material
19 whatever that's called, PVC pellets or however it
20 comes in.

21 Q Did you assume that they were or were not exposed
22 to vinyl chloride monomer?

23 A My understanding is that there is vinyl chloride
24 monomer trapped in pellets at some level. I don't

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URL 11525

1 have any idea as to how much.

2 Q Did you assume whether Dendinger and Wallace
3 inhaled vinyl chloride monomer at their work
4 place?

5 A I didn't assume anything about that.

6 Q So am I correct in understanding that you did not
7 assume for purposes of your opinion on causation
8 that Wallace and Dendinger were in fact exposed to
9 and inhaled vinyl chloride monomer?

10 A I assumed there was vinyl chloride monomer in the
11 PVC monomer somehow. What happens to it after
12 that I just don't know. They could have been
13 exposed to it and they could not have been, I
14 don't have any opinion one way or the other.

15 Q Did you make an assumption for purposes of your
16 opinion on causation as to whether they did or did
17 not inhale VC monomer?

18 A My assumption would be there was some VC monomer
19 in the environment if in fact it was in the PVC.

20 Q Did you make an assumption as to whether or not
21 they inhaled it?

22 A If it's in air I assume they would inhale it, yes.

23 Q In rendering your opinion on causation did you
24 assume over what period of time Wallace and

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UPL 11526

1 Dendinger inhaled vinyl chloride monomer?

2 A I know they worked there for some number of years
3 but I don't have that number in my mind.

4 Q Did you assume that they were constantly exposed
5 while at work to vinyl chloride monomer or that
6 they were exposed only during certain years or
7 only for portions of days or make any assumption
8 in that regard at all?

9 A I have no assumption as such other than what was
10 reported in there whatever this is, some of the
11 reports in here. As I say I don't recall having
12 assumed anything specifically about that. I can
13 make an opinion now but that's just an opinion.

14 Q Is it your opinion that the duration and intensity
15 of Wallace and Dendigner's exposure to vinyl
16 chloride are factors that must be considered in
17 determining causation?

18 A My assumption is that they were exposed to
19 relatively low levels throughout their work life
20 so that the intensity was below any reasonable
21 likelihood intensity that would be -- well, it
22 would be considered as important.

23 Q Did you make any assumption concerning maximum or
24 peak levels of vinyl chloride that Wallace and

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JPL 11527

- 1 Dendinger may have been exposed to?
- 2 A No.
- 3 Q In your opinion in determining or rendering an
- 4 opinion on the issue of causation, should one take
- 5 into account the potential exposure peaks?
- 6 A I think it's hard in an individual. On an
- 7 individual person it's hard to determine causation
- 8 from that person's experience. One wants to look
- 9 at the scientific evidence that's available on
- 10 vinyl chloride exposure.
- 11 Q Was it your opinion or is it your opinion that
- 12 vinyl chloride did not cause Dendinger's or
- 13 Wallace's cancer because in your opinion the
- 14 literature that you have reviewed does not
- 15 establish a causal connection between vinyl
- 16 chloride exposure and colon cancer or parotid
- 17 gland or buccal and pharyngeal cancer?
- 18 A I think it's more the opposite, that the
- 19 literature provides fairly strong evidence against
- 20 such a hypothesis.
- 21 Q And was that the basis or is that the basis for
- 22 your opinion that Dendinger and Wallace's cancers
- 23 were not caused by vinyl chloride exposure?
- 24 A Yes.

URL 11528

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1 Q Other than your papers dated March 24, 1988 and
2 October 6, 1988, have you authored any other
3 reports or letters or documents in this case that
4 set out any analyses done by you or any opinions
5 formulated by you?

6 A No. I've written letters about meetings and all
7 that but nothing about -- this is my scientific
8 contribution.

9 Q Have you met with anyone concerning this case
10 other than Mr. Bunda or a member of his firm?

11 MR. MONSON: The person we met with
12 last time was a person in your firm, right?

13 MR. BUNDA: Yes.

14 A No.

15 Q In terms of the literature that you have reviewed
16 and that is documented in your papers dated
17 March 24, and October 6, 1988, have you reviewed
18 any additional epidemiologic literature on the
19 health effects of vinyl chloride other than those
20 reported in those two documents?

21 A I probably have. The issue would be whether other
22 reports were epidemiologic or not. I've certainly
23 read other literature. Whether I would call them
24 epidemiologic or not is a fine point.

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JPL 11529

1 Q Have you read any epidemiologic or reviewed any
2 epidemiologic studies on the health effects of
3 vinyl chloride other than those reported or
4 reviewed in your March 24 and October 6 documents?

5 A As I say I probably have. I can't give you a
6 specific one.

7 Q Is it correct that all of the studies which you
8 have reviewed were furnished to you by Mr. Bunda?

9 A No.

10 Q May I take a look at this file, please?

11 A Yes.

12 Q There is a letter in this file dated March 27,
13 1988 from you to Mr. Bunda. It indicates in the
14 second sentence "I have reviewed only the
15 information contained in the folder provided by
16 you as well as reprints that I have collected
17 since 1974"; is that correct?

18 A Yes.

19 Q Now can you tell me which of the articles reviewed
20 by you in your March 24 and October 6 documents
21 were provided by Mr. Bunda and which you had in
22 your possession prior to that time?

23 A There is a considerable overlap. So that most of
24 the ones -- most of the scientific articles he

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UPL 11530

1 gave me I also had. The ones that I didn't have,
2 I didn't have the unpublished article by Jones. I
3 didn't have Doll's article, that was also
4 unpublished. I didn't have the Wong article
5 No. 13.

6 Q Has the Jones article been published to date to
7 your knowledge?

8 A Yes. It's in the Scandinavian Journal of Work
9 Environment and Health.

10 Q Are there any opinions that you have concerning
11 the merits of this case other than those outlined
12 in your March 24 and October 6 documents and other
13 than those that we have discussed over the last
14 few hours?

15 MR. BUNDA: I'm going to object to
16 that question on the basis that it's over broad
17 and incredibly vague. I'm sure the doctor has
18 additional opinions but his purpose here again is
19 to respond to questions.

20 MR. DELLI BOVI: Sure. What I want to
21 understand is what Dr. Monson is going to be
22 testifying about in a few months when this case
23 comes to trial. The only materials I've been
24 furnished with concerning his opinions are these

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DRL 11531

1 documents dated March 24 and October 6 and I want
2 to make sure that you're not going to offer
3 opinions on matters that are not contained in
4 those documents or that we haven't discussed over
5 the last few hours.

6 MR. BUNDA: Well, I don't know that
7 you can do that. What I'm going to ask him is a
8 matter that I have yet to formulate. The doctor
9 will respond to whatever questions I ask if he's
10 qualified to do so.

11 I've given you some indication in my
12 listing of witnesses that he's going to address
13 the causation issues from an epidemiologic
14 standpoint. He's provided you with a report. I
15 provided you with his report which I wasn't
16 required to do. And I think that you're certainly
17 free to ask the doctor about the issues in the
18 case but to ask him a broad question like that
19 concerning opinions other than those already
20 touched upon I think is unfair so I'll object to
21 the form of the question.

22 Q Would you like to answer it for me, Doctor?

23 A I don't know how to answer it other than to say my
24 opinions are based on the scientific literature

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JRL 11532

1 and I'm not aware of any relevant scientific
2 literature to date that would expand upon my
3 opinions.

4 There are certainly other papers I've
5 read that are part of my opinions but I don't
6 think they add anything to what you have already.

7 MR. DELLI BOVI: That's all the
8 questions I have.

9 Doctor, thank you.

10 MR. BUNDA: Doctor, I have a couple of
11 questions.

12 Cross Examination

13 by Mr. Bunda

14 Q You were asked some questions about a proposal
15 that you submitted to the Manufacturing Chemist
16 Association, do you recall that?

17 A Yes.

18 Q Do you recall whether or not you had any
19 information concerning why they wanted that study
20 done or what they were going to do with it after
21 they received the information?

22 A As I recall --

23 MR. DELLI BOVI: I'm going to object
24 but you can go ahead and answer the question.

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1/RL 11533

1 MR. BUNDA: What's the basis for your
2 objection?

3 MR. DELLI BOVI: Hearsay.

4 Q All right. Go ahead, Doctor.

5 A They wanted to do a study so that they could
6 report the results at the next International
7 Cancer Conference.

8 Q And do you have a belief in your own mind as to
9 why they chose the Tabershaw group to do the study
10 rather than accepting your proposal?

11 A I don't have a specific belief other than I think
12 Tabershaw was an experienced occupational health
13 professional and they probably knew him better
14 than they knew me.

15 Q Did the type of study that was being proposed by
16 Tabershaw versus the type being proposed by you
17 have any factor in your own mind with regard to
18 which study was accepted?

19 A We both proposed essentially the same study.

20 Q What kind of study was that?

21 A Well, I proposed a retrospective cohort study but
22 also a proportional mortality study. Tabershaw
23 proposed only a retrospective cohort study but
24 basically the same approach.

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JHL 11534

1 Q What is the length of time required for each of
2 those?

3 A I proposed a proportional mortality study because
4 it would take less time than a retrospective
5 cohort study. At that time my estimation was a
6 retrospective cohort study would take a year and a
7 half or two years and a proportional mortality
8 study would take maybe six months.

9 Q In terms of obtaining accurate information
10 regarding causation which is the better study?

11 A The retrospective cohort study.

12 MR. BUNDA: I think that's all I have.

13 Redirect Examination

14 by Delli Bovi

15 Q I hand you a document that's previously been marked
16 plaintiffs' Exhibit Peterson 1, have you ever seen
17 that document before?

18 A I don't believe I've seen it.

19 Q Other than the medical and scientific journal
20 articles that you've brought with you today and
21 the other medical and scientific journal articles
22 you have reviewed, have you been furnished with or
23 reviewed any other documents in this case other
24 than a binder of materials captioned

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URL 11535

1 "Wallace/Dendinger litigation materials" and
2 containing 26 items?

3 MR. BUNDA: I'm sorry, what was the
4 question? Have you been furnished with --

5 MR. DELLI BOVI: Has he been furnished
6 with or reviewed anything else.

7 A I've reviewed this binder.

8 Q Containing the 26 items of materials?

9 A Right. I've reviewed the papers that I gave you,
10 that were given to you by Mr. Bunda and I've
11 reviewed a number of other scientific papers on
12 vinyl chloride that were primarily not
13 epidemiologic case reports and a variety of
14 things.

15 Q So other than the scientific and medical articles
16 you have reviewed, the only other documentation
17 you've reviewed in connection with this case is
18 the binder of Wallace/Dendinger litigation
19 materials containing 26 items?

20 A And I've seen two depositions.

21 Q What depositions have you seen?

22 A Doll and Jones. Is Jones the other person?

23 MR. BUNDA: Kelly.

24 A Kelly.

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1 MR. DELLI BOVI: That's all I have.

2 I do have one other thing.

3 Q Would you provide Mr. Bunda with a copy of your
4 1973 proposal to the MCA or the CMA within the
5 next week?

6 A Right.

7 MR. BUNDA: Again, I would ask that
8 you --

9 MR. DELLI BOVI: I would formally
10 request that from you.

11 MR. BUNDA: All right.

12 Recross Examination

13 by Mr. Bunda

14 Q Dr. Monson, just so the record is clear, when you
15 were asked about the material that you reviewed
16 you referred to the binder and you referred to
17 articles that I then supplied to plaintiffs'
18 counsel. Where did those articles that were
19 supplied come from?

20 A I gave them to you.

21 Q They came from your own files?

22 A Yes.

23 Q Thank you. Those were your own records?

24 A Yes.

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UPL 11537

1 Q Those were kept before this case ever arose?

2 A Yes.

3 MR. BUNDA: That's all. I have no
4 further questions.

5 (Whereupon, the deposition
6 was concluded at 2:45 p.m.)
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I, Wendy Wagner, a Registered Professional Reporter, a Notary Public within and for the Commonwealth of Massachusetts, do hereby certify:

I further certify that I am not related to any of the parties to this action by blood or marriage, and that I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand
and affixed my seal of office this 24th day of October
1988.

My Commission expires:
June 18, 1994.

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