

Page 1 1 IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS 2 STATE OF MISSOURI 3 4 GLENN BROWN, et al., 5 Plaintiffs, 6 VS. # 862-00694 7 MONSANTO COMPANY, 8 Defendant. 9 10 11 12 13 VOLUME V 14 DEPOSITION OF DR. R. EMMET KELLY 15 On the part of the Defendant 16 June 15, 1990 17 18 19 20 21 22 23 24 WALLER REPORTING, INC. 25 REGISTERED PROFESSIONAL REPORTERS 26 515 OLIVE STREET, SUITE 1506 27 ST. LOUIS, MO 63101 28 (314) 621-2571 29	Page 3 1 CONTINUED CROSS EXAMINATION 2 QUESTIONS BY MR. McCREA: 3 Q Dr. Kelly, good morning. 4 A Good morning, Mr. McCrea. Mr. McCrea, before 5 we start, could I clarify something? 6 Q Yes, sir. 7 A Last Wednesday I said I would be very 8 surprised if the Judy Zack article were not published. 9 Well, I'm very surprised because it has not been published. 10 I had the computer search on her and she did not publish 11 that article. I had seen it so often I was certain that it 12 had been published, but it has not. 13 Q All right, sir. 14 MR. CARNEY: Let me just -- You asked me, Mr. 15 McCrea, if I would check to see if there was a list at 16 Monsanto of the cases that Dr. Kelly's testified in, and I 17 checked with the in-house counsel at Monsanto and he 18 indicated there was no such list. So I have checked that 19 out and determined that, so I think the best evidence as 20 far as I can tell from my questions that Dr. Kelly has 21 given you his best memory of those crases. 22 Q (By Mr. McCrea) Dr. Kelly, do you have page 23 21 of Plaintiff's Exhibit Six in front of you? 24 A Yes, I do. 25 Q Are you familiar with the report to Monsanto
Page 2 1 IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS 2 STATE OF MISSOURI 3 4 GLENN BROWN, et al., 5 Plaintiffs, 6 vs. Cause # 862-00694 7 MONSANTO COMPANY, 8 Defendant. 9 10 DEPOSITION OF WITNESS, produced, sworn and examined 11 on June 15, 1990, between 8:00 a.m. and 6:00 p.m. of that 12 day, at the offices of Communitronics Corporation, 1907 13 South Kingshighway, St. Louis, Missouri, before Sheila C. 14 Irvin, a Notary Public within and for the State of 15 Missouri, in a certain cause now pending in the Circuit 16 Court of the City of St. Louis, State of Missouri, wherein 17 GLENN BROWN, et al. are the Plaintiffs, and MONSANTO 18 COMPANY is the Defendant; on behalf of the Defendant. 19 A P P E A R A N C E S 20 The Plaintiffs were represented by Mr. David S. 21 McCrea of the law firm of McCrea & McCrea, 119 South Walnut 22 Street, Bloomington, Indiana 47402. 23 The Defendant was represented by Mr. Thomas M. 24 Carney of the law firm of Husch, Eppenger, Donohue, 25 Cornfeld & Jenkins, 100 North Broadway, St. Louis, Missouri 26 63102 27 28	Page 4 1 Chemical Company by Cecil K. Drinker, M.D., September 15, 2 1938? 3 A Yes, sir. 4 Q Who requested that Dr. Drinker provide this 5 data? 6 A Monsanto did. 7 Q Was -- Were you in on the decision to request 8 this toxicological information? 9 A Well, in fact I presumably made the decision 10 myself. 11 Q Do you recall having received this information 12 at Monsanto? 13 A Yes, sir. 14 Q Would you turn to page 38 of the Drinker 15 report? 16 A Yes, sir. 17 Q On page 38 there is a diagram called figure 18 two, and it makes reference to a chlorinated diphenyl. Is 19 chlorinated diphenyl the same as PCB? 20 A It is a PCB, yes, sir. 21 Q So in this article when there is reference to 22 chlorinated diphenyl, that would be the same as PCB? 23 A That's what he's referring to. I'll have to 24 look at the article and see whether the compound he used 25 was actually chlorinated diphenyl, but he ought to be able

Page 5 1 to say that in here someplace. 2 Q All right, sir. On page -- 3 A I was going to look up to be sure, to be able 4 to tell you whether he's, whether he, this particular 5 chlorinated diphenyl was, that he called chlorinated 6 diphenyl was PCB. 7 Q You might want to turn to page 26, Doctor. At 8 the top there is a heading, "Chlorinated Dyphenyl - 9 Compound 1268." Would that be a PCB with chlorine 10 composing 68 percent of the weight? 11 A Yes, sir, but also if you see on page 27, he 12 refers to chlorinated diphenyl 4465. 13 Q Yes, sir, and that's in the second full 14 paragraph on page 27? 15 A Yes, yes, and 4465 is not a chlorinated 16 diphenyl. It's a mixture of chlorinated diphenyl and 17 chlorinated terphenyls. That's where they get the 4465. 18 It's not the 1200 series. 19 Q All right, sir. Can you briefly describe the 20 difference between a PCB and a polychlorinated terphenyl? 21 A Yes. It has one more benzene ring on it. It 22 may have more than one ring. 23 Q And does the ter, does that mean three? 24 A Three. 25 Q All right.	Page 7 1 A I really don't. 2 Q Maybe we don't have the same page. Does that 3 have at the top of it three, "Chlorinated Diphenyl"? 4 A Yes. And what paragraph are we on? 5 Q The second paragraph on the page. 6 A Well, I start off on that, "The compound 1268 7 was administered by inhalation." 8 Q Right, right. 9 A Described. Okay. All right. 10 Q Is that the report to which you are referring? 11 A Yes, sir. 12 Q And in the second -- in the third paragraph is 13 he describing experiments with chlorinated diphenyl 14 compound 1268 where he says group one? 15 A Yes, sir. 16 Q That paragraph is making reference to the 1938 17 experiment, not the 1937 article? 18 A Yes, sir. 19 Q In that paragraph which is paragraph three on 20 page 26, Dr. Drinker states, "The experiment was continued 21 for 119 days, animals being sacrificed at intervals for 22 pathological examination and for carbon tetrachloride and 23 alcohol test." What is the carbon tetrachloride test and 24 what is the alcohol test and why is that administered? 25 MR. CARNEY: Well, I'm go to object to the
Page 6 1 A In those days, they also had what they called 2 chlorinated high boiler. That was a still bottoms after 3 the chlorinated diphenyl was distilled off the still 4 bottoms. The still is a distilling column. So they 5 chlorinated that and that went into 4465, 5460 and some 6 other materials that were not chlorinated diphenyl, but 7 were still called Aroclors. 8 Q All right. On page 26 under the caption 9 "Chlorinated Diphenyl - Compound 1268", can you briefly 10 explain the purpose of this testing by Dr. Drinker? Why 11 did Monsanto want the testing? 12 A Well, it was because he had tested a 13 chlorinated diphenyl with 62 or 64 percent chlorine in it, 14 and he found some toxicity. We don't believe that that's 15 the, you're testing the right material, so we sent him this 16 1268. 17 Q In this second paragraph on page 26, Dr. 18 Drinker states he makes reference to an article titled "The 19 Problem of Possible Systemic Effects from Certain 20 Chlorinated Hydrocarbons." 21 A Which page are you on? 22 Q Page 26. Do you have that? 23 A Yes, I have, but I -- 24 Q And it's the second full paragraph under 25 "Experiments." Do you see that, Doctor?	Page 8 1 form of the question. 2 A Well, it was administered because Dr. Drinker 3 gave the -- After he treated these animals, he gave them a 4 mixture of carbon tetrachloride and alcohol to see if these 5 animals could handle it. 6 Q (By Mr. McCrea) Why would he do that? 7 A Well, he didn't find -- He said the rabbits 8 were very healthy throughout the period. There was an 9 almost uniform gain in weight. 10 Q Where are you reading, sir? 11 A The, the third, the bottom paragraph. 12 Q All right. 13 A So then he gave this -- So he said, "Though 14 liver damage was apparently slight, some degree of harm had 15 been done to the organ." Well, I don't -- That's a test 16 that he thought up. Maybe it was good at the time. I 17 don't believe it's been used much lately in the last 30 18 years. 19 Q Can you explain how it is that the liver 20 damage was apparently slight, but yet when the carbon 21 tetrachloride alcohol test was administered, it was 22 positive indicating some degree of harm had been done to 23 the organ? 24 A I can't explain it. 25 Q Do you agree with that conclusion that the

Page 9 1 carbon tetrachloride and alcohol administration proved 2 there had been harm to the organ even though the, there was 3 apparently, there was apparently slight damage? 4 A Well, I don't agree with it because I don't 5 believe that test has been used by anybody since Drinker 6 did it, so I really don't think that test had been subject 7 to any scientific scrutiny. 8 Q Did you discuss the fact that the 9 administration of carbon tetrachloride and alcohol to the 10 animals established harm with Dr. Drinker? 11 A I don't recall that I did. 12 Q Would that conclusion then essentially stand 13 unrefuted? 14 MR. CARNEY: What -- I'm not sure what you're 15 talking about, the slight degree of -- 16 MR. McCREA: Where it says -- 17 MR. CARNEY: -- of harm after they were given 18 alcohol and carbon tetrachloride. 19 MR. McCREA: No. It says, "Which indicates 20 that although -- that though liver damage was apparently 21 slight, some degree of harm had been done to the organ." 22 MR. CARNEY: After the animals were fed the 23 alcohol and the carbon tetrachloride? 24 Q (By Mr. McCrea) No, I presume that that means 25 there was harm done to the liver after the administration	Page 11 1 administered in a test condition and carbon tetrachloride 2 was then administered and there was no adverse effect, and 3 in the second test PCB was administered and carbon 4 tetrachloride was then added and there was an adverse 5 effect, are you not familiar with that basic result? 6 MR. CARNEY: I'm going to object to the 7 question. It's ambiguous. I don't know. I don't 8 understand the question, but if you understand it, Doctor. 9 A But you said -- if you bring me that test, 10 fine, bring it to me. I'll be happy to look at it. 11 Q (By Mr. McCrea) Let me ask you this. Is 12 there a synergistic effect between carbon tetrachloride and 13 PCB? 14 A There may be. 15 Q And can you explain what synergism is in 16 medical science? 17 A Yes. It means that if you have two compounds 18 that act similarly if they're used together, that the 19 result is more than the sum of the individual compounds's 20 toxicity. 21 Q Would you agree that PCBs can have a 22 synergistic effect with carbon tetrachloride? 23 A I'd have to have more details of that. 24 Q Would you agree that PCBs can have a 25 synergistic effect with alcohol?
Page 10 1 of chlorinated diphenyl compound 1268 which the 2 administration of carbon tetrachloride and alcohol 3 established. Is that what that says, Doctor? 4 MR. CARNEY: Well, I'm going to object. The 5 words speak for themselves, and you're trying to make 6 assumptions about what those words mean. Dr. Drinker -- I 7 think this might call for speculation as to what Dr. 8 Drinker meant in those words. 9 Q (By Mr. McCrea) Dr. Kelly, does that 10 statement indicate to you that Dr. Drinker determined that 11 there had been harm done to the organ which was established 12 by the administration of the carbon tetrachloride alcohol 13 test? 14 A That presumably is what he said, yes, sir. 15 Q Did anyone within Monsanto dispute that? 16 A Well, no, but let me tell you that as I said 17 before, nobody's used that test since. There have been no 18 scientific articles on this. So I wasn't going to argue 19 with Drinker over his test, but the fact that nobody else 20 used it in the 30 years, I've seen no reports of this being 21 used in toxicological experiments. So it was his idea, but 22 obviously nobody else's. 23 Q Dr. Kelly, if I would bring to your attention 24 an experiment done within the last 30 years where PCB was 25 administered in a test condition, where there was no PCB	Page 12 1 A Again I'd -- It may and it may not. I don't 2 know. It all depends on how much alcohol, how much PCBs. 3 Q Would you agree that PCBs can have a 4 synergistic effect with certain medications? 5 MR. CARNEY: Let me object to the question. I 6 think it's overbroad, certain medications. 7 A Like what ones? 8 Q (By Mr. McCrea) Certain -- I'm asking you. 9 A Well, I can't state that PCBs would have a 10 synergistic effect with a medication that I don't know what 11 the medication is. 12 Q Are you familiar with any medications which if 13 administered to an individual who had been exposed to PCBs 14 would cause adverse effects not otherwise expected in an 15 individual without the PCB burden? 16 A I don't recall any. 17 Q You know what harm had been done to the organ 18 as described by Dr. Drinker at the bottom of page 26 where 19 he says, "Some degree of harm had been done to the organ"? 20 Can you describe that to the jury? 21 MR. CARNEY: Well, I'm going to correct you. 22 I think it says, "Apparently slight, some degree of harm." 23 MR. McCREA: No, you're not reading that 24 sentence correctly. It says "The carbon tetrachloride 25 alcohol test was positive after 52 days which indicates

Page 13 1 that though liver damage was apparently slight, some degree 2 of harm had been done the organ." 3 MR. CARNEY: I agree. You read it correctly. 4 Q (By Mr. McCrea) Can you describe to the jury 5 the harm which had been done to the liver organ as 6 described by Dr. Drinker at the bottom of page 26? 7 A Yes. He said that in the first sentence, "The 8 conditions described above cause swelling and increase of 9 granularity in the liver cells." Then in this next 10 paragraph he says, "When sacrificed 72 and 101 days after 11 removal from exposure, it was observed that the swelling 12 had decreased -- has disappeared rather, but the granular 13 material remained." 14 Q Where were you reading that, sir? 15 A On page 27, paragraph one. 16 Q And does it say the granular and hyaline 17 material remained in the liver cells and had apparently 18 become permanent? 19 A Yes, sir, but that isn't hurting the liver 20 cells. 21 Q What? 22 A That is not hurting the liver cell because he 23 said there's absolutely no progression of damage after 24 removal from exposure. 25 Q But he's already determined there was harm to	Page 15 1 your opinion? 2 A Well, that statement shows that when he had to 3 use something like 12 times the amount of material that he 4 used in his previous experiment, over 6 milligrams per 5 cubic meter of air, he got some positive results from the 6 carbon tetrachloride. I don't think anybody will deny that 7 if you heat 1268 up enough, get enough of it in the air and 8 keep on animal in there for 119 days or how many, that you 9 may get some liver damage, certainly. 10 Q All right. 11 A It's not supposed to be breathed at elevated 12 temperatures for 119 days. 13 Q In your opinion, is there a synergistic effect 14 between exposure to PCB and a separate exposure to benzene? 15 A I don't know of any. Benzene acts in the 16 blood forming organs primarily and PCB does not, so I don't 17 know. 18 Q Did Monsanto Company manufacture and sell the 19 product listed on page 29 under heading four, "Mixture of 20 Chlorinated Diphenyl and Chlorinated Diphenyl Benzene - 21 Compound 5460"? 22 A Yes, sir. 23 Q Would you read the last paragraph of that 24 section on page 30? It says, "In view of the fact that 25 5460 in such low concentrations proved so definitely toxic,
Page 14 1 the liver by the administration of the alcohol, the carbon 2 tetrachloride alcohol test; correct? 3 A In -- That's what he stated. He said it 4 indicates that some agree of harm had been done. Yes, he 5 states -- That's what he states. 6 Q Would you go to page 27, the third full 7 paragraph which has the heading group two? Are you with me 8 on that, Doctor? 9 A Yes, I am. 10 Q In this instance there again is reference to 11 PCB 1268; correct? 12 A Yes, sir. 13 Q And he describes the results in this as 14 slightly poisonous? 15 A Yes, sir. 16 Q Then down at the bottom of that page he 17 states, "Under these extreme conditions, the animals again 18 remained in perfect health." Is that correct? 19 A That's what he says, yes, sir. 20 Q And then he adds the sentence, "The carbon 21 tetrachloride and alcohol test was positive, but there was 22 absolutely no other indication of liver damage and no 23 evidence of disturbance to other organs." Is that correct? 24 A That's what he says, yes, sir. 25 Q What is the significance of that statement in	Page 16 1 no higher concentrations were tested. It seems imperative 2 that whenever this compound is used in industry, great care 3 be taken to keep concentrations in the air at extremely low 4 level. No liberties can be taken with it, as with 1268." 5 Do you recall what warnings you issued to the purchasers of 6 the compound 5460? 7 MR. CARNEY: Let me object to your reading a 8 statement out of context, one paragraph out of a long 9 report and then asking an unrelated question about it. I 10 don't know. I object to that way of asking a question, to 11 read some statement out of context and then ask a question 12 that's unrelated. 13 Q (By Mr. McCrea) Dr. Kelly, do you agree with 14 Dr. Drinker's statement that 5460 is definitely toxic? 15 A It's toxic if you get high enough 16 concentrations, yes, but remember 5460 isn't even close to 17 a PCB. We're not talking about -- It's not used in 18 electrical industry at all. 19 Q Dr. Kelly, do you agree with his statement 20 that whenever this compound is used in industry, great care 21 should be taken to keep concentrations in the area at 22 extremely low levels? 23 MR. CARNEY: Well, I'll object. You're 24 talking about a compound that's not involved in this 25 lawsuit.

Page 17 1 Q (By Mr. McCrea) Do you agree with that 2 statement? 3 A Well, I'd have to know what he means by 4 extremely low level. 5 Q Well, this report came to you from Dr. Drinker 6 and was paid for by Monsanto. 7 A That's correct. 8 Q Is that correct? 9 A Yes. 10 Q Did you ask him what he meant? 11 A I might very well have. This was 1938. I 12 might very well have. 13 Q Do you recall what warnings you issued for 14 1268 or for 12, 5460? 15 A I surely said -- this is solid, of course. I 16 surely said do not breathe the fumes that are involved at 17 elevated temperatures. 18 Q All right, sir. Would you go to page 43? The 19 caption on that is "Results of Inhalation Experiments." Is 20 that correct? 21 A Wait, I haven't got there yet. 22 Q All right, sir. 23 MR. CARNEY: Same report? 24 MR. McCREA: Same report, I believe. Page 43. 25 A Okay, I'm ready.	Page 19 1 Q And on page 42 is there a discussion of under 2 experiments of exposure to chlorinated diphenyl. 3 A Yes, sir. 4 Q And does that discussion concern only 5 chlorinated diphenyl or PCB? 6 A Frankly I don't know. I mean, this -- As you 7 said, there's some confusion in this report. You can see 8 it's reporting there an experiment July the 1st, 1936 to 9 November the 18th, 1936, and the date of this report in 10 your exhibit is September the 15th, 1938. 11 Q That's correct. 12 A That's a two year lapse. I think he's 13 reporting his previous experiments where he had mislabeled 14 a chlorinated diphenyl. 15 Q At the bottom of page 42 he has listed under 16 table one, "Conditions Maintained in Inhalation Experiment 17 from July 1 to November 18, Material, Chlorinated 18 Diphenyl." Is that correct? 19 A That's what he stated, yes. I'm not sure 20 whether that was chlorinated diphenyl as I've said 21 repeatedly. 22 Q Do you have any independent recollection of 23 this report at this date as to whether or not that's 24 chlorinated diphenyl or something else? 25 A Yes, I think it's something else. I think
Page 18 1 MR. CARNEY: Do you have two copies of the 2 same report in this exhibit? 3 MR. McCREA: I don't think so. 4 MR. CARNEY: I've got pages 21 through 34. 5 That's a report dated September 15, 1936, 1938, I assume. 6 Yeah, by Drinker, and then starting at page 35 -- 7 MR. McCREA: This is a different -- 8 MR. CARNEY: Section of the same report? 9 Q (By Mr. McCrea) Well, it's -- This has to do 10 with the report which begins on page 35. Dr. Kelly, could 11 you first go to page 35 of the exhibit? 12 A Page 35? 13 Q Yes, sir. 14 A Yes, sir. 15 Q And there seems to be some confusion as to 16 whether this caption sheet and the one on 21 are the same. 17 They appear to be the same, but the page following 35 18 begins with the caption "Report on 4465, Inhalation 19 Experiments." 20 A Yes, sir. 21 Q Is 4465 a PCB or another chemical? 22 A It's another chemical completely. 23 Q On page 38 there is reference to the 24 chlorinated diphenyl in the figure. Is that correct? 25 A Yes, sir.	Page 20 1 it's chlorinated diphenyl benzene because I'll repeat, this 2 is experiments that he did in July of 1937, and that's what 3 was reported on the supposition in December of '37 or 4 sometime in '37. 5 Q But this report date is September 15, '38 if 6 that's the appropriate caption page; correct? 7 A That's correct. 8 Q You cannot state if that caption page matches 9 -- You can't state if the caption page at page number 35 is 10 associated with the following pages? 11 A Wait a minute. Page 35? 21 was my, another 12 caption page. 13 Q There was -- well, yes. 14 MR. CARNEY: That's why -- 15 Q (By Mr. McCrea) Mr. Carney has brought to our 16 attention there are two caption pages, one at 21 and one at 17 35. 18 A Yeah, but they're both the same thing. 19 Q Exactly. 20 MR. CARNEY: What I'm concerned about is that 21 somebody got an extra caption page in here in the copying. 22 I don't know that for a fact, but that's what it looks 23 like. 24 Q (By Mr. McCrea) well, I can't straighten that 25 out at this point in time. Would you turn to page 43?

Page 21 1 A Yes, sir. 2 Q The caption of page 43 is "Results of 3 Inhalation Experiments."? 4 A That's correct. 5 Q Would you read -- Let me read to you the first 6 with two sentences of the third paragraph on page 43. "In 7 considering the entire matter, it seemed to us that the 8 chlorinated hydrocarbons, if inhaled in sufficient 9 concentration, might cause a slight degree of damage to the 10 liver. This damage is resisted efficiently and causes no 11 depreciation of health, but if the individual in question 12 happens to suffer some ordinary disease of the liver, the 13 condition is superimposed upon a substratum of injury." 14 Can you explain that to the jury? 15 MR. CARNEY: Well, let me object to this. 16 First of all it, we're talking about chlorinated 17 hydrocarbons as a generic term, not PCBs, and second, this 18 may call for the witness to speculate inside the mind of 19 Dr. Drinker. 20 Q (By Mr. McCrea) Can you explain what that 21 means to the jury? 22 A Well, I don't believe I can get inside Dr. 23 Drinker's head, but what he seems to be, what he is saying 24 is if you inhale chlorinated hydrocarbons, whatever they 25 are, whichever they are, and you inhale enough of it, you	Page 23 1 mischaracterized what was said in these two sentences. You 2 haven't made clear anyway that, what the dose is that you 3 were talking about. 4 Q (By Mr. McCrea) Well, let's read it again. 5 Dr. Kelly, the first sentence states, "In accordance with 6 this" -- 7 MR. CARNEY: Well, let me, you know, I don't, 8 you know, I'm go to object to your just reading -- 9 You're reading a report of Dr. Drinker that was made back 10 in 1937 or '38, and then you're asking this witness to 11 explain what these words mean, you know. I object to that. 12 I don't think that moves this case along. We can all read 13 them. I heard you read it and you did read it accurately 14 the first time you read it. I don't know that we need to 15 reread these sentences into the record. If you have a 16 question, though, I think maybe you ought to ask the 17 question. 18 Q (By Mr. McCrea) Dr. Kelly, why did the 19 chlorinated diphenyl cause yellow atrophy of the liver when 20 carbon tetrachloride and ethyl alcohol were added? 21 A Well, if in this particular experiment he is 22 quoting, he is using chlorinated diphenyl, actually 23 chlorinated diphenyl, that's one thing. If he is using -- 24 if he's talking about the stuff that he used in 1936 which 25 was not chlorinated diphenyl, it seems then that you've got
Page 22 1 might get a slight degree of damage to the liver. The 2 liver is always repairing itself. As I said earlier, if 3 you get three drinks of alcohol a night you'll kill some 4 liver cells. The next morning these liver cells start 5 regenerating. So that's, I guess, what he means by is 6 resisted efficiently and no real depreciation of health, 7 but then if you put some more insult on it you may get 8 problems. 9 Q The next sentence on page 43 in paragraph 10 three status, "In accordance with this hypothesis, we 11 determine that a dose of 0.75 cc of carbon tetrachloride 12 plus 0.75 cc of ethyl alcohol per kilogram of rat was 13 entirely non-toxic to normal animals." Is that correct? 14 A That's what he says, yes, sir. 15 Q And then the next sentence status, "When, 16 however, this dose was given to animals which had inhaled 17 chlorinated diphenyl as had been described in this 18 experiment, the result was acute yellow atrophy of the 19 liver." Can you explain that to the jury? 20 A Explain what? 21 Q Explain the fact that the doses given to a rat 22 were non-toxic, but when that rat had been exposed to 23 chlorinated diphenyl or PCB and was then given the same 24 dose, there was yellow atrophy of the liver. 25 MR. CARNEY: I'm going to object. You've	Page 24 1 an addition of alcohol, carbon tetrachloride and either 2 chlorinated diphenyl benzene or chlorinated diphenyl. I 3 don't know which he did. Who he had this cocktail, these 4 three mixed together, they were worse than the chlorinated 5 diphenyl by itself. 6 Q How does that happen? Explain to the jury why 7 the animal which had been exposed to the inhalation of PCB 8 and is then administered carbon tetrachloride and ethyl 9 alcohol experienced yellow atrophy of the liver when the 10 animal that had no PCB suffered no problems? 11 MR. CARNEY: I'm going to object. You've 12 mischaracterized the witness' testimony. He's already said 13 that he doesn't even know that it was a PCB that we're 14 talking about. We have established and the doctor has said 15 about five times on the record that Dr. Drinker admitted 16 later making a mistake and thought he had PCBs when, in 17 fact, he didn't have PCBs, and this may be a reference to 18 the old test and not the new one, and so I think you've got 19 to clarify that to be fair with the witness and not just 20 make the assumption when he's already said he doesn't know 21 if it was a PCB. 22 MR. McCREA: Would the court reporter please 23 read my question and then I'd like an answer. 24 (Thereupon, the reporter propounded the pending 25 question.)

Page 25 1 A Well, if the material, the first material that 2 Drinker used, whatever it was, whether it was chlorinated 3 diphenyl or chlorinated diphenyl benzene was used, then 4 after it was unable to handle a mixture of carbon 5 tetrachloride and alcohol, both of which are poisons to the 6 liver. 7 Q (By Mr. McCrea) But they were not poisonous 8 to the liver in the rat which had not been administered the 9 chlorinated diphenyl in this experiment; correct? 10 A Presumably, yes. I don't see the details of 11 that particular experiment here. 12 Q Now, what I'm asking you is to explain to the 13 jury how that process takes place, that there can be yellow 14 atrophy of the liver in the animal which was exposed to the 15 chlorinated diphenyl or PCB and then is administered the 16 carbon tetrachloride and alcohol? 17 A Drinker didn't explain that, either, did he? 18 I didn't see it in here. 19 Q Can you explain it? 20 A No, I can't explain it. 21 Q In 1938 did you know that Dr. Drinker reached 22 this conclusion? 23 A Yes. 24 Q In 1938 did Monsanto know that Dr. Drinker 25 reached this conclusion?	Page 27 1 A Yes, sir, but we're -- I knew that, yes, but 2 we're talking about animal experimentations. There have 3 been no yellow atrophy of the liver cases in workers who 4 worked with PCBs for 50 years. There haven't been any. 5 Q And Dr. Kelly, that statement presumes that 6 the people in the plant, the doctors in the plant and the 7 doctors who treated the workers were able to associate PCBs 8 with yellow atrophy of the liver? 9 A Plus the health department because these cases 10 are always reported to the health departments, the labor 11 departments. 12 Q And if a worker didn't know he was exposed to 13 PCB and developed yellow atrophy of the liver, how in the 14 world could a doctor make an association? 15 A Well, if he didn't know it, you're making the 16 assumption that I cannot make a statement about. If the 17 worker didn't know it, there could no association by 18 him. 19 Q Correct. Are you stating that all workers in 20 industry, General Electric, McGraw Edison, Allis-Chalmers, 21 Westinghouse, Saginaw, Niagara and all of your customers 22 knew that they were working with PCBs from 1936 till 1977? 23 A Well, all the companies knew it. 24 Q Are you stating that the workers knew it? 25 A I don't know whether they did or not. I have
Page 26 1 A If I knew, Monsanto knew. 2 Q In 1938 did Monsanto issue warnings to 3 purchasers of chlorinated diphenyl that individuals exposed 4 to chlorinated diphenyl and then carbon tetrachloride 5 and alcohol could suffer yellow atrophy of the liver? 6 A No, sir, they did not. Carbon tetrachloride 7 is a poison and I think everybody -- We do not manufacture 8 carbon tetrachloride. Anybody who has manufactured carbon 9 tetrachloride states do not inhale the fumes, do not take 10 internally, and it's not intended to be taken internally. 11 Q I understand that, but you also knew that in 12 this study there was no compromise of the animals who were 13 administered carbon tetrachloride who had not previously 14 been exposed to PCB. You knew that based on this study; 15 correct? 16 A Based on Drinker's statement, I did not -- I 17 knew what Drinker said in this experiment. I do not know 18 how much, what the details of the experiment were, but we 19 knew that if the people followed our recommendations, they 20 would not get injury from the PCBs. 21 Q You knew that these results indicated that 22 carbon tetrachloride and alcohol could cause yellow atrophy 23 of the liver in an animal previously exposed to PCB and 24 that it had no effect in the animal which had not been 25 given PCB?	Page 28 1 never been in a GE plant, a Saginaw Electric plant, a 2 Packard manufacturing plant or any of them, so I cannot 3 answer that question. 4 Q Isn't it a fact, Dr. Kelly, that as you sit 5 here today in this deposition, you do not know what workers 6 knew or what percentage of workers knew they were exposed 7 to PCBs? 8 A I think that's correct, but I've told you that 9 I have never been in the plants. How would I know it? 10 MR. CARNEY: This is just an obvious tactic. 11 You've established that -- We've established Dr. Kelly 12 wasn't in these plants. You're talking about work -- He's 13 supposed to speculate inside the mind of what these workers 14 knew? The fact was Dr. Kelly has repeatedly said he gave 15 the warnings to the people that he had contact with. He 16 had no right to go in the plants and start talking to these 17 workers without permission of Westinghouse or General 18 Electric. 19 MR. McCREA: That's exactly my point. It's 20 pure speculation on the part of this witness to state there 21 were no reported cases of yellow atrophy of the liver. 22 That's pure speculation. 23 MR. CARNEY: No. 24 A It is not. 25 MR. McCREA: Just a second. Because he cannot

Page 29 1 establish that the treating doctors of these workers knew 2 that there was an exposure to PCB and thus the causal 3 relationship, and without that knowledge, yellow atrophy of 4 the liver as being caused by PCB would be undiagnosed, and 5 for him to state there were no reports is, as you state, 6 pure speculation. 7 MR. CARNEY: It's not speculation at all. Let 8 me just make a statement and I'll let you make a statement, 9 too. Let me just correct you. It is not a speculation. 10 It's a fact that there were only less than a handful of 11 reports in 50 years. Now, that's a fact. 12 MR. McCREA: Well, how could -- 13 MR. CARNEY: That's not speculation 14 whatsoever. 15 MR. McCREA: That's a fact? 16 MR. CARNEY: Yes. 17 MR. McCREA: But it's also a fact -- 18 MR. CARNEY: You agree with that? 19 MR. McCREA: I don't agree with that, but it's 20 also a fact that none of these workers knew they were 21 exposed to PCB. 22 MR. CARNEY: How did you -- Did you go and 23 interview all the General Electric -- how many General 24 Electric workers have you interviewed. 25 MR. McCREA: I've talked to the supervisor of	Page 31 1 MR. McCREA: All right. Name -- 2 MR. CARNEY: I have proof of it. 3 MR. McCREA: All right, Mr. Carney. That 4 particular statement is going to be taken to your 5 disciplinary commission. I promise you. 6 MR. CARNEY: I welcome it. I welcome it. I 7 really do. I hope you do. 8 MR. McCREA: All right. Well, I promise you I 9 will. 10 MR. CARNEY: Why don't we go on with the 11 deposition. 12 MR. McCREA: I promise you that will happen? 13 MR. CARNEY: I really -- 14 MR. McCREA: As will your interview of all our 15 clients' doctors without our permission. 16 MR. CARNEY: Okay. You're -- 17 MR. McCREA: And that's an ex parte conduct, 18 contact which will also go to the disciplinary commission. 19 MR. CARNEY: And I'm challenging you right now 20 to do it. Don't just talking about it. Do it. You've 21 threatened to do it and you haven't done it, so I want you 22 to do it, Mr. McCrea. 23 MR. McCREA: I'll be happy to. 24 MR. CARNEY: I don't think you will and you 25 know you won't. Go ahead.
Page 30 1 the Pyranol division of General Electric where they made 2 transformers, and his testimony is that he didn't know 3 there was PCB. 4 MR. CARNEY: I'm going to -- 5 MR. McCREA: Just a second. You asked my. He 6 didn't know there was PCB in the plant, and he couldn't 7 conduct operations because he spent so much time going to 8 funerals. 9 MR. CARNEY: Well, that's an outrageous 10 statement. You know it's going to be stricken from the 11 record. You're trying to testify. 12 MR. McCREA: You asked me how I knew. 13 MR. CARNEY: You are making misstatements on 14 the record and I'm trying to correct you. You have not 15 talked to all the workers in the electrical plants or all 16 the workers in any plant. 17 MR. McCREA: Well, you took the deposition of 18 Dr. Laland; correct? 19 MR. CARNEY: You have solicited a bunch of 20 workers to join in the lawsuit. I know that you've done 21 that, but -- 22 MR. McCREA: Mr. Carney, would you care to 23 apologize for that statement? 24 MR. CARNEY: No, I'm not going to because it's 25 a fact and I have proof of it.	Page 32 1 THE WITNESS: Can we get on with my 2 deposition? 3 MR. McCREA: I'd like to if your counsel will 4 stay on track. 5 THE WITNESS: Well, you're asking the 6 questions. 7 Q (By Mr. McCrea) Dr. Kelly, give me the name 8 of one individual working for any corporation in the United 9 States that knew he was exposed to PCBs before 1977? 10 MR. CARNEY: You including Monsanto? 11 A Well, that is -- Do you think I keep a record 12 of the names of people who are exposed to every chemical 13 that we manufacture? 14 Q (By Mr. McCrea) What evidence do you have 15 that these workers knew they were exposed to PCB? 16 A I don't have any evidence. 17 MR. CARNEY: Let me object to the question. 18 It's obviously one that could call for speculation as to 19 what somebody else knew. He'd have to get inside the mind 20 of some unnamed worker or, you know, I think in this case 21 thousands and thousands of workers, get inside their mind 22 and figure out what they knew in 1977. If you, you know, 23 it's a ludicrous question, and it's obvious that you've run 24 out of questions and you're just grasping at straws. 25 MR. McCREA: Would the court reporter please

Page 33 1 read the question back so that I can get an answer. 2 (Thereupon, the reporter propounded the pending 3 question.) 4 MR. CARNEY: I'm going to object to that. 5 These workers, you haven't given a name. You haven't, 6 you're -- you haven't identified it. It's hopelessly 7 vague. 8 Q (By Mr. McCrea) Dr. Kelly, what evidence do 9 you have that any of the plaintiffs in this case knew they 10 were exposed to PCB before 1977? 11 MR. CARNEY: Objection, you know. 12 A I have no evidence that they knew or didn't 13 know. 14 Q (By Mr. McCrea) What evidence do you have 15 that a single worker employed by Westinghouse knew he was 16 exposed to PCB before 1977? 17 MR. CARNEY: Talking about individually knew 18 or evidence with regard to what the warnings were that 19 Monsanto made to their supervisors? I mean, you know, the 20 question is vague as to what you mean. If you mean what -- 21 if you include in that the warnings that Monsanto gave, 22 we've covered that. I don't think that's what you're 23 asking for, but I think you ought to be clear about it. 24 MR. McCREA: Would the court reporter read the 25 question back so that I may again get an answer?	Page 35 1 MR. McCREA: Would the court reporter again 2 read the question back so that we may get an answer? 3 (Thereupon, the reporter propounded the pending 4 questions.) 5 MR. CARNEY: Further, are you excluding from 6 the question the fact that the doctor's already testified 7 that General Electric and Westinghouse knew more about PCBs 8 than Monsanto did? You know, I think if you exclude those 9 things, then I think you talk about the ambiguity. 10 MR. McCREA: Would you answer the question? 11 First of all, I'd like to have the question read again so 12 that you may answer it, and if you have any further 13 objections, we can reread it again. We're going to get an 14 answer. 15 (Thereupon, the reporter propounded the previous 16 question.) 17 A I do not have evidence on the knowledge of the 18 individual worker as the General Electric, but I have 19 definite knowledge that the people at General Electric were 20 informed about the composition of the material and the safe 21 handling factors to be carried out. I also have 22 information that the transformer company I've been to, not 23 General Electric or not Westinghouse, the workers I talked 24 with there did know it was PCBs they were working with in 25 the transformers.
Page 34 1 (Thereupon, the reporter propounded the pending 2 question.) 3 A I have never talked to a worker with 4 Westinghouse at the Bloomington plant before or after 1977, 5 so I have no evidence. I don't know if he was 6 knowledgeable or not knowledgeable. 7 Q (By Mr. McCrea) What evidence do you have 8 that a single worker employed by General Electric knew that 9 he was exposed to PCB before 1977? 10 MR. CARNEY: Are you excluding -- I'm going to 11 object to the question. It's vague. Are you excluding 12 from that the evidence that Monsanto gave, the warnings to 13 General Electric supervisors and plant foremen? 14 MR. McCREA: If he considers that evidence, he 15 may. 16 MR. CARNEY: Well, I don't know what you -- I 17 think it's vague. If that's included, if you're asking 18 about that, then I think the doctor has knowledge. 19 MR. McCREA: Well, you want to answer for him? 20 MR. CARNEY: No. I think that the doctor's 21 already testified that he gave the warnings to the 22 Westinghouse supervisors and the General Electric people. 23 The warnings were sent, and he's already described those 24 warnings. Are you excluding that from your question? 25 Otherwise, I think it's an unfair question and it's vague.	Page 36 1 Q (By Mr. McCrea) Dr. Kelly, on page 43 Dr. 2 Drinker states that, "If the individual in question happens 3 to suffer some ordinary disease of the liver, the condition 4 is superimposed upon a substratum of injury." That means 5 exposure to chlorinated hydrocarbons can injure an 6 individual who had an ordinary disease of the liver, does 7 it not? 8 A Say that over. I'm reading this. 9 (Thereupon, the reporter propounded the pending 10 question.) 11 A Well, you neglected to mention that Dr. 12 Drinker said in accordance with this hypothesis. He is 13 speculating. I think a hypothesis is a speculation. 14 Q Well, that in accordance with the hypothesis, 15 he confirmed that the -- 16 A It's still a hypothesis there. 17 Q All right. 18 A Because when you are -- 19 Q All right. 20 A May I finish my explanation? 21 Q I would appreciate it if you'd answer my 22 question. 23 MR. CARNEY: Well, let him finish. 24 A Well, ask a questions. I'll be happy to ask 25 it.

Page 37 1 MR. McCREA: Could you reread the question? 2 (Thereupon, the reporter propounded the previous 3 question.) 4 MR. CARNEY: Well, let me object to this. 5 You're taking -- you're talking about a person now? This 6 is a rat experiment. 7 MR. McCREA: Does he say rat? He says if the 8 individual. 9 MR. CARNEY: But -- Well, that's what I'm 10 saying. There's a switch there from rat experiment to an 11 individual. 12 MR. McCREA: Did I misquote that, Mr. Carney? 13 MR. CARNEY: No. What I'm saying is I think 14 you ought to make it clear we're not talking about the Dr. 15 Drinker studies, we're not on persons. Is that fair to 16 say? They're on rats. 17 MR. McCREA: And would you go up to the 18 previous paragraph and read that, please?"One is forced 19 to conclude from the experiments that an average 20 concentration of 0.57 mg per cubic meter inhaled 16 hours 21 daily produces definite slight exchanges in the liver and 22 in this organ alone. These changes are resisted 23 efficiently by the animals and cause no depreciation of 24 health. The situation is not unlike that seen in factories 25 where yellow, where acute yellow atrophy of the liver has	Page 39 1 been answer. Would the court reporter read the question 2 which is probably back about four pages? 3 (Thereupon, the reporter propounded the pending 4 questions.) 5 A Yes, that's what he says. 6 Q (By Mr. McCrea) Dr. Kelly, did Monsanto ever 7 warn the purchasers of its chlorinated hydrocarbons that 8 individuals with an ordinary disease of the liver could be 9 injured by exposure to PCBs? 10 A No, it didn't, but that -- Are we talking 11 about what he said? He didn't say that. He said if you 12 have an injured liver already, you shouldn't take carbon 13 tetrachloride or alcohol. If the people followed the 14 warning statements, they wouldn't get any injury to their 15 liver. 16 MR. McCREA: We're not talking about that, 17 Doctor. Would you reread the question? 18 THE WITNESS: well, I answered the question. I 19 thought. 20 MR. McCREA: No, you didn't. 21 THE WITNESS: All right. 22 MR. CARNEY: I disagree. He answered it. You 23 just didn't like his answer. 24 MR. McCREA: No, Mr. Carney. 25 MR. CARNEY: It was an answer to your
Page 38 1 occurred. In the case of such instances, the patients have 2 been singled out in some way or other from large groups or 3 fellow workmen who have been perfectly healthy." Now, is 4 he talking about rats, Mr. Carney? 5 MR. CARNEY: I think he says, "In accordance 6 with this hypothesis, we determine that the dose of 0.75 of 7 carbon tetrachloride plus 0.75 cc of ethyl alcohol per 8 kilogram of rat was entirely non-toxic to normal animals." 9 MR. McCREA: That's correct. Now read the next 10 sentence. Now read the next sentence to the jury. 11 MR. CARNEY: Well -- 12 MR. McCREA: Read the next sentence. 13 MR. CARNEY: I'll read the next sentence. 14 What I -- Well, no, I'm not going to read any more of this 15 document. Why don't you ask a question instead of just 16 reading out of a document. We've got Dr. Kelly here. Do 17 you have a question for Dr. Kelly? 18 MR. McCREA: I've had several. 19 MR. CARNEY: Okay. Why don't you ask some 20 questions or conclude your deposition? This has gone on for 21 three days. You promised that a day and a half ago 22 that you would be done in a day and now you're into your, I 23 think it's your third day of or third day of cross 24 examination, you know. Do you have any more questions? 25 MR. McCREA: I have the last one which hasn't	Page 40 1 question. 2 MR. McCREA: Ordinary disease of the liver 3 means is separate, entirely separate from exposure to PCBs 4 and carbon tetrachloride and alcohol. It is entirely 5 separate. What this paper says is if a worker has an 6 ordinary disease of the liver, he can have superimposed on 7 that an additional injury by exposure to PCB. Secondly, if 8 a worker is exposed to PCB and then exposed to carbon 9 tetrachloride and alcohol -- 10 MR. CARNEY: Mr. McCrea, are you asking a 11 question? 12 MR. McCREA: No, I'm explaining it to you. 13 MR. CARNEY: You're explaining it to me? You 14 don't need to explain to it me. I don't need your 15 explanations. I heard your question. I understood it. I 16 heard Dr. Kelly's answer and understood it and it was 17 responsive to your question. Now, if you have another 18 question, go ahead and ask it. 19 MR. McCREA: Well, it was not responsive. 20 That sentence makes no reference -- Will you please -- 21 MR. CARNEY: All you're doing -- do you want 22 to give the jury -- Why don't you ask the questions and 23 then give the jury the answers that you want. Is that what 24 you prefer? 25 MR. McCREA: No, Mr. Carney.

Page 41 1 MR. CARNEY: That may be the way to do it 2 because you seem to want to explain how the answer should 3 have been answered. 4 MR. McCREA: No. 5 MR. CARNEY: Unfortunately Dr. Kelly is the 6 one under oath, not you, and I think you ought to get some 7 testimony from Dr. Kelly. 8 MR. McCREA: Break. 9 (Thereupon, a short recess was taken.) 10 MR. McCREA: Dr. Kelly, again I would like the 11 court reporter to reread the question so that we may get an 12 answer. 13 (Thereupon, the reporter propounded the previous 14 question.) 15 A No, sir, we did not because we did not believe 16 that the individuals who followed our safe handling 17 procedures would be injured by PCBs. 18 Q Wouldn't one of the safe handling procedures 19 be to advise Westinghouse that it should conduct 20 pre-employment physicals to determine if there were any 21 liver disease in the prospective workers in accordance with 22 the 1938 information from Dr. Drinker which determined that 23 exposure to PCBs can superimpose injury on a substratum? 24 A I want to find the question. What was the 25 question now that I'm to answer? Would you read the	Page 43 1 reread the question. 2 (Thereupon, the reporter propounded the pending 3 question.) 4 A And my answer to it was that would depend 5 entirely upon the exposure to which the man was, what he 6 was exposed to in the workplace, and without knowing the 7 Westinghouse workplace, I'm not in a position to answer 8 that question. 9 Q (By Mr. McCrea) Dr. Kelly, would you consider 10 it an unsafe work practice for the workers at Anniston, 11 Alabama to not have pre-employment physicals to determine 12 if they had pre-existing liver disease before they worked 13 with PCBs in the Monsanto Anniston, Alabama plant? 14 A It depends when they came to work. If they 15 came to work in 1960, we wouldn't be concerned about it 16 because we knew that none of those workers had any problems 17 during the past 20 years, so we would take somebody who had 18 liver disease. 19 Q And exposure them to PCBs? 20 A The exposure was not sufficient to cause any 21 problems. 22 Q How do you know you had people with liver 23 disease? 24 A Well, I didn't know we had them. You asked -- 25 That wasn't the question you asked me. Would you repeat
Page 42 1 question, please? 2 (Thereupon, the reporter propounded the pending 3 question.) 4 A No, because Westinghouse had the same 5 information we had. They had the same opportunity to have 6 that information. They had a sophisticated medical 7 organization, they had carried out toxicological 8 conditions, toxicological experiments on their own on their 9 product, so they knew as much as we did about it. 10 Q Dr. Kelly, would you acknowledge to this jury 11 that it would be an unsafe work practice not to have a 12 pre-employment physical of a prospective worker to 13 determine if that worker had liver disease before he was to 14 be exposed to PCBs? 15 A I would have to know the exposure, Mr. McCrea. 16 I can't make a statement without knowing the type of 17 exposure of which he might have. 18 Q The exposure could range from anything from 19 very slight exposure to perhaps very substantial exposure. 20 Under those circumstances, will you please answer the 21 question? 22 MR. CARNEY: Objection to the form of the 23 question, vague. 24 A It question is, as I understand it -- 25 MR. McCREA: Let's let the court reporter	Page 44 1 the question so we know what we're talking about? 2 (Thereupon, the reporter propounded the previous 3 question.) 4 A And my answer was no, it would not be, 5 although we did do examinations for everybody that came to 6 work at the place, but the reason I would not consider it 7 unsafe because we had no liver injury during the course of 8 the manufacturing of PCBs since I've been with Monsanto. 9 Q How did you communicate with your workers at 10 Anniston, Alabama that they were working with PCBs? 11 A In safety meetings they told them what the 12 products were. 13 Q Who told them? 14 A The foreman, the area supervisor. 15 Q Do you have one piece of documented -- Do you 16 have any document which establishes that these workers were 17 told they were working with PCBs? 18 A I don't have a document, but I think what 19 Monsanto's procedure was, were in all the departments they 20 had. They had regular safety meetings. They had regular 21 manufacturing meetings with the workers, and they told them 22 what the products were and they told them how to avoid 23 problems. 24 Q Did you, Dr. Kelly, ever stand in front of a 25 group of workers in Anniston, Alabama and explain the risk

Page 45 1 associated with exposure to PCBs to the workers? 2 A Well, first of all, at our plants we didn't 3 have any risks, so the answer to your question is no. 4 Q Did you ever stand before the workers at 5 Sauget, Illinois or East St. Louis and explain to risk of 6 exposure to PCBs? 7 A Yes, I explained that to the people I 8 examined. I explained why we were examining them and I was 9 explaining to them what our experience had been in the past 10 and that's, and I wanted to examine them to find out if my 11 belief was correct. So the answer to your question is yes. 12 I didn't stand before them. I sat down before, with each 13 one. 14 Q What risks did you explain to them were 15 associated with exposure to PCB? 16 A If you get too much on your skin for prolonged 17 periods of time, if you inhale material at elevated 18 temperatures, you are liable to get chloracne. We have not 19 had any chloracne, but that is the hallmark of PCB, adverse 20 effects. 21 Q You never -- 22 A I also said if you get too much you are 23 liable, there's a possibility that you may get a chemical 24 hepatitis. 25 Q Did you have chloracne at Nitro, West	Page 47 1 complete and thorough housekeeping. You must" -- 2 Q That's not my questions, Dr. Kelly. My 3 question is: What risks did you explain to them before they 4 got chloracne, not after? 5 A We didn't know they were going to get 6 chloracne until chloracne showed up. 7 Q All right. What other problems showed up with 8 those workers in Nitro, West Virginia who were exposed to 9 the chlorinated hydrocarbons? 10 A Well, there again, Mr. McCrea -- 11 MR. CARNEY: Again stipulating that this is 12 not a PCB? 13 MR. McCREA: Stipulated. 14 A And you were saying -- We had problems at 15 Nitro, West Virginia from an explosion that caused the 16 formation of dioxins, and I didn't tell these people, 17 "Look, if we have an explosion, here are the risks you're 18 going to have." 19 Q (By Mr. McCrea) What other problems did those 20 workers have? Just a second. 21 A Well, those -- 22 Q In addition to chloracne in Nitro, West 23 Virginia? 24 A The problems that the people had at Nitro, 25 West Virginia in addition to chloracne were those that
Page 46 1 Virginia? 2 A Yes, sir. 3 Q And what risks did you explain to the workers 4 at Nitro, West Virginia before they got the chloracne? 5 MR. CARNEY: It this -- You agree this is not 6 a PCB plant, isn't it? 7 MR. McCREA: Chlorinated hydrocarbon. 8 MR. CARNEY: But no PCBs were ever made at 9 Nitro. 10 Q (By Mr. McCrea) Stipulated. What risks did 11 you explain to the workers at Nitro, West Virginia before 12 they got chloracne? 13 MR. CARNEY: Objection on the grounds of 14 relevance. 15 A Now, let us explain. What risk did I explain 16 to the workers who were working with an agricultural 17 chemical not even close to PCB, not remotely connected? 18 Q (By Mr. McCrea) Much more hazardous; correct? 19 A It depends. There are all varieties. Yes, 20 this is an agriculture chemical which is a weed killer. 21 Q Explain what risks you explained to those 22 workers. Explain the risks that you communicated with 23 those workers? 24 A I said to those workers, "There have been 25 chloracne cases in this plant. You must exercise complete,	Page 48 1 resulted from the uncontrolled reaction which you could 2 call an explosion which blew the content of the material 3 out of the, out of the vessel on to the roof. The people 4 developed chloracne. They developed peripheral neuritis. 5 Q What else? 6 A I'll have to go back. I don't -- Those are 7 the two prominent ones that I remember. 8 Q Well, Doctor, that situation doesn't slip your 9 mind, does it? 10 A Well, it doesn't slip my mind, no, but we had 11 a number of people with different symptoms. I've told you 12 the two prominent ones, peripheral neuritis and chloracne. 13 Q Did they have fatigue? 14 A Well, that's not a condition. That's a 15 symptom. 16 Q Well, did they have fatigue as a symptom? 17 A Some did, some didn't. 18 Q Did they have vertigo as a symptom? 19 A It was not prominent in my recollection. 20 Q Did they have loss of libido? 21 A Some did, some didn't. 22 Q The same as the black worker reported in 1933? 23 MR. CARNEY: Well, let me object to the form 24 of that question. 25 A I cannot answer that because I don't know how

Page 49 1 much loss the black worker had, and I don't know how much 2 loss these workers had, whether it was five percent, ten 3 percent or a hundred percent loss. 4 Q (By Mr. McCrea) The black worker reported 5 loss of libido; correct? 6 A Yes. How much loss? Five percent? Ten 7 percent? Hundred percent? I don't know. He had some loss 8 of libido. That's what he reported. 9 Q And the workers in Nitro, West Virginia 10 reported loss of libido; correct? 11 A Yes, some did. 12 Q Did they also report painful joints? 13 A It was not a prominent symptom. 14 Q Did they report it? 15 A I don't know whether they reported it. If 16 they had peripheral neuritis, maybe they did have pains 17 around their joints. 18 Q What else did they report? 19 A If you will show me the medical reports I will be 20 happy to give you the symptoms they reported, but ... 21 Q And that was a result of exposure to dioxin; 22 correct? 23 A Presumably. They were unable to find out what 24 the products of combustion were at the explosion. 25 Q Well, now, Dr. Kelly, you know that was	Page 51 1 Q How do you explain that these individuals 2 experienced pain in their joints as a result of exposure to 3 the agricultural chemical? 4 A They received -- They developed the pains in the 5 joints in response to the combustion products of the 6 uncontrolled reaction. It was not the agricultural 7 chemical at that time, so -- 8 Q Could -- 9 A If they had peripheral neuritis, they would 10 get pains in the extremities. The joints presumably that 11 they complained about were in the extremities. 12 Q So you are tying in the mechanism by which 13 they experienced pain in their joints with the peripheral 14 neuropathy which is the demyelination of the coating of 15 the nervous of the extremities? 16 A That is one of the causes, yes. 17 Q And how does this chemical cause the coating 18 to demyelinate? 19 A I don't know. 20 Q Was there any investigation of that with 21 neurologists or specialists in the field of medicine? 22 A In our workers? 23 Q As a result of the workers in Nitro, West 24 Virginia experiencing pain in their joints and peripheral 25 neuropathy?
Page 50 1 dioxin; correct. 2 A No, I don't know it was dioxin because this 3 gunk that came out and was burned to a crisp was analyzed 4 and they couldn't analyze for dioxin at that time. The 5 supposition is that it was dioxin, but when you say do I 6 know it was dioxin, I don't know it. 7 Q Do you know what quantity of chemical they 8 were exposed to? Do you know the dose response? 9 A Let's have two, that divided into two 10 sentences, two questions, please. 11 Q Yes. Do you know the dose response? 12 A Of what? 13 Q The chemical to which they were exposed which 14 caused chloracne, loss of libido, dizziness, peripheral 15 neuropathy. Let me go through this list. Fatigue, 16 vertigo, loss of libido, pain in the joints, peripheral 17 neuropathy and chloracne. 18 A The dose response was not able to be 19 calculated because we had men who were cleaning the 20 galvanized roofing and scraping off this black carbonaceous 21 tar. How much they got absorbed through their clothes I do 22 not know, but there was quite a lot. 23 Q They were up on the roof? 24 A They were up on the roof and they were up 25 below the roof.	Page 52 1 A We sent four of them to the Kettering 2 Institute where they had biopsies on nerves taken in two of 3 them. They were completely examined and checked for these 4 things. 5 Q What did the biopsy of the nerves indicate? 6 A It showed demyelination of the nerves. 7 Q And did the doctors at Kettering Institute 8 explain to you how this chemical from the combustion could 9 demyelinate the nerves in the peripheral area? 10 A I don't believe they knew. 11 Q Demyelination means that the nerve cells 12 became necrotic. 13 A No, it doesn't. It means that the covering of 14 the nerve loses its, the coating of the nerve loses it, its 15 -- Well, the coating gets destroyed. 16 Q So Monsanto was never able to determine the 17 chemical which caused those number of problems? 18 A That is not correct. I said the ones, the 19 severe ones who had the peripheral neuritis, who had severe 20 chloracne were the ones who had worked at the time of the 21 explosion. We did have chloracne from the general 22 manufacturing run of the material, and to the best of my 23 recollection, those were not accompanied by those dire 24 complaints that you mentioned. 25 Q Were there also long-lasting problems

Page 53 1 affecting the brain? 2 A No, not -- 3 MR. CARNEY: Again just for the record, we're 4 not talking about PCBs here. 5 MR. McCREA: Chlorinated hydrocarbons, 6 presumably dioxin which is a contaminant of certain PCB 7 compounds as he earlier testified. 8 MR. CARNEY: No, I think you've 9 mischaracterized the record, but I just think the record 10 ought to be clear that you're spending a lot of time now 11 talking about an entirely different chemical, an 12 agriculture chemical, not a PCB. 13 Q (By Mr. McCrea) Dr. Kelly, was dioxin which 14 is a PCB with two oxygen atoms added, was it implicated in 15 the cause of the illness of the workers in Nitro, West 16 Virginia? 17 A Now, we're dealing with two conditions when 18 you talk about illness. There was an explosion which 19 started the situation. We had that. We did not -- We were 20 unable to analyze the material for dioxin because as I 21 said, it was completely charred much like a, oh, coagulated 22 hunk of ashes, and they were unable to find out whether 23 there was dioxin in it, and I don't know if the mechanism, 24 if the analytical method for running dioxin was available 25 at that time. We were able to find that dioxin was present	Page 55 1 A Well, it was definite in the other cases. 2 Q For explosion? 3 A We suspected. We were never able to prove it. 4 Q So dioxin was suspected, but never proven as 5 a causative agent in the workers subjected to the 6 explosion? 7 A I don't know when it was suspected. I mean, 8 I'm not exactly sure. The date of the explosion is 9 something, in 1959 or something like that. 10 Q '49? 11 A It was it '49? '49. Well, I don't believe there 12 was methods of checking for dioxin at that particular time. 13 I'm not sure. 14 Q All right. You may have answered the 15 question, but I don't think I understand it. Was dioxin 16 implicated in the serious conditions of the workers who 17 were subjected to the explosion? 18 A Well, if by implicate you mean was it proven, 19 it wasn't proven. 20 Q No, no, no, suspected. 21 A Well, that's a before word. 22 Q Well, let's change the word to suspected? 23 A It was suspected post hoc, after the 24 situation. It was not suspected at the time of the 25 explosion.
Page 54 1 in the agricultural chemical at Nitro, West Virginia and 2 sometime after the explosion in the regular manufacturing 3 run. 4 Q Was it implicated as a causative agent of the 5 health symptoms and problems suffered by those workers? 6 A Well, now again, what health symptoms and what 7 problems? 8 Q Chloracne? 9 A Chloracne, yes. 10 Q Peripheral neuropathy? 11 A No, that was not present in the workers who 12 were not exposed at the explosion. 13 Q No, I'm talking about the ones who were 14 exposed to the explosion. 15 A Well, I am trying, Mr. McCrea, to clarify two 16 situations which you are throwing in the same bundle. I 17 said we had an explosion during a reaction of the making 18 the agricultural chemical. As a result of the clean up, we 19 developed several, a number of people developed very 20 serious conditions. Those are the ones that had peripheral 21 neuritis and severe chloracne. Those are the ones that we 22 did biopsies on the nerves. Then we had chloracne in 23 varying degrees in a number of individuals in the regular 24 work force. Dioxin was suspected in those cases. 25 Q Which cases, the --	Page 56 1 Q All right. 2 A It was not suspected when the first people 3 broke out with the chloracne. 4 Q Do you feel it was the probable cause of the 5 workers who experienced chloracne, fatigue, vertigo, loss 6 of libido, pain in their joints and peripheral neuropathy? 7 MR. CARNEY: Objection to the form. 8 THE WITNESS: Would you repeat that question? 9 (Thereupon, the reporter propounded the pending 10 question.) 11 A It might have been. 12 Q (By Mr. McCrea) You can't say it's probable? 13 A Because we didn't find it. We were unable to 14 look for it. 15 Q So all you can say is it might have been the 16 cause? 17 A That's correct. 18 Q Do you feel that dioxin was the probable cause 19 of the chloracne in the regular work force who were not 20 exposed to the explosion? 21 A That and wherever other impurities might have 22 been present in the 245T. 23 Q Did you talk with a doctor from Germany about 24 a similar episode at BASF, Dr. von Oettel? 25 A I talked with him once, and I don't know what

Page 57 1 his episode was. 2 Q Can you describe for us the health problems 3 experienced by the workers at BASP in Germany as a result 4 of a similar type explosion in the manufacturing of the 5 agricultural chemical? 6 A No, sir, and I don't even know if Dr. Oettel, 7 O-e -- 8 Q I have it von Oettel, v-o-n capital 9 O-e-t-t-e-l? 10 A Well, he didn't use the von when I was talking 11 to him. 12 Q All right, sir. Can you describe their 13 symptoms? 14 A No, I can't at this date. I don't know if he 15 read an article on it or not. 16 Q But he did come to St. Louis, Missouri to talk 17 to you? 18 A Not because of that. He came for other 19 reasons. I don't know what he came -- he was over here at 20 some particular meeting. He did not come over to talk 21 about the BASP explosion because I don't know if they had 22 it at that time or maybe it was before. I don't know, but 23 it wasn't -- I don't recall it was written up. 24 Q Did you desire information about the situation 25 at BASP in that your workers at Nitro, West Virginia had	Page 59 1 any of his findings? 2 A You mean ever in my life? 3 Q Yes, sir. 4 A No, I did not write him, but I challenged them 5 on the phone. 6 Q Which findings did you challenge on the phone? 7 A I challenged him on the phone that he reported 8 findings on chlorinated diphenyl, and I did not believe it 9 was a chlorinated diphenyl. 10 Q Did you challenge him as to any other findings 11 in any of the reports which he provided to Monsanto under 12 contract? 13 A First of all, I don't believe I would use the 14 word challenged to talk to a scientist. I wouldn't say 15 challenge. It seems to me that you say, "Look, I think 16 you're completely off base on this." I may have discussed 17 parts of the report and I may not have. I have no 18 recollection of what happened 50 years ago. 19 Q If a worker from the Bloomington Westinghouse 20 plant called you in 1958 and informed you that he had liver 21 disease, hepatitis and asked you if he could work in PCBs, 22 what would you have told him? 23 A I would say, "Look, I cannot diagnose you from 24 Missouri. Go and see your family doctor. See a good 25 specialist if you have one. See your family doctor," and
Page 58 1 experienced these problems as a result of an explosion of 2 this agricultural chemical? 3 A Well, I don't know. I don't remember when I 4 talked to him. I don't remember if I talked to him before 5 our explosion or after our explosion. I don't know. 6 Q That's not it question. 7 A Well, what was the question? 8 MR. McCREA: Could you read the question back? 9 (Thereupon, the reporter propounded the previous 10 question.) 11 A Well, I said I don't remember whether it was 12 before our explosion or after our explosion, so I can't 13 answer the situation. If it was before our explosion, I 14 couldn't very well have talked to him about an explosion 15 that was going to happen in the next six months. 16 Q (By Mr. McCreA) Did you change the workplace 17 passes at Nitro, West Virginia as a result of the 18 chloracne? 19 A Yes. 20 Q With regard to the work done by Dr. Drinker 21 which we have discussed, did you sit down with him and 22 review his reports in detail? 23 A I may have called him on the phone. I do not 24 believe I went up to Cambridge. 25 Q Did you ever write Dr. Drinker and challenge	Page 60 1 then I would call the plant manager at Bloomington and say, 2 "I understand you have a man who is alleging exposure to 3 PCBs and says he has liver problems. I think this should 4 be investigated. 5 Q All right, sir. If a worker called you from 6 Bloomington, Indiana in 1958 and informed you that he was 7 going to work in a department which had PCBs and carbon 8 tetrachloride, what would you tell him? 9 A Again I would tell him, "I cannot make any 10 decisions as far as your workplace is concerned." There is 11 a supposition that you were giving me. I would certainly 12 say "The carbon tetrachloride is, you should not be 13 exposed to that whether you have liver disease or not." 14 They don't even let secretaries clean off their typewriters 15 with carbon tetrachloride. It's a bad actor. I would say, 16 "This is a question you'd have to ask your supervisors. 17 I'll be happy to talk to any of your supervisors, but I 18 don't know anything about your workplace." 19 Q If he called you in 1958 and asked you if 20 there were any special risk in exposure to carbon 21 tetrachloride if he had a contemporaneous exposure to PCBs, 22 what would you tell him? 23 A Again I would say, "It depends on how much 24 exposure you have to carbon tetrachloride. It depends on 25 how much exposure you have with PCBs. I can't quantify

Page 61 1 those. This is a situation that you have to talk over with 2 your own plant medical department," and I would call the 3 Westinghouse people and say this is what this man said and 4 I would talk to the doctor and give him my thoughts. 5 Q If he asked you if there were special risks 6 irrespective of exposure, what would your answer be? 7 MR. CARNEY: Well, I'm going to object to the 8 form of the question. 9 A That is a question if there were no, 10 regardless of exposure? 11 Q (By Mr. McCrea) Right. 12 A If there's no exposure, there's no risk. Is 13 that what you're saying? 14 Q Right. What if there's slight exposure to 15 PCB? 16 A Well, it depends how much there is and how 17 much exposure there is to carbon tetrachloride. 18 Q You can't answer the question? 19 A Yes, I can answer the question. Give it back 20 to me. 21 MR. MCCREA: All right. Read it back. 22 MR. CARNEY: Well, just for the record before 23 it's read back, I certainly heard an answer. Maybe I'm 24 hearing things today, but I heard a question and I heard an 25 answer to the question, and I don't think, Doctor, just	Page 63 1 Q (By Mr. McCrea) I think we're prepared to 2 stipulate to that fact. 3 A Well, yes, but I want to be clear, Mr. McCrea, 4 because you've mentioned all these things and it's easy for 5 somebody on the jury to get the impression that there was a 6 hot line between Bloomington and myself. 7 Q Well, I appreciate your clarifying that for 8 the jury and we will stipulate that no worker ever called 9 you or had your phone number. 10 A Thank you. 11 Q If he called you and said, "I'm exposed to .5 12 milligrams per cubic meter of PCB and .5 milligrams of 13 carbon tetrachloride per cubic meter," what the would your 14 answer be as to whether or not those exposures presented 15 any special risk? 16 MR. CARNEY: Well, I'm going to object. You 17 just mentioned some numbers without saying how. Was it 18 fumes? You know, what confined space? Was there 19 ventilation system? Was he putting his head in it? Was he 20 putting his feet in it? I don't know what the exposure is, 21 so it's vague. 22 A Well, I have to say to him, "Monsanto does not 23 manufacture carbon tetrachloride. I am not familiar with 24 the maximum allowable concentration or the TLV if there was 25 one in 1958, but I will be happy to look it up and talk to
Page 62 1 because he asks that the question be read back you're 2 obligated to give him a different answer or expand upon it. 3 You can if you want to, though. Read the question and the 4 answer. 5 (Thereupon, the reporter propounded the previous 6 question and answer.) 7 Q (By Mr. McCrea) I said slight exposure. 8 Doctor, let me clarify the question. What if the worker 9 called you and said, "I have a slight exposure to PCB and a 10 slight exposure to tetrachloride"? Is there any special 11 risk with that combined exposure? 12 MR. CARNEY: Objection to the form of the 13 question. It's vague. 14 A Well, yes, I would answer this way. I would 15 say to him, "I do not know what you mean by slight exposure 16 to these two chemicals. This is a situation for your own 17 manufacturing and medical organizations. I'll be happy to 18 talk with any of them and give them any information that I 19 have." And I might say in answer to all those questions, I 20 never received a telephone call from any Westinghouse 21 worker at Bloomington. I mean, I just, all these 22 questions, there is an if in there, if somebody did this, 23 but just for the mind of the jury, I never received any 24 questions or telephone calls or letters from any worker in 25 the Bloomington, Indiana Westinghouse plant.	Page 64 1 your people about it, but this is really a question for 2 your own organization, not Monsanto. I'll be happy to 3 discuss it with your manufacturing group or your medical 4 group." I do not believe that I would have, would discuss 5 it with the worker. 6 Q (By Mr. McCrea). Did you ask Dr. Drinker what he 7 felt would be a safe level of PCB and carbon 8 tetrachloride with regard to worker exposure when he 9 provided you with this informations on page 43 and 44? 10 A No, sir. 11 Q Of Plaintiff's Exhibit Six? 12 A No, sir. I did not, but remember, the kind of 13 exposure he gave those rats, that's completely different 14 from the kind of exposure you get in industry. Carbon 15 tetrachloride is gradual by inhalation. Here they 16 gave these rats a good size slug of the material by mouth 17 all in one insult. So I would not expect that condition to 18 obtain in industry. 19 Q Would you go to page 43 and read the caption 20 on that page and tell me if we're talking about giving rats 21 a slug through the mouth? What is the caption on the top 22 of page 43? 23 A "Results of Inhalation Experiments," but -- 24 Q Dr. Kelly, does this document talking about -- 25 MR. CARNEY: Wait a minute. You just, you

Page 65 1 interrupted him. I think he -- let him finish this answer 2 and then you can ask another question. 3 A Yes. Look what he says in the last paragraph. 4 "In accordance with this hypothesis, we determined that a 5 dose of .75 cc's of carbon tetrachloride plus 7.5 ethyl 6 chloride per kilogram to rat was entirely non-toxic. 7 However, when this dose was given to animals" -- a dose. 8 He's not talking about inhaling this stuff. He's giving 9 them this in a cocktail, a slug of this stuff by mouth. 10 Q Was the chlorinated hydrocarbon given to the 11 rat by cocktail form? Was the PCB given to the rat by 12 cocktail form? 13 A Tetrachloride is also a chlorinated 14 hydrocarbon. 15 Q Was the PCB given to the rat by cocktail form? 16 A No, it was not. 17 Q As described by Dr. Drinker on page 43? 18 A No, sir. 19 Q On Plaintiff's Exhibit Six? 20 A No, sir, but you were asking me previously, 21 you were including the doses of carbon tetrachloride and 22 alcohol under results of inhalation experiments, and that 23 wasn't correct. That's why I corrected you on it. 24 Q All right. It was inhalation of PCB? 25 A That's correct.	Page 67 1 should answer that question. I'll be happy to talk to 2 them." 3 Q Dr. Kelly, if a worker called you in 1958 and 4 asked you if it was safe for him to drink four to six cans 5 of beer a day if he worked an eight hour shift exposed to 6 PCBs, what would you tell him? 7 A I'm say, "What is the exposure?" 8 Q .5 milligrams per cubic meter plus dermal 9 exposure. 10 A How much dermal? 11 Q Hands, forearms, legs. 12 MR. CARNEY: Yeah, but you haven't said, is 13 this constant. 14 MR. McCREA: Constant. 15 MR. CARNEY: The legs? 16 MR. McCREA: Right. 17 MR. CARNEY: So he's constantly got PCBs on 18 his legs and his arms, and he's breathing it constantly for 19 how long a period of time? 20 MR. McCREA: Eight hours a day. 21 MR. CARNEY: For how many years? 22 Q (By Mr. McCrea) That wasn't incorporated into 23 the question. What would your answer be? 24 THE WITNESS: Let me have the question. 25 (Thereupon, the reporter propounded had pending
Page 66 1 Q And it was an injection? 2 A No, it was by mouth, a dose of the stuff. 3 Q But there's no question that the PCB was 4 inhaled? 5 A No, of course not. There's no question about 6 it. 7 Q So if the working called you in 1958 and 8 informed you that they had measured the ambient levels of 9 PCB in the air which he breathes and the ambient levels of 10 carbon tetrachlorides in the air which he breathes and that 11 both results were .5 milligrams per cubic meter and if 12 there were any special risks, what would you tell him? 13 A I'll repeat what I said before. We -- 14 Monsanto did not make carbon tetrachloride. I do not know 15 what the safe level of carbon, the maximum concentration, 16 allowable concentration of carbon tetrachloride was in 17 1957. I don't know where you got it figure of .5 18 milligrams per cubic meter. That may be correct, it may 19 not, but I would have to tell them, "Look, you were talking 20 about working conditions in the Westinghouse plant. I 21 don't know whether, what these levels, that accuracy -- not 22 the accuracy of determining it, but whether these are peak 23 levels, whether these occur all the time. This is a 24 question for your manufacturing people and your, and your 25 medical people. You should not -- That's the people who	Page 68 1 question.) 2 A I would say to him one, I think eight cans a 3 beer are not good for anybody. 4 Q Four to six. 5 A Oh, four to six? Well, maybe I wouldn't say 6 that then. I would also say, "You should not have your 7 arms, legs, clothes contaminated for eight hours a day with 8 PCBs." I would say then the answer, first of all, that 9 should not be done whether you take one can of beer or no 10 cans of beer. That should not be done. 11 I would say to him then, "It depends on your 12 physical condition, what, what are, what examination, what 13 would an examination of you show? I don't know how I can 14 advise you on this, but I will advise you that that type of 15 contamination is wrong, should not be done. We warn 16 against it. 17 Q Did you ever warn against the contamination of 18 alcohol with regard to workers exposed to PCBs in the 19 history of Monsanto from 1936 through 1990? 20 A Not that I can recall, no, sir. 21 Q And you would have given this worker no such 22 warning of the combined effect. You would have said 23 "Drinking can be bad for you, PCBs can be bad for you," but 24 you would not give him a warning that the combined exposure 25 to PCBs and consumption of four to six can of beer a day

Page 69 1 could have adverse effects? 2 A I would have said, "You have got to avoid this 3 type of exposure to PCBs so that you could drink four to 4 six cans, if that's what you want to do." 5 Q You would have said nothing about the combined 6 effect? 7 A I would have said "You do not, you should not 8 have this type of exposure, period." 9 Q Dr. Kelly, in a yes or no answer, would you 10 have given him a warning as to the health consequences of 11 the combined effect of the exposure to PCB and the 12 consumption of alcohol? 13 MR. CARNEY: And he's got to give a yes or a 14 no answer? 15 MR. McCREA: Correct. 16 MR. CARNEY: I object to that and I instruct 17 you not to answer that because that's an improper question. 18 I don't think you're entitled to say that the doctor has to 19 answer in only two answers, yes or no, and because of that 20 I'm not going to allow the answer. I don't think you can 21 instruct a witness how to answer your own question. I know 22 you'd like to, but it's not proper. I think it's very 23 improper. I think you know it's improper and you know a 24 court will not allow you to say that you can only answer 25 that yes or no and give no other answer. I've never heard	Page 71 1 answered the question. 2 MR. CARNEY: That's your opinion. I disagree 3 with you and I think probably Dr. Kelly thinks he's 4 answered it, but let's not debate that. I don't think 5 we'll ever agree on that. I'm not going to dispute that. 6 You believe that he didn't answer. I believe he did, and I 7 think Dr. Kelly believes he did answer it. 8 MR. McCREA: Then I'll certify that question 9 to the Court for a ruling. So that we understand the 10 question, would the court reporter please read it back with 11 the understanding that your objection is valid, that he may 12 answer it without simply a yes or no. Would the court 13 reporter please read the question back as to the combined 14 effect and then I want to listen to that question one more 15 time. 16 MR. CARNEY: Okay. Before we listen to the 17 question one more time, I'm going to allow the doctor to 18 answer it one more time. I think he's answered it, and if 19 he wants to answer it, my answer stands. That's perfectly 20 acceptable, but I'm, in order to avoid instructions, I will 21 allow the question to be read back and if the doctor thinks 22 he needs to elaborate or change his answer or add something 23 to it or stand on it or whatever, he's free to answer it in 24 any way he can. 25 (Thereupon, the reporter propounded the previous
Page 70 1 of that being done and I think you know that's improper. 2 MR. McCREA: I'll accept the validity of your 3 objection. Would the court reporter please read the 4 question, and then you may answer it in any manner which 5 you desire without a yes or no answer. I have not received 6 an answer to this question. 7 MR. CARNEY: Well, I disagree. You've asked 8 it three or four times now, at least, and you've gotten an 9 answer three or four times. 10 MR. McCREA: Not as to the combined effect. 11 MR. CARNEY: You've asked the question, that 12 question three or four times, I believe. 13 MR. McCREA: I'd say four or five or six 14 times. 15 MR. CARNEY: Okay. I'll go along with four to 16 six, and if I can, I don't know your entitled to just 17 continue to ask the question because you don't like the 18 answer. You've been doing that for some reason today and I 19 don't understand it, but at any rate, I think you've got to 20 ask new questions. I don't like to instruct a witness not 21 to answer, but when it gets so repetitive, I'm really 22 getting at my, to my limit here of tolerance for the 23 repetition that's going on. 24 MR. McCREA: Tom, there's nothing about the 25 answer I don't like. What I don't like is he hasn't	Page 72 1 question.) 2 A Is that the question? 3 Q (By Mr. McCrea) Yes, sir. 4 A I might and where might not. I would ask him, 5 "What exposure do you have? How long have you been -- Is 6 this a common practice for you to have four to six cans of 7 beer a day? Do you have any illnesses? Have you" -- I 8 would go in to some medical history with him and then I 9 would say, "I believe this is a question for somebody who 10 knows more about your exposure than I do." I would not be 11 able to give him a frank yes or no. 12 Q (By Mr. McCrea) Dr. Kelly, if he asks you if 13 there was any special risk in consuming alcohol if he were 14 exposed to PCB in the workplace, what would you tell him? 15 A I'd say, "How much exposure did you have?" 16 Q All right. 17 A If you have, That's -- well -- 18 Q We've been through -- 19 A We've been throw this, but that's the key 20 point. 21 Q What exposure would you consider -- what is 22 the exposure, Dr. Kelly, that you would consider sufficient 23 to then warn against the consumption of alcohol? You 24 explain it to me? 25 MR. CARNEY: Objection to the form. I don't

Page 73 1 think you've given him enough facts to answer the question. 2 A I would say the exposure is if an individual 3 has, wears contaminated clothing during his work shift, if 4 he's exposed to regular atmospheric concentrations three or 5 four times the maximum allowable concentration, I would 6 believe that if that continues he should not -- I would 7 also believe that if he has any changes in his liver 8 enzymes, then he should not drink alcohol. 9 Q Thank you, Doctor. Would you turn to page 46, 10 please? 11 A Yes, sir. 12 Q Can you identify that document? 13 A It's a "Process for the Production of 14 Aroclors, Pyranols, Etc. at the Anniston and at the 15 Krummrich Plant", Krummrich plant being Sauget, also being 16 East St. Louis. 17 Q Would you turn to a page 49? 18 MR. CARNEY: When you ask -- just so the 19 record is clear, are you, have you asked the doctor if he's 20 familiar with the document? 21 Q (By Mr. McCrea) I don't believe I did. Are 22 you familiar with this document, Dr. Kelly? 23 A Well, I think I've seen it little earlier in 24 this deposition. I've thumbed through it. 25 Q All right, sir?	Page 75 1 did you have one procedure in place in East St. Louis and 2 not in place in Anniston? 3 A Because the change of clothes every day and 4 the time allowed for bathing was negotiated by the union at 5 Krummrich plant for almost all the workers. It was not 6 done for medical reasons. It was negotiated by the union. 7 They were very happy to have 15 minutes off whether they 8 took the shower or not. Anniston it was not a part of the 9 union contract. 10 Q Do you know -- 11 A I repeat, it was not done for medical reasons. 12 Q Do you consider taking clothes home which have 13 been contaminated with PCB as an unsafe practice? 14 A Again you'll have to tell me what they, how 15 much they were contaminated, what they did with it, do they 16 to this every day. I mean, if you define those, I'll be 17 happy to answer it. 18 Q Five ounces of PCB spread uniformly over the 19 clothing, would you consider that as unsafe practice? 20 A What do they do with it when they get it home? 21 Q They wear it, put it in the family wash. 22 A Wash it? No, I don't think that's unsafe. 23 Q Do you know it's unsafe for the worker to 24 wear that clothing without laundering it? 25 MR. CARNEY: For one day or one hour?
Page 74 1 A This was -- I don't see my name on any of the 2 card, the distribution list. This is pretty much in all 3 English, our English plant. 4 Q This is a process for the production of 5 Aroclors, Pyranols, etc. at the Monsanto Anniston, Alabama 6 plant and the William G. Krummrich plant in East St. Louis 7 or Sauget, Illinois? 8 A That's correct, but it's written by a man who 9 was from our English company, and as you see it, London, 10 Newport, Newport. Newport is in the United Kingdom. 11 Newport, Ruabon, that's in Wales, so ... 12 Q Have you read this document as part of your 13 duties as medical director for Monsanto Company? 14 A I don't know if I ever saw it. I may or I may 15 not. I don't happen. I didn't get a copy of it. 16 Q Would you turn to page 49, please? 17 A I have. 18 Q In paragraph three under Roman numeral nine, 19 "Hazards", subheading "Toxicity", states: "From the start 20 of Aroclor manufacture at the Krummrich plant, the 21 operators have been supplied a clean change of clothes 22 every day, and time has been allowed at the end of the 23 shift for bathing. Operators are advised to wash hands and 24 face before eating. In Anniston operators do not have the 25 same issue of clean clothes." My question to you is: Why	Page 76 1 MR. McCREA: For a week. 2 A It might. It might. We advise against it in 3 our labels. 4 Q (By Mr. McCrea) And you did something against 5 it in East St. Louis, but not at your plant in Anniston, 6 and you've explained that. The union insisted on that? 7 A I've explained that and I said we did not -- 8 First of all, we did not have five ounces of PCBs on our 9 workers' clothing at the East St. Louis plant. We didn't 10 have that, and I also said we did not have that change of 11 clothing routine put in for medical reasons. That was -- 12 They're two entirely different plants. They have two 13 entirely different unions. They have two entirely 14 different set of fringes, and this is what they considered 15 a fringe. It was any number, probably 70 percent of the 16 workers. I think by the time I left 100 percent of the 17 workers got clothing changes. 18 Q Where? 19 A With may very well have been at both. 20 Q Did they get changes at Bloomington, Indiana? 21 A I haven't the slightest idea. 22 Q Did you ever warn that they should have a 23 change of clothes at Bloomington, Indiana? 24 A No, sir, because I did not know -- First of 25 all, I did not think it was my business. Secondly, if they

Page 77 1 followed the directions, they didn't need to get a change 2 of clothes. 3 Q Would you turn to page 50? 4 A Yes, sir. 5 Q Are you familiar with that document? 6 A I've seen it. I don't know when I saw it. 7 Q Do you know the gentlemen on the upper 8 right-hand corner, Hamer, Ritchie, Newman, Kulifay, Weddell 9 and Marshall? 10 A I know Newman. He was our physician at our 11 London plant. 12 Q Do you know any of the other gentlemen? 13 A The last two names, Wedell and Marshall ring a 14 bell, but I don't know what they were doing in 1951 or I 15 don't really know what their connection was. 16 Q Would you turn -- did you read -- Have you 17 read this before? 18 A I must have. I don't know when. 19 Q Would you turn to page 51? 20 A Yes, sir. 21 Q And do you identify this document? 22 A Well, this is part of the same document, it 23 appears to me. 24 Q Yes, sir. And the top the caption is Roman 25 numeral 11 - "Hazards, continued"; correct?	Page 79 1 has a caption and is the commencement of a separate 2 article. I cannot explain the captions. We got this from 3 your company. We got this from Monsanto. 4 MR. CARNEY: Well, you got this document as 5 well as lots of documents from Monsanto and, you know, I 6 haven't committed to memory all of them, and unless we can 7 get the witness to identify that he's familiar with this 8 document, I don't know much more that we can do with it. 9 Q (By Mr. McCrea) Dr. Kelly, I think we have 10 two minutes here remaining before the break. Will you 11 please turn to page 51? 12 A Yes, I have. 13 Q And at the top of the page below the line 14 cross the top there's a reference to "The Chemist Analyst, 15 Volume 36, Number 2, Page 33, J. T. Baker Chemical Company, 16 Phillipsburg, New Jersey, September 1947." Then below 17 that, "On the Toxicity of Aroclors", and then below that, 18 "Robert M. Brown, Chief Industrial Hygiene Section, 19 Division of Health, Department of Public Welfare, City of 20 St. Louis, Missouri." Do you recall if when you were 21 medical director for Monsanto, if you read this sheet of 22 paper that is in front of you now? 23 A I don't recall ever having read it. 24 Q Do you know Robert M. Brown? 25 A I knew he worked someplace in the industrial
Page 78 1 A Yes. 2 Q Have you read this document while working for 3 Monsanto Company? 4 A Well, I really don't know. Hazards, 5 continued. Where do you the hazards start? Where's number 6 ten? Oh, there's 11 there. I mean, Mr. McCrea, we start 7 off with page number 46. 8 Q Where do you see that? 9 A On page 46. Well, let's go back to 46 in this 10 thing, "Process for the Production of Aroclors, Pyranols, 11 Etc." 12 Q All right, sir. 13 A Okay. We go 46. We've got the process on 47. 14 On 48 we've got the process. Then we jump up to 11 15 hazards. I presume it's all in the same document. 16 Q Correct. 17 A I presume. 18 MR. CARNEY: Well, again I would -- Since 19 you've indicated that you don't know whether you saw this 20 or not why you worked at Monsanto, are you representing 21 this is a complete self-contained document, Mr. McCrea? 22 MR. McCREA: No, I'm not. 23 MR. CARNEY: Okay. I don't think it is. 24 MR. McCREA: I cannot make that 25 representation. It appears that the document at page 51	Page 80 1 hygiene section of the city. I would not recognize him as 2 on authority on toxicity. I thought he was doing 3 industrial hygiene work. 4 Q All right, sir. Will you read the second 5 paragraph? 6 A Yes, sir. Now, Mr. McCrea, I'll be happy to 7 read this, but just picking out this, first of all, when he 8 is talking about a melting point bath liquid, he is talking 9 about putting a beaker or a container of open material. 10 MR. McCREA: We need to break. 11 (Thereupon, a short recess was taken.) 12 Q (By Mr. McCrea) Dr. Kelly, again we left off 13 and you were describing the document on page 51. 14 A Yes, sir. 15 Q Do you recall where we were? 16 A Yes, I think so. 17 Q Would you please continue with that answer? 18 A Yes. I forget what the question was. 19 Q To tell you the truth, I forget the question 20 and forget what you were saying. I was hoping you would 21 remember. 22 A Maybe the court reporter could -- 23 MR. McCREA: That would be helpful. 24 (Thereupon, the reporter propounded the previous 25 answer.)

Page 81 1 A Yes. In other words, this is an analytical 2 laboratory that they're talking about. They were you using 3 sulfuric acid which is battery acid and they were heating 4 that up as the heat transfer unit. Of course, from 5 sulfuric acid you get off SO₂ and you get off some pretty 6 bad stuff. So they were going to use Aroclor. 7 So Mr. Brown says whether you are subjected to a 8 possible acute exposure depends on the size of the melting 9 pot bath. That's how big it is, what the surface area is 10 and caution with which it's used and the temperature which 11 is heated. I agree with all those things. With careless 12 handling of the material and the resulting contamination of 13 the skin etc., etc., the way is left open for the 14 producing of dermatitis. 15 Well, then he says, "Scrupulous cleanliness must be 16 insisted upon wherever this material is handled." I 17 believe that Mr. Brown is a little overconservative on 18 that. We're not really dealing with a radioactive 19 material. 20 Now, to get back to -- I'm sorry. I should have 21 read the second paragraph. That's what you wanted me to 22 read, wasn't it? 23 Q Yes, beginning, "There is a need." 24 A "Therefore, to give warning. For the toxicity 25 of these compounds has been repeatedly demonstrated, both	Page 83 1 A Well, I don't believe I can quantify that 2 because it depends on whether you inhale the material at 3 five minutes, ten minutes, half hour. It depends on 4 whether it's done according to one milligram per cubic 5 meter, you go five milligrams, ten milligrams, hundred 6 milligrams. Certainly a hundred milligrams would be unsafe 7 for eight hours. Whether it would be unsafe for five 8 minutes, I wouldn't believe so. 9 Q Dr. Kelly, when the author of this article, 10 and I assume he wrote it, states in paragraph three, the 11 last sentence, "Scrupulous cleanliness must be insisted 12 upon wherever this material is handled," do you agree with 13 that? 14 A No, I don't. I don't know what he means by 15 scrupulous. In the first place, this is not an article. 16 This is very probably a letter to the editor of the, of 17 the, of this particular journal because he's quoting the 18 article and he is -- As I said, it all depends on what he 19 means by scrupulous cleanliness. 20 I think if it's handle like any industry chemical 21 and you clean up the spills and you don't get it on 22 yourself and you don't breathe it at elevated temperatures, 23 I think if this, when he talks about the material being 24 contamination of the work table surfaces, it doesn't 25 volatilize at room temperatures, so that's not the problem.
Page 82 1 from the standpoint of absorption from the inspired air as 2 well as from their effects in producing a serious and 3 disfiguring dermatitis when allowed to remain in contact 4 with the skin." That, of course, is an oversimplification. 5 That isn't what he says. 6 It says, "Since these effects have been repeatedly 7 observed, industrial hygienists have taken care to see that 8 the proper controls have been established wherever these 9 product are used. For example, the maximum allowable 10 concentration of chlorinated diphenyl for an eight-hour 11 working day is one milligram per cubic meter of air." 12 There's nothing new in all that. 13 Q All right. Would you agree that that would 14 constitute safe practice, what had been stated in paragraph 15 two, as far as it goes? 16 A Well, he says -- I don't see the practice that 17 he says. 18 Q Eight-hour working day is one milligram per 19 cubic meter of air? 20 A Well, that's a safe practice, yes. 21 Q Would a deviation from that be unsafe? 22 A It depends on how much a deviant and how long 23 you've deviated from it. 24 Q Describe for us what would be unsafe based on 25 how much you deviate and how long you deviate.	Page 84 1 The problem is if you contaminate your skin and clothing or 2 if you breathe the material at elevated temperatures. 3 Q Would you agree that there should be 4 scrupulous cleanliness with respect to the skin? 5 MR. CARNEY: Well, you've just asked the 6 question, so you've repeated yourself and you're, you know, 7 you're talking about -- You've got a question that has 8 undefined terms. 9 Q (By Mr. McCrea) When he talks about 10 scrupulous cleanliness, do you interpret that as referring 11 to the workplace or to the skin of the worker? 12 MR. CARNEY: Well, let me object here. You're 13 asking Dr. Kelly to speculate inside the mind of someone as 14 to what he means. 15 MR. McCREA: I'm asking him for his 16 interpretation and if he doesn't -- 17 A I find it hard to interpret what he means. As 18 I said, he talked about contamination of work table 19 services, etc. Does he mean by that that should be 20 scrupulously clean, surgically clean like we're dealing 21 with a radioactive material? I don't believe it's anything 22 like that. 23 "Scrupulous cleanliness is insisted upon wherever 24 the material is handled." Does that mean if you get 25 something on the skin you should immediately wash it off?

Page 85 1 It isn't that toxic. No, you don't have to wash it off 2 right away. So I don't know what he means by scrupulous, 3 and I don't believe he's an authority on it in the first 4 place. Just because this man wrote it, that doesn't make 5 him an authority. 6 Q (By Mr. McCrea) Can you you go to page 52? 7 A Yes, sir. 8 Q Do you see the caption, "Health and Safety"? 9 A Yes, sir. 10 Q And under "Health and Safety" are there 11 paragraphs with quotations? 12 A Yes, sir. 13 Q Do those paragraphs relate to Monsanto 14 material? 15 A They relate to what Mr. Pennington of Newport 16 reported in his America tour. He went to Anniston, so it 17 refers to Anniston, yes, sir, and it refers to Plant B 18 which is the Krummrich plant or the Sauget plant or the 19 East St. Louis plant depending on what year you're talking 20 about. 21 Q Are paragraphs one, two, three, four, five and 22 six descriptive of the conditions at the Anniston Monsanto 23 plant and the East St. Louis plant? 24 MR. CARNEY: On December 29th, 1950? 25 MR. McCREA: On December 29, 1950.	Page 87 1 A No, sir, it was not unsafe because we never 2 had any problems with any illness at Anniston in the PCB 3 department that could be attributed to PCBs. 4 Q Would you consider it an unsafe practice not 5 to have emergency showers? 6 A Yes. I think emergency -- I would consider it 7 unsafe. I think emergency showers should be in all 8 chemical plants. 9 Q Would you consider it unsafe practice for 10 workers to eat food in the area of PCB manufacture? 11 A Well, we considered it inadvisable. Whether 12 it was safe or not, I can't answer that because, first of 13 all, if there was enough material on the individual's hands 14 and they were getting it, it was getting on the food, that 15 was unsafe. If there was enough material in the air so 16 that when they're sitting down for a half hour lunch break, 17 they were inhaling material above the maximum allowable 18 concentration, that was unsafe. 19 Q Would you consider it unsafe not to provide an 20 annual medical examination for workers exposed to PCBs? 21 A It depends again on the exposure. It depends on 22 the history of the plant. If the people had problems in 23 the PC department, PCB department, they should be examined 24 at intervals. Whether a year or longer is -- 25 Q What was the average duration that a worker
Page 86 1 A Well, starting right off, I don't believe we 2 had tins of cold cream around, ointment around there. We, 3 as our general policy, we were against using protective 4 ointments. We rather would prevent the material from 5 getting on the skin by other means rather than try out 6 protective ointment which never works. 7 I agree when he said that operators were 8 sufficiently trained in the need for personal cleanliness. 9 I think, yes, it represent the procedures at Monsanto and 10 East St. Louis and Anniston. I think the word toxic 11 department has a connotation that really means something 12 different to everyone else. At East St. Louis -- At the 13 East St. Louis plant they called everything toxic so they 14 could get under the umbrella of the daily showers and the 15 15 minutes off and the change of clothes. 16 Q Were the men expected to take a bath in their 17 own time at the end of the shift in Anniston, Alabama? 18 A I can't answer that. 19 Q That statement is attributed to the plant at 20 Anniston, is it not? 21 A Yes, that's true. I suppose they were 22 expected to. 23 Q Would you consider it unsafe if they did not? 24 A At Anniston? 25 Q Yes, sir.	Page 88 1 was employed in the PCB department at East St. Louis, 2 Illinois? 3 A Oh, I can't answer that. 4 Q How many years do you think was the average 5 for a person to work in the PCB department? I believe it's 6 number 246 at East St. Louis, Illinois? 7 A My guess would be pure speculation, would be 8 around five years. Don't hold me to that. I don't know. 9 Q Would you consider it an unsafe practice not 10 to give employees an annual lung x-ray or -- excuse me -- a 11 lung x-ray every three years as stated in the last 12 paragraph? 13 A Would I consider it un -- 14 Q An unsafe work practice to not give employees 15 exposed to PCBs a lung x-ray every three years? 16 A No, I do not consider that unsafe because I 17 think exposure to PCBs does not cause any problems with the 18 lungs. 19 Q Then why -- This article states that Monsanto 20 gave its employees a lung x-ray every three years. 21 A We gave it to all the people. 22 Q Why did you give it to all the people? 23 A Because when you examine a person, you are 24 looking for not only occupational conditions, but 25 non-occupational conditions. You also have people who

Page 89 1 rotate through various departments, so it was a policy that 2 we gave x-rays where we had an x-ray machine at one, two or 3 three years depending on the age of the person. You're 4 looking for the size of his heart. You're looking to see 5 whether he has emphysema. You're looking for a lot of 6 things rather than if your looking for any changes in 7 PCBs or sulfuric acid or whatever the man worked with. 8 Q Your testimony here today is that the lung 9 x-ray given to the workers every three years was unrelated 10 to potential consequences from the exposure to PCB. 11 A That's correct. 12 Q Will you turn, please, to page 53 and address 13 paragraph three which begins, "Mr. Ellenburg"? Do you know 14 Mr. Ellenburg? 15 A Yes. I thought he was an analytical chemist. 16 I'm not -- 17 Q Do you know H. B. Richard, Jr. of Monsanto 18 Chemical Company? 19 A We had a Dr. Richard, Ph.D. Richard who was in 20 the research department of MCC. I don't know if that's the 21 same man or not. 22 Q Are you familiar with the results of the safe 23 limits of Aroclor vapor concentration in air which said 24 test was carried by Kettering Laboratories in 25 Cincinnati?	Page 91 1 which states, "The vapors of hot Aroclors are distinctly 2 irritating to eyes and nose above a concentration of three 3 milligrams per cbm in air"? 4 A I don't really know what cbm is. I mean, 5 that's an English term that I don't know, but there's no 6 question what vapors are irritating to the eye and nose 7 above, certainly above .5 milligrams. 8 Q Did you ever warn that if workers experience 9 irritation to their eyes, they are exposing themselves to 10 excessive levels of PCB? 11 A No, but I don't believe if the people, the 12 workers have irritation of their eyes and nose they will 13 stay around in the atmosphere. They'll get out. 14 Q But you did not so warn? 15 A Well, I can't say that I did or didn't, but I 16 think that I'd give the workers credit for common sense. 17 If working in an irritating atmosphere, they get out or 18 correct what's happening. This will occur usually in leaks 19 or something like that. 20 Q Did you ever warn the workers that they could 21 become poisoned if they experienced irritation to their 22 eyes in that that could be an indication of PCB levels 23 above the safe level? 24 A Well, there again you are being too 25 simplistic. Here they are exposed to this for one, two,
Page 90 1 A Yes, that's been gone on repeatedly here. 2 That's the Treon work. 3 Q All right. And what were the safe levels for 4 PCB? 5 A Well, he came out with some, but I think it 6 was finally established that .5 or 1242 milligrams per 7 cubic meter -- I mean, .5 for 54, 1254 and one milligram 8 per cubic meter for 42. 9 Q Can you explain to a jury how much that is? 10 A Well, cubic meter of air is sort of pretty 11 close to a yard by a yard by a yard. I mean, a yard is 36 12 inches. A meter is 39 inches. I cubic is this way. 13 That's cubic meter of air, and a milligram is -- let's see 14 -- it's a thousandth of a gram. It's a pretty small 15 amount. 16 Q How would you describe that to the jury so 17 that they could have some frame of reference? 18 A Well, I think it's hard to explain that to the 19 jury. A milligram is -- I'd have to transpose milligrams 20 to a gram. That's a thousandth of a gram and there are 21 four grams in a teaspoonful. So you vaporize 1/4,000 of a 22 teaspoonful and have it present in a small area. That's 23 one milligram per cubic meter. 24 Q All right, sir. Do you agree with the 25 statement in the second to the last paragraph on page 53	Page 92 1 three, four minutes as a leak, so out comes this hot air 2 PCB, and their eyes and nose are irritated. They're not 3 going to get poisoned from that exposure. They'll get 4 irritation of their eyes and nose. They stop the leak and 5 everything is fine. So no, I didn't warn them. 6 Q Will you turn to page 54? I will address your 7 attention to the heading "Safety Equipment" which is 8 approximately in the middle of the page. Is that an 9 accurate statement as to the operations of the East St. 10 Louis Monsanto plant called Krummrich? 11 MR. CARNEY: Which paragraph are you -- 12 MR. McCREA: Under "Safety Equipment." 13 MR. CARNEY: Okay. 14 A I can't answer that because the safety 15 equipment comes under the responsibility of the safety 16 department, and I can't answer of my own knowledge whether 17 these things really were there or not. 18 Q (By Mr. McCrea) Will you consider a deviation 19 from that practice as stated on page 54 under the heading 20 "Safety Equipment" an unsafe practice? 21 MR. CARNEY: Objection to the form. 22 A Unsafe practice where, the Krummrich plant? 23 Q (By Mr. McCrea) Yes, sir. 24 A Well, suppose a pair, spare suit of clothes 25 was in the locker room. That would be unsafe to have it in

Page 93 1 the locker room rather than encased in an apartment. The 2 first aid cabinets, we were doing our best to get rid of 3 first aid cabinets because the only thing you need for 4 first aid is lots of water and a shower at the chemical 5 plants. So I think having, not having a first aid cabinet, 6 that is not unsafe. Gas mask you certainly wanted. Fire 7 extinguisher you certainly wanted. Stretcher in the 8 department? I don't know if that was important. I don't 9 think we had stretchers in all our departments, so I 10 wouldn't consider it unsafe if we didn't have a stretcher 11 in the department. 12 Q Would you consider it unsafe not to have a 13 fume respirator. 14 MR. CARNEY: Objection to the form. You 15 talking about in Krummrich? 16 A In the Krummrich? 17 Q (By Mr. McCrea) At Krummrich. 18 A Oh, yes, because there they're working with 19 chlorine. Remember your chlorinated diphenyl, and if you 20 get a leak from chlorine, you need a fume respirator. 21 Q Would you consider it an unsafe practice not 22 to have a fume respirator for exposure to ambient levels of 23 PCB under certain conditions? 24 MR. CARNEY: Objection to the form. 25 A How high is the ambient level?	Page 95 1 as to what level we'd say, "Put the respirator on." 2 Q (By Mr. McCrea) Did you ever warn the workers 3 at the Krummrich plant that if they experienced nose and 4 throat irritation, they could also be absorbing that 5 chemical into their body in that it permeates the nasal 6 membranes and the lungs? 7 A No, sir, I did not because that would be a 8 very unusual — The situation of irritation of the nose and 9 eyes and throat would be very unusual. It would be 10 temporary, would not be considered standard operating 11 procedure and would not be repeated. 12 Q Did you ever warn the companies to which you 13 sold PCBs that irritation of the nose could also lead to 14 systemic poisoning? 15 A We warned the people that they should avoid 16 breathing the fumes at elevated temperatures. We did not 17 warn them specifically about irritation of the nose and 18 throat saying that could lead to systemic intoxication, but 19 if they avoided breathing the fumes, if they followed our 20 directions, they wouldn't get irritation of the nose and 21 throat and they wouldn't get systemic adverse effects. 22 Q Would you turn to page 55? 23 A Yes, sir. 24 Q I direct your attention to the third paragraph 25 beginning with the words, "Mr. Benignus." Did I pronounce
Page 94 1 Q (By Mr. McCrea) Three parts, three milligrams 2 per cubic meter. 3 A You mean we've got a leak and there it is? 4 Q Right. 5 A Still talking about the criminal plant. 6 Q Yes, sir. 7 A If we had a leak in three parts per, of three 8 milligrams per cubic meter, we would not consider that 9 unsafe for the time that it would take the workers to fix 10 up the leak. 11 Q At what level would you require workers to 12 wear a fume respirator or under what conditions? 13 MR. CARNEY: Again at Krummrich? 14 MR. McCREA: At Krummrich. 15 MR. CARNEY: Which again for the jury's 16 benefit is East St. Louis. 17 MR. McCREA: Correct. 18 A Well, in the first place, remember we've put 19 this fume respirator in there for the chlorine. That was a 20 serious thing. And to answer your question of what level, 21 if we had a big spill of hot PCBs, I believe that we would 22 use the respirator and the goggles to avoid nose and throat 23 irritation, and we would get the people out of there until 24 the condition were corrected, and we would go in there with 25 a gas mask or an airline helmet. I can't give you figures	Page 96 1 that correctly? 2 A Benignus, yes, sir. 3 Q Benignus. The sentence states, "Mr. Benignus 4 of St. Louis, September 1953, discussed the dangers of 5 using Aroclor in indoor paints." Do you recall what the 6 dangers were that he discussed in September 1953 with 7 regard to Aroclor in indoor paints? 8 A No, sir, I do not. I do not, but first of 9 all, I don't believe there was a very large amount of 10 Aroclors used in indoor paints, but if it were used and you 11 were using it on a closet or in a confined space, you would 12 be breathing the fumes. That may be elevated temperatures, 13 it may be hot in this closet, but I don't know. 14 I do not — To answer your question, I do not know 15 what the dangers of using Aroclors in indoor paints was. I 16 have seen no reports in the company literature about or 17 even talking to anybody about whether there had been any 18 danger of using Aroclors in indoor paints. 19 Q Did Mr. Benignus ever discuss with you the 20 dangers he felt existed with using PCBs in indoor paints? 21 A No, sir. 22 Q Did you ever discuss with him the danger you 23 felt existed in using PCBs in indoor paints? 24 A No, sir, I don't ever remember having even 25 heard that there was a danger of using Aroclors in indoor

Page 97 1 paints. 2 Q Will you turn to page 57? 3 A Yes, sir. 4 Q Can you identify the document which appears at 5 page 57? 6 A I'll have to identify it by using page 58, 7 also. 8 Q All right, sir. 9 A It's a letter from me to Dr. Barrett in London 10 who was a Ph.D. in London with a -- dated September 20th, 11 1955 on a previous memorandum of his which I don't have. 12 There's a copy to Dr. Hardy, a chemist, and Dr. Newman, our 13 physician in London. 14 Q Did you author this document? 15 A I dictated it, yes. 16 Q Did you do the research to prepare the 17 information incorporated in this document? 18 A I don't know what you mean by research. You 19 mean to say did I -- 20 Q Did you rely on others rather than information 21 which you independently developed to write this letter? 22 A Well, then again which I independently 23 developed, you mean did I do the laboratory work or did I 24 go and look at the Treon work, talk to the Kettering 25 people? Certainly I did that. I didn't ask anybody at	Page 99 1 percent chlorine. 2 Q In the next line which is line ten there's 3 1268. What is 1268? 4 A Chlorinated diphenyl chlorinated to 68 percent 5 chlorine. 6 Q So in that paragraph you're making reference 7 to 1242, 1254 and 1268. Is that correct? 8 A That's correct. 9 Q You make reference to any compounds which 10 include benzene in that paragraph? 11 A I don't know what you mean by including 12 benzene. There are benzene rings in there that are joined 13 together and chlorinated, but that doesn't mean -- The 14 answer is no, I do not make reference to benzene in 15 that. 16 Q Are all the references in paragraph two to 17 PCB? 18 A Yes. 19 Q Are there any references in this letter to 20 anything other than PCB? If so, where are those 21 references? 22 A No, there aren't. 23 Q So when we have Aroclor described at the top, 24 we're talking about PCB? 25 A That's correct.
Page 98 1 Monsanto for advice in dictating this. This was my own 2 knowledge. 3 Q At the top of the letter in capital letters 4 are the words "Aroclor Toxicity." What is Aroclor? 5 A Aroclor is a generic name of Monsanto products 6 for both chlorinated diphenyl, chlorinated diphenyl 7 benzene, chlorinated terphenyl. 8 Q What is toxicity? 9 A Toxicity is the ability of a material to 10 produce unwanted effects on the animal organism or on 11 plants or on fish or on birds. 12 Q Will you refer to paragraph one? "Howard 13 Nason has given me your memo of September 8." You do not 14 recall the content of that memo as you testify here today? 15 A No, sir, I do not. 16 Q Will you refer to paragraph two? What is 17 Aroclor 1254? 18 A We've been over this one. That's chlorinated 19 diphenyl chlorinated to 54 percent. Aroclor 1242 is 20 chlorinated diphenyl chlorinated to an average of 42 21 percent. 22 Q Working on down in the paragraph there is a 23 reference ten lines down to 1268 -- Strike that. There's a 24 reference on line nine to 1254. What it 1254? 25 A A chlorinated diphenyl chlorinated to 54	Page 100 1 Q Do you agree with the sentence, the second 2 sentence of paragraph two as you testify here today? "This 3 is not particularly surprising because in earlier work it 4 was found that toxicity increased with chlorination." 5 A That's correct. 6 Q Do you agree with the sentence, fourth 7 sentence in paragraph two? "Frankly, there was not too 8 great a difference between the two compounds, however." 9 A That's correct. 10 Q What do you mean by that, not too great a 11 difference? 12 A Well, I take it that it wasn't a great 13 difference. There wasn't a quantitative difference of a 14 large amount. I can't be any more descriptive than that. 15 Q Are we talking about the manner in which they 16 are ingested, the toxicity or what? What does differences 17 relate to? 18 A I would think in this context we're talking 19 concerning inhalation. 20 Q Next sentence you state, "As you know, the 21 maximum allowable concentrate is 0.1 ml per cubic meter in 22 the case of 1254 and as high as 10.0 mgm in the case of 23 1268." What is the source of that information? 24 A I can't give you that information. I believe 25 it may have been Treon's thinking. I do not know if they

Page 101 1 had maximum allowable concentration. There's a 2 typographical error. It should be .1 milligrams of cubic 3 meter 1264 instead of milliliter. I don't know if they, if 4 these were ones that Treon was thinking about, but I can 5 tell you that it was a range established by the conference 6 of the Government Industrial Hygienists was .5 milligrams 7 of 1254 and 1.0 milligrams of 1242. I don't know the year 8 in which that was established. It was sometime after 9 Treon's work in 1954. 10 Q Was does the term maximum allowable 11 concentrate mean? 12 A That means that amount of material, the 13 recommended limit that the material should be in the air 14 for an eight-hour working day for a worker's lifetime. 15 Q You state in paragraph two, second or the last 16 sentence, "In this country they don't use the MACs very 17 routinely." Explain that to the jury. 18 A Well, they did not go out and calculate a 19 bunch of negative testing. In other words, if they tested 20 a department every six months and found it was under the 21 MAC, they didn't do it and they may have skipped a year or 22 so. They just didn't do it routinely after -- That's 1955 23 we're talking about. After the OSHA acts came in where it 24 was deemed important to do it routinely, then they did it. 25 In '55 they didn't do it routinely.	Page 103 1 would certainly have the same opportunity to find out what 2 the level of MAC in England was just the same as we did 3 with our plants in England. 4 Q In the next paragraph, paragraph three, you 5 state in your letter, "I don't know how you would get any 6 particular advantage in doing more work." Are you telling 7 Dr. Barrett that there doesn't need to be any additional 8 work with respect to determining what? 9 A Well, I don't know what work he was asking 10 for, but if he was asking for more work to determine safe 11 levels, we didn't need to do any more because he had those. 12 We had done, had work done by the Kettering Laboratory that 13 was accepted by the government people, so we didn't need 14 any more. 15 Q Then you state, "What is it that you want to 16 prove?" What do you mean by that? 17 A Exactly that. I don't know what he wanted to 18 prove by whatever work he was talking about. 19 Q Was he referring to toxicity testing of 20 animals? 21 A No, he was referring to -- Well, he may have 22 been. He may have been wanting to find out different 23 levels of air levels that you would consider safe. I don't 24 really know what he wanted to prove on this because that's 25 why I asked him. When I had the letter I didn't know what
Page 102 1 Q Then you state, "But certainly in England I 2 think it would be all right to consider 0.2 mgm/cubic meter 3 as perfectly safe." Is that correct? 4 A I mean, are you reading it correct or is the 5 statement correct? 6 Q Yes. Did I read it correctly? 7 A Yes, you read it correctly. 8 Q What does the 0.2 milligrams per cubic meter 9 apply to, what chemicals? 10 A I don't know whether it applies, whether it 11 applied to 1254 or 1242. This is in English. If I had 12 this previous letter I'd be able to tell you, but I thought 13 I told him then that whether it was 1242, 1254, .2 14 milligrams per cubic meter is perfectly safe and it was 15 perfectly safe because when it came out with the Government 16 Industrial Hygienists level, it was .5 for 54 and 1.0 for 17 42. So this 0.2 it perfectly safe. 18 Q Did you ever communicate to Westinghouse the 19 same information that you communicated to Dr. Barrett, that 20 you thought 0.2 milligrams per cubic meter would be 21 perfectly safe? 22 A No, I never did because remember, this is an 23 English plant, and presumably people over there were 24 talking about using .2 milligrams. I don't know if 25 Westinghouse had any English plants, but if they did, they	Page 104 1 he meant, so I can't answer it now without knowing what, 2 without even seeing the letter, but I had told him we've 3 got the levels that are safe. What else do you want? 4 Q You state, "I believe your work should be 5 directed towards finding out what the concentrations are of 6 Aroclor during the different operations, whether it is 7 industrial or painting." Do you know of any data that was 8 ever obtained by Monsanto at the Krummrich plant which was 9 recorded to show the industrial levels at the plant? 10 A Yes, sir. I know it has been done, but where 11 those records are 13 years after we stopped making the 12 material, 35 years after this letter, I don't know. They 13 were certainly recorded. I've seen the results. They were 14 under the safe maximum allowable concentration. They 15 weren't done routinely. 16 Q Did you ever report to anyone the levels which 17 you found at Krummrich? 18 A Sure. I reported them to the plant doctor. I 19 reported them to the plant manager. 20 Q Did you ever report it to anyone else within 21 the Monsanto organization in writing? 22 A I may have and I may have not. 23 Q But you acknowledge that the testing was done 24 on a random basis before the OSHA regulations? 25 A Well, it was done in a sufficient number. I

Page 105 1 satisfied myself that these workers had a safe working 2 environment and it was true. They never had any problems. 3 Q Did you ever determine the levels of Aroclor 4 exposure during the process of painting? 5 A Painting what? Anything? 6 Q What do you mean when you state "or painting" 7 in paragraph three? 8 A I don't know because it all depends what he 9 asked about in his letter. 10 Q You state, Dr. Kelly, and you wrote this, "I 11 believe your work should be directed towards finding out 12 what the concentrations are of Aroclor during the different 13 operations, whether it is industrial or painting." You 14 wrote that? 15 A Certainly, I wrote it. 16 Q What did you mean? 17 MR. CARNEY: Just for the record, he wrote it 18 35 years ago. You'll agree to that, and you're acting like 19 you're outraged that he can't remember what one word meant 20 when he wrote it 35 years ago. I think he's doing a pretty 21 darn good job of remembering what he did, but I can't fault 22 him if he can't remember every I and T. 23 Q (By Mr. McCrea) Doctor, you've reviewed this 24 document many times since you've wrote it, haven't you, in 25 other depositions?	Page 107 1 for? 2 A Monsanto Chemical Company. 3 Q "We know Aroclors are toxic, but the actual 4 limit has not been precisely defined." When you refer to 5 Aroclor in that paragraph, are you referring to Aroclor 6 1242, 1254 and 1268 which you reference in paragraph two? 7 MR. CARNEY: I'm going to object here that 8 again you're asking the witness to try to put himself and 9 his mind back 35 years ago and you're acting like he did it 10 yesterday. If you can answer, Doctor. 11 A What is the question? I've lost the train of 12 thought. 13 MR. McCREA: Could you read it back, please? 14 (Thereupon, the reporter propounded the pending 15 question.) 16 A Yes. 17 Q (By Mr. McCrea) Doctor, whatever the debates 18 over reports of human health effects in earlier animal 19 studies, by 1955 it was common knowledge among medical 20 scientists at Monsanto that PCBs were systemically toxic, 21 was it not? 22 MR. CARNEY: Let me object to, I think the 23 questions contains undefined terms as to what you mean by 24 systemically toxic and what you mean by toxic. 25 MR. McCREA: Would you reread the question?
Page 106 1 A Not many times. 2 Q You've been questioned about this document by 3 other attorneys? 4 A I don't believe I have. 5 Q You don't? 6 A I may or I may not. It hasn't been too 7 prominent. Maybe I have. I don't know. I've been 8 questioned about a lot of things by a lot of attorneys. 9 This may be one of the them. I don't know. 10 Q Doctor, do you know today what you meant when 11 you referred to the word painting? 12 A I do not, Mr. McCrea, but you'll have to 13 remember that Dr. Barrett was a research man or a 14 development man in our English operation. He wrote me a 15 letter. He may have described to me what he meant by what 16 the painting or the industrial use he was referring to, so 17 I wrote him back and said, "I think the thing to do is to 18 find out what exposure you've got in these particular 19 operations." So I don't know, to answer your question, 20 what was meant by that statement. 21 Q You make reference in paragraph three to 22 Kettering laboratory reports which cost 15 to \$20,000. 23 A Yes, sir. 24 Q In paragraph four you state, "MCC's position 25 can be summarized in this fashion." What does MCC stand	Page 108 1 (Thereupon, the reporter propounded the pending 2 question.) 3 A Well, the answer to that is yes, but that is, 4 this is not unique in industrial chemicals. All industrial 5 chemicals have a certain amount of toxicity. It varies 6 from very little to quite toxic. We consider this in the 7 lower range. 8 Q (By Mr. McCrea) Did you say that in your 9 letter? 10 A Not in this letter, but I've said it in many 11 letters. 12 Q And on the date, September 20, 1955, you knew 13 that the actual limit for toxic systemic effects caused by 14 PCB had not been precisely defined? 15 A Yes, sir, we had, we had defined a safe level, 16 but we hadn't defined what will make you sick, but I think 17 the answer is you want to define a safe limit. You don't 18 want to define a toxic limit. That's what I said. 19 Q The next sentence says, "It does not make too 20 much difference, it seems to me, because our main worry is 21 what will happen if an individual gives any type of liver 22 disease and gives a history of Aroclor exposure." Doctor, 23 what do you mean by any type of liver disease? 24 MR. CARNEY: Well, you did misread a word. I 25 don't think it was intentional. You used the word gives

Page 109 1 instead of develops. 2 Q (By Mr. McCrea) What do you mean by any type 3 of liver disease in sentence two of paragraph four of your 4 letter dated September 20, 1955 at page 57? 5 A I meant by that liver disease that can occur 6 in the ordinary run of people who are not exposed to PCB at 7 all. I mean by that infectious hepatitis, serum hepatitis, 8 cirrhosis of the liver, alcoholic hepatitis. That's what I 9 mean by any type of liver disease. 10 Q Can PCBs contribute to hepatitis? Was it your 11 opinion on September 20, 1955 that PCBs could contribute to 12 hepatitis? 13 A They could cause a chemical hepatitis if there 14 was a sufficient exposure, yes. 15 Q Could PCBs contribute to cirrhosis? 16 A No, sir. 17 Q Could PCBs contribute to alcohol cirrhosis? 18 A I don't know. 19 Q Were there any other types of liver disease 20 that would be included in your definition? 21 A We would include everything there except 22 malignancies of the liver. I think that runs, we've got 23 infectious, we've got toxic, we've got hep -- Well, I guess 24 we could say hepatitis from drug needles, but that's a 25 serum hepatitis. I think that takes care of most of the	Page 111 1 work in and get sick. We know the exact limit you can work 2 in and be safe. There's a big difference between those 3 two. 4 Q Did you inform Westinghouse of that 5 information? 6 A Of what information? 7 Q The level in which workers would be safe. 8 A It was in the medical literature. 9 Q Did you inform Westinghouse? 10 A I may have. 11 Q Of the levels which workers could work in and 12 be safe? 13 A I may have, and we also have it in our 14 bulletins, so Westinghouse, I'm sure, got some of the 15 bulletins. If you mean I myself called, sent a letter to 16 Westinghouse, I may or may have not, but I do know that 17 Mr. Wheeler wrote to their industrial hygienist and 18 explained all that. I know that it was in our bulletins 19 that Westinghouse got, and I also know that Westinghouse 20 had a medical department that was as up-to-date on the 21 medical literature as I was. 22 Q You don't recall yourself ever communicating 23 verbally or in writing with your author on the letter to 24 Westinghouse as to what the safe levels were? 25 A I do not recall.
Page 110 1 liver diseases. 2 Q What about yellow atrophy of the liver? 3 A Yellow atrophy of the liver is the end result 4 of hepatitis, of continuing, fulminating hepatitis because 5 the vast majority of hepatitises get well. 6 Q Doctor, on September 20, 1955 when you wrote 7 this letter to Dr. J. W. Barrett, did you feel that it was 8 a waste of money to do any other research to determine the 9 extent of harm Aroclor could cause to humans? 10 A I didn't say that. I just talked to him about 11 whether there should be any work done on safe levels of the 12 material in the air. 13 Q As it affects health? 14 A Yes. 15 Q And did you feel it was a waste of money to do 16 any more work on determining safe levels in the air as 17 those safe, as those levels would affect health? 18 A We have determined that already. That was a 19 definite. It was proved. It was proven. We had excellent 20 data on it. 21 Q Is that consistent with your statement in 22 paragraph four, "We know Aroclors are toxic, but the actual 23 limit has not been precisely defined"? 24 A Well, I explained that earlier, Mr. McCrea. I 25 said we don't know how much the exact limit is that you can	Page 112 1 Q You state, "It does not make too much 2 difference, it seems to me, because our main worry is what 3 will happen if an individual develops any type of liver 4 disease and gives a history of Aroclor exposure"? Is your 5 concern there that because the levels are not defined and 6 you know that PCBs produce liver problems, that the 7 connection would then be made if a person simply 8 establishes exposure? 9 A Well, in the first place, I don't know what 10 you mean the levels were not defined. We had a safe level 11 determined. Now, if you want to rephrase that sentence 12 explaining what you mean by that or leaving it in or -- 13 Q What do you mean by that sentence? 14 A Well, I don't know. I didn't say the 15 sentence. Which sentence are you talking about, yours or 16 this one? 17 Q Yours, sentence two in paragraph four? 18 A "We know the Aroclors are toxic. The actual 19 limit has not been precisely defined." By that I said we 20 do not know what level you have to work at to get sick. We 21 know what levels you have to work under to stay well. 22 Q The last sentence is, "I am sure the juries 23 would not pay a great deal of attention to MACs." To what 24 are you referring when you say juries? 25 A Jury is a group of people at a trial.

Page 113 1 Q Are you stating that if a person establishes 2 two things, that he had exposure to PCBs at any level and a 3 history of liver disease, that the juries would rule that 4 the exposure caused the liver disease? 5 A No, sir, I'm not saying that at all. 6 Q What do you mean? 7 A Well, all I'm saying is if you talk to a jury 8 about .5 milligrams per cubic meter, 1.0 cubic meter, I 9 think the jury will make their mind up on, by using good 10 common sense. Here is the evidence in the case, and make 11 their decision there regardless of what the MACs may or may 12 not have been. 13 Q What did you think juries would pay attention 14 to if not the MACs? 15 A I'm not a lawyer. I don't know. 16 Q Why did you make that statement in the letter? 17 A Because I didn't believe they would pay much 18 attention to MACs. I think they would base their decision 19 on the entire amount of evidence submitted by the 20 defendants and the plaintiffs, the medical records in the 21 case. That's what I would think. That's why I made it. I 22 see -- I mean, I believe I'm oversimplifying when I said my 23 main worry is what would happen if an individual developed 24 liver disease. Our main worry was we wouldn't want a 25 fellow to get any liver disease.	Page 115 1 MR. CARNEY: Well, let me -- Why don't we cut 2 at this point so we don't get in the middle of an answer. 3 We've got less than a minute. 4 MR. McCREA: Break. 5 (Thereupon, a short recess was taken). 6 Q (By Mr. McCrea) Dr. Kelly, back on the 7 record. We're on page 58 of your September 20, 1955 letter 8 to Dr. J. W. Barrett. In the first sentence of the first 9 paragraph you state, "We, therefore, review every new 10 Aroclor used from this point of view." To what does point 11 of view refer? 12 A Well, it refers to the next two sentences. In 13 other words, if I had a colon there instead of a period, 14 the point of view is this: If it is an industrial 15 application where we could get air concentrations and have 16 some reasonable expectations that the air concentrations 17 will stay the same, we are much more liberal in the use of 18 Aroclor. 19 If, however, if it is distributed to householders 20 where it can be used in almost any shape or form and we are 21 never able to know how much of the concentration they are 22 exposed to, we are much more strict. That's the point of 23 view. 24 Q Have you sold Aroclor PCB for use in 25 households?
Page 114 1 Q Were you not worried that a jury would rule 2 that if a person has exposure to liver disease, there would 3 be a finding for that individual? 4 A I may have in 1955, but I certainly didn't by 5 1974 because there was no such jury verdict in the 39 years 6 since then. 7 Q But this was, as you say, you may have felt 8 that way in '55? 9 A I may have. 10 Q On the next page which is page two you state, 11 "We, therefore, review every new Aroclor used from this 12 point of view." Point of view refers to what? 13 MR. CARNEY: Let me just for the record, I 14 think we have less than a minute to go and I don't want to 15 get cut off in the middle of an answer. 16 A Yeah, but why don't we keep going a little bit so 17 we don't have to wait when we get over there? It's only 18 quarter after 12. We're going over to O'Connell's. I 19 think we need to keep going till quarter till one or 20 something like that. 21 MR. CARNEY: I agree, but this tape is about 22 to run out, and we'll decide on whether we break for lunch 23 or go to another tape. 24 Q (By Mr. McCrea) To what does point of view 25 refer?	Page 116 1 A No, sir, but this is England and I don't know 2 what they were going to do over in England. 3 Q You say, "We are much more strict." To whom 4 are you referring when you say we? 5 A Monsanto company. 6 Q Did you sell PCB to be used as a plasticizer 7 in silos? 8 A Not as a plasticizer. We had sold it as a 9 paint for silos. I don't know if that was sold by Monsanto 10 or by the distributors, but Monsanto PCBs were used as a 11 paint in silos. 12 Q Do you have any data on the air concentrations 13 to which individuals were exposed inside the silo where 14 that was used as a plasticizer? 15 A No, sir. 16 Q And did you market it after 1955 to be used as 17 a plasticizer in silos? 18 A Again it was used as an ingredient in the 19 paint sometime, but I do not know when it was. I don't 20 know if we actively marketed it or if it was marketed by a 21 distributor because it was used in a very few states, Ohio 22 and Michigan, I believe. It was not a widespread use 23 through the country. 24 Q Did you know after the 1955 and the date you 25 authored this letter that PCBs were used in a plasticizer

Page 117 1 formulation on the inside of silos? 2 A You mean after 1955? 3 Q Yes, sir. 4 A Yes, I did, certainly. 5 Q And did you also know that you had no data on 6 the concentration levels into those silos? 7 A Yes, sir. 8 Q And did you continue to market the product 9 notwithstanding the fact you had no data on the 10 concentration levels into the silos? 11 A They continued to be used, yes, sir. Now, I 12 don't know when you're saying marketing, I don't know if we 13 were actively marketing it, but it was used in silos. 14 Q In the last sentence you state, "No amount of 15 toxicity testing will obviate this last dilemma and 16 therefore, I do not believe any more testing would be 17 justified." Do you feel that it was a waste of money to 18 investigate whether there was, whether there were any 19 health effects that could be determined by any future 20 testing? 21 A I think it's never a waste of money to find 22 out what the toxic properties of a compound are. 23 Q When you made that statement, "No amount of 24 toxicity testing will obviate this late dilemma and 25 therefore, I do not believe any more testing would be	Page 119 1 would never know what the person was exposed to, so that 2 wouldn't enter into the discussion at all with the juries. 3 Q But if you did know the maximum allowable 4 concentration, your opinion was a jury wouldn't pay 5 attention to it? 6 MR. CARNEY: You're talking about if there 7 was, PCBs were sold to households for use in households? 8 MR. McCREA: No, in industrial or households. 9 MR. CARNEY: Yeah, but you're mixing apples 10 and oranges. He's saying that he doesn't think any more 11 testing should be made with regard to selling and 12 distributing PCB to householders, not the workplace. So 13 you're trying to twist these words and confuse the jury 14 here, Mr. McCrea. I don't know that -- I hope you're not 15 doing it intentionally, but you're certainly doing it, to 16 confuse householders with the workplace. 17 Q (By Mr. McCrea) Doctor -- 18 MR. CARNEY: And there wasn't even any 19 testimony by Dr. Kelly that PCBs were marketed in the 20 United States to be used in the household. 21 Q (By Mr. McCrea) Well, come to that later. 22 Dr. Kelly, you made the statement on page one, quote, "I am 23 sure the juries would not pay a great deal of attention to 24 maximum allowable concentrations" Were you referring to a 25 case where a person in industry would develop liver disease
Page 118 1 justified," did you believe it was a waste of money to do 2 any further testing to determine what health effects were 3 determined, were caused at what levels? 4 A No, I did not believe it was a waste of money, 5 but I saw no reason for doing it because we could not get 6 the other parts of the equation. We would never know how 7 much the man was going to be exposed to in these, if it 8 were distributed to householders and so -- 9 Q And if you did know, you felt the jury 10 wouldn't pay attention to it at any rate? 11 A No, I didn't say that at all. That's your 12 words. 13 Q You said, "I am sure the juries would not pay 14 a great deal of attention to MACs." 15 A That's correct, but that's not -- 16 Q Those were your words. 17 A Yes, but you want to repeat your words? 18 MR. McCREA: Please. 19 (Thereupon, the reporter propounded the previous 20 question.) 21 A What do you mean by pay attention to it? 22 Q (By Mr. McCrea) Maximum allowable 23 concentrations. 24 A Well, there certainly would be no maximum 25 allowable concentrations developed in household use. We	Page 120 1 with exposure to PCBs with a known maximum allowable 2 concentration? 3 A I was not referring to any case at all because 4 a case hadn't occurred. If that -- if I was referring to a 5 hypothetical case, that's something else. I was certainly 6 not referring to any actual case. 7 MR. McCREA: Would the court reporter please 8 reread the question? 9 (Thereupon, the reporter propounded the previous 10 question.) 11 A My answer was, was I referring to a case. 12 That's what you asked. There was no such case, so I 13 obviously wasn't referring to one, to any specific case. 14 Now, if you are referring to a hypothetical case, let's 15 phrase it that way to me. 16 Q (By Mr. McCrea) When you stated on page one, 17 quote, "I am sure the juries would not pay a great deal of 18 attention to MACs," maximum allowable concentrations, were 19 you referring to a potential situation where a worker 20 developed liver disease in an industrial setting with a 21 known maximum allowable concentration? 22 A Yes, would develop liver disease that could be 23 from any of the four or five conditions that I mentioned. 24 Serum hepatitis, alcohol hepatitis, other compounds he 25 was working with to give him a chemical hepatitis,

Page 121 1 infectious hepatitis, liver tumors. Yes, I was referring 2 to that. 3 Q And was it your opinion that the data already 4 gathered by Monsanto was more than enough to convince 5 unbiased people on a jury of the connection between PCBs 6 and systemic damage without reference to maximum allowable 7 concentrations? 8 MR. CARNEY: I'm going to object to that. 9 That question is so vague and convoluted and unintelligible 10 that I certainly don't understand what you're asking. 11 You're reading a question out of some letter that you got, 12 probably from your co-counsel I would suspect, and I would 13 say it's the most unintelligible question I've heard in 14 this deposition, and that's saying something. 15 MR. McCREA: Would the court reporter please 16 reread the question? 17 (Thereupon, the reporter propounded the pending 18 question.) 19 A Well, it's English, but I still have trouble 20 analyzing the question. 21 MR. CARNEY: It's a when did you stop beating 22 your wife question, Doctor, is what it is. 23 A Well, as I said earlier, I believe a jury will 24 take all the evidence into account. If there were levels 25 shown that were under the maximum allowable concentration,	Page 123 1 MR. McCREA: I would ask the Court to strike 2 the comments of Mr. Carney as being totally irrelevant to 3 the objection and furthermore, purposely interjecting 4 inflammatory comments to the jury which he knows have no 5 relationship whatsoever to the question. Now, would you 6 please read the question back? 7 MR. CARNEY: I would just caution you, Doctor, 8 if you don't understand the question, just say so. 9 (Thereupon, the reporter propounded the pending 10 question.) 11 A I would have to say I don't know whether they 12 would or not. I'm not an expert on how juries decide 13 cases. 14 Q (By Mr. McCrea) In the sentence preceding 15 that you refer to your main worry. You say, "It does not 16 make too much difference, it seems to me, because our main 17 worry is what will happen if an individual develops any 18 type of liver disease and gives a history of Aroclor 19 exposure." By worry, what do you refer to? 20 A I refer to that if you have a product that is 21 a, that is capable in some overexposures of causing a 22 particular condition and there are numerous other 23 conditions entirely unrelated to occupation that cause the 24 same conditions, there is always the possibility that jury 25 may believe that this condition is due to his work
Page 122 1 that's fine, but I'm sure opposing counsel would say, 2 "Well, you didn't take this every hour, every day that this 3 man worked, so conceivably he's worked at higher levels. 4 Isn't that true," and I would have to say yes. So I think 5 the jury takes into account what the evidence is of his 6 exposure, of his medical condition and make their judgment 7 on that. 8 Q (By Mr. McCrea) Are you stating in this 9 letter that Monsanto could present definitive information 10 as to the maximum allowable concentrations and if the 11 plaintiff had liver disease and could establish exposure, 12 that the jury would not pay attention to Monsanto's proof 13 of maximum allowable concentrations? 14 MR. CARNEY: I'm going to object to that. 15 It's compound. It's more -- I couldn't believe it, but I 16 think this question is more unintelligible than the last 17 one. The memo doesn't say those words. I don't see them 18 in there at all. You're twisting and contorting and 19 harassing this ones for four days. I think this is 20 unconscionable, and I think the jury will pay attention to 21 that conduct, not MACs. I think they're going to want to 22 know about the evidence and what you have, what proof you 23 have that there's any connection between your plaintiffs 24 health problems and PCBs, and so far you haven't touched on 25 that at all.	Page 124 1 involvement rather than to a nonoccupational cause if he 2 has the illness. If he doesn't have the illness, obviously 3 the jury will not believe it at all. 4 Q Dr. Kelly, when you say our, did other people 5 have the same worry as you stated in this letter at 6 Monsanto Company on the date of September 20, 1955? 7 A I think everybody in industrial medicine has 8 this worry with all sorts of compounds. That's why there's 9 so many cases in litigation, because they may have no 10 foundation, but there's a temporal relationship between 11 work and the condition they have. 12 Q Did you continue to market PCBs for use in 13 nonindustrial applications before you authored this letter? 14 A You mean did I personally myself? 15 Q Monsanto. 16 A Did Monsanto? I don't know. You're talking 17 about Monsanto in England, Monsanto, U.S.A.? 18 Q U.S.A. 19 A Well, I don't know if they marketed it in 20 non-industrial applications before with the exception of 21 paint, and I don't know whether that use was marketed by 22 Monsanto or was just developed, a paint company calling up 23 a distributor and buying the PCBs. I don't know, so the 24 answer is I don't know. 25 Q After this date, did Monsanto continue to

Page 125 1 market PCBs for non-industrial uses despite the fact that 2 you knew and you and Monsanto knew no maximum allowable 3 concentrations could be obtained? 4 A Well, we do you -- The answer is if we marketed 5 it, if they were marketed, yes, but we knew the maximum 6 allowable concentrations were obtained by heating the 7 material, and we knew that paint is not put on when it's 8 hot. So I don't believe there was any necessity for 9 looking for a maximum allowable concentration on paint. 10 The problem with paint has not been on the workers. It's 11 been on the stuff flaking off and getting into the silos, 12 the silage. 13 Q Have you ever tested for the maximum allowable 14 concentrations of PCBs into a silo? 15 A No, sir, I have not. 16 MR. CARNEY: For the record, I don't know how 17 many workers are inside of silos. 18 MR. McCREA: How about farmers, Mr. Carney? 19 MR. CARNEY: That's what I'm saying. I don't 20 know. 21 MR. McCREA: Do they count? 22 MR. CARNEY: Everybody counts. 23 A I farmer doesn't climb into a silo. He 24 unloads the stuff on the bottom. The paint it put on when 25 the silo is empty.	Page 127 1 thought you might get some questions on this document," and 2 I was very correct. You've gotten -- This stack of Exhibit 3 Six is a one inch stack of documents and you're on page 58. 4 We've got 261 questions, so I assume I was correct. We've 5 already had lots of questions on the first 58 pages. 6 Q (By Mr. McCrea) Dr. Kelly, how much time did 7 you spend reviewing this document before your testimony 8 here today? 9 A This one here. 10 Q Yes, sir? 11 A A minute. 12 Q And you can't tell us what you meant when you 13 wrote, "We're are much more strict"? 14 MR. CARNEY: He's always answered that, Mr. 15 McCrea. Let me object. I am really getting irritated at 16 you. I've been restraining myself, but we are now in your 17 fifth day. I was not correct. We're in the fifth day. We 18 started on the 31st of May. You started your cross. You 19 went through on June 1, on June 12, on June 13 and now June 20 15, 1990, and it's after noon, so we're half a day here so, 21 and you're still, and you're asking these repetitive 22 questions and that's why this deposition is being drug out 23 for some reason. I don't know, but, you know, at some 24 point why don't you ask an intelligent question that isn't 25 repetitive so we can get through with this thing. I don't
Page 126 1 Q (By Mr. McCrea) What about the people that 2 put it on? Did you test for the maximum allowable 3 concentrations during that process? 4 A When they put it on, it's at the ambient 5 temperature and the stuff does not volatilize at the 6 temperatures that exist on a farm. 7 Q You state in the third sentence on page 58, 8 "If, however, it," meaning PCB, "is distributed to 9 householders where it can be used in almost any shape and 10 form and we are never able to know how much of the 11 concentration they are exposed to, we are much more 12 strict." In what way were you much more strict? 13 A I don't know how we were there, but maybe we 14 didn't allow it in some uses. I don't know. I don't know 15 what I meant by that in 1955. 16 Q Now, your attorney has stated that this was 17 written in 1955. Isn't it a fact that you've reviewed this 18 document with your counsel before testifying here today? 19 A I don't think so. He gave it to me, said, 20 "Look this over," but I didn't review it with him. 21 Q So you did look the document over before 22 testifying? 23 A Well, I've seen it before. 24 MR. CARNEY: You gave it to -- You gave the 25 documents to me and I handed them to him and said, "I	Page 128 1 know how many more days you're going to go, even though 2 you've promised two and a half days ago that it would be 3 one day only. 4 MR. McCREA: What's your objection to the 5 question? 6 MR. CARNEY: Repetitive. 7 MR. McCREA: My objection, and I will note to 8 the Court we don't have an answer. Dr. Kelly who is a 9 medical director from 1936 to 1974 and authored this letter 10 stated, "We are much more strict." I presume that he knew 11 then what he meant. I presume that with his testimony in 12 all of these cases and his preparation for this deposition 13 that he could define for the jury what he meant. 14 MR. CARNEY: And he's answered that he doesn't 15 recall, and I'm sorry, Mr. McCrea, but I don't fault this 16 man that he can't recall what he meant by a couple of words 17 that we wrote 35 years ago. I dare say that you can't 18 recall what you were doing 35 years ago. 19 MR. McCREA: Would you like to show me a 20 letter and see if I recall what it means? 21 MR. CARNEY: Mr. McCrea, you've got an answer 22 to your question and you're now badgering this witness 23 who's been sitting here, very patiently I might add, and 24 you're into the fifth day and you're asking him if, and he 25 said he can't recall what he meant by a word 35 years ago.

Page 129 1 Q (By Mr. McCrea) Dr. Kelly, would there be any 2 way for you to refresh your memory? 3 A No, sir. 4 Q As to what you meant by that statement? 5 A No, sir. 6 Q And by dilemma, what are you referring? 7 A The dilemma is the material may be used in a 8 situation where we don't know how it's being used. It's 9 not being used by a sophisticated organization like GE or 10 Westinghouse. It's being used by a mom and pop shop 11 someplace in England or it may be used in the household. I 12 don't know. Remember, this man is a research man. He's 13 not a marketing man. He was talking about potential 14 applications. 15 Q Recognizing that you did not know and had no 16 way of knowing what the concentrations were and knowing 17 that PCBs were toxic as you admit, what warnings did you 18 distribute to the household users? 19 A I don't know if there were ever any household 20 users. That's what I said. There's a big if, "If, 21 however, it's distributed to householders." I don't know 22 if householders ever used it. I never saw it. 23 Q Did you -- 24 A On a grocery store shelf. 25 Q You said, "We are much more strict." Does	Page 131 1 Q What warnings did you give for its use as a 2 plasticizer? 3 A We used the warnings do not use at an elevated 4 temperature, to not breathe the fumes at elevated 5 temperatures, do not -- and avoid repeated or prolonged 6 skin contact. 7 Q Did you discuss this letter with the attorney 8 from Monsanto? 9 MR. CARNEY: You just asked that about five 10 minutes ago. 11 A In answer is no. 12 MR. CARNEY: I think the answer is the same 13 this time as it was five or six minutes ago. 14 Q (By Mr. McCrea) The last sentence states 15 "Let's see what our discussions with Dr. Newman and 16 yourself bring out." What information did you those 17 discussions produce? 18 A I don't recall what they were. They certainly 19 weren't very earthshaking because it doesn't stand out in 20 my mind what it brought out. I don't know. 21 Q Dr. Kelly, you initially stated that Aroclor 22 stood for products containing benzene and terphenyls? 23 A No, I did not. There's no benzene in 24 Aroclor. 25 Q All right. I misunderstood your answer.
Page 130 1 that suggest you did distribute it to householders? 2 A No, it does not. It might be that somebody 3 wrote up and said we're thinking about using this for X 4 purpose. 5 Q You state, "If, however, it is distributed to 6 householders where it can be used in almost any shape and 7 form and we are never able to know how much of the 8 concentration they are exposed to, we are," present tense, 9 "much more strict." 10 A Well, yes. Suppose somebody writes into me in 11 1955 and said, "We are going to use this on an over the 12 shelf counter that you -- We're going to use it to clean 13 bath tubs with or something like that." We're going to 14 say, "We don't approve. We don't recommend that use at 15 all." 16 Q You're saying that you had no evidence on the 17 date you authored this letter that any householder ever got 18 your product with PCB in it? 19 A In the United States I know of no householder 20 that ever got a product of, certainly at this state, yes, 21 sir. The answer is I don't know. 22 Q But in the future you do know that it was 23 distributed at least for coatings in silos? 24 A That's correct. That's not quite the 25 household use.	Page 132 1 Could you explain to us why you recommended in the last 2 sentence, "I do not believe any more testing would be 3 justified"? 4 MR. CARNEY: I'm going to object to that. 5 We've been covering this sentence and this letter for well 6 over an hour. It's getting very repetitive. 7 A Well, yes, I'll say why I did it. We had 8 enough information from toxicity testing to show that we 9 knew what the safe levels were and the worker could work 10 with eight hours a day for the rest of this life. 11 Q (By Mr. McCrea) And you knew that it would 12 not obviate the one dilemma where you don't know the 13 maximum allowable concentrations? 14 A I don't know how it was used. If you give 15 this out to -- Of it was going to be used in the household 16 which people might be smearing all over them, which people 17 might have under the sink where the children could drink 18 it, there are a lot of reasons outside of the MACs that I 19 would be concerned about. The household product is 20 different than an industrial product. 21 Q And you would warn as to those consequences? 22 A I would warn -- 23 MR. CARNEY: If it was being sold as a 24 household product so that the children might drink it? 25 A I would put on it in addition to do not

Page 133 1 breathe at elevated temperatures or do not breathe in 2 confined spaces, do not get an your skin, avoid 3 contaminated clothing. I would put on do not take 4 internally, but I think in the industrial environment you 5 really don't have to write that down because workers are 6 not going to be drinking industrial chemicals. 7 Q (By Mr. McCrea) Would you warn that it's a 8 systemic poison? 9 A I would tell them what they shouldn't do. If 10 I were selling gasoline I would say, "Don't have matches 11 around here." I wouldn't say, "Do not have matches around. 12 This is going to blow up thin your face." You don't have to 13 put the results down. You just tell them what not to do. 14 Q Would you explain to them that if it gets on 15 their skin it can go into their body? 16 A Well, I'm telling them not to put it on their 17 skin. 18 Q Doctor, turn to page 59. 19 THE WITNESS: Why don't we break for lunch at 20 this time now before we start another one. It's 1:00. 21 MR. McCREA: That would be fine. 22 (Thereupon, a lunch recess was taken.) 23 Q (By Mr. McCrea) Dr. Kelly, for the record, 24 we're in the middle of a tape. 25 A Yes, sir.	Page 135 1 Q In a letter to Westinghouse Electric 2 Corporation? 3 A Yes, sir. 4 Q "In one case, an Aroclor was being used as a 5 heat transfer medium in a system that allowed vapors to 6 escape when the material was heated to 600 degrees 7 Fahrenheit." Is that correct? Is that F for Fahrenheit? 8 A Yes, sir. 9 Q Are you familiar with that case? 10 A Yes. That's that case in Indiana that I 11 talked about several times during this deposition. 12 Q As you identify for us where in Indiana and 13 what company? 14 A No, I can't because it was a pretty small 15 company. It was in something. It was a rather obscure 16 medical journal. Not obscure, but one that wasn't widely 17 circulated like the Journal of the Indiana State Medical 18 Society or something like that. 19 Q All right, sir. 20 A But that's the one I called Doctor Spoiler about 21 who is either head of industrial hygiene or health 22 department or something in Indiana. 23 Q All right, sir. Then the next sentence, 24 "Several workmen developed quote, 'black heads', quote, 25 which were found by an industrial physician, but which in
Page 134 1 Q And continuing on here after a lunch break. 2 Can you turn to page 59 Plaintiff's Exhibit Six? 3 A Yes, sir. 4 Q Did you recognize the exhibit? 5 A Yes, sir. This exhibit consists of pages 59, 6 60 and 61. 7 Q Have you seen this particular document before 8 the deposition today? 9 A Yes, I have. 10 Q I'll refer you to the bottom of page 59 11 beginning with the third paragraph of -- strike that -- the 12 third sentence of the last paragraph, the word "Secondly." 13 A Yes, sir. 14 Q Do you see that? 15 A Yes, sir. 16 Q And that paragraph states, "Secondly, it is 17 possible that prolonged or repeated skin contact would lead 18 to chloracne." I assume you agree with that? 19 A Yes, I do. 20 Q "I know of only two cases where such 21 experience has developed during the long history of 22 production and use of Aroclors," and this is the author 23 speaking who is Elmer P. Wheeler, assistant director of 24 medical department; correct? 25 A Yes, sir.	Page 136 1 his words were so insignificant that the men were not aware 2 of them nor would a general practitioner notice them." 3 A Oh, well, I'm sorry. The case I referred to 4 Elmer Wheeler didn't mention here because they didn't have 5 chloracne. They developed a chemical hepatitis. This is a 6 case that he refers to in New English someplace that was 7 written up by a Dr. Maigs, M-a-i-g-s, at Yale University. 8 That's the one. It was a heat transfer unit, also. 9 Q All right. 10 A The case I refer to in Indiana was a chemical 11 hepatitis. It was not chloracne. 12 Q Okay. Is this last sentence descriptive of 13 chloracne? 14 A You mean "several workmen developed 15 blackheads"? 16 Q Right. 17 A Well, it's very mild chloracne, but it can run 18 a whole gamut of severity. It could get quite severe 19 chloracne. 20 Q He goes on to state, "This indicates to me, 21 however, that sufficient exposure, whether by inhalation or 22 vapors or skin contact, can result in chloracne which I 23 thing we must assume could be an indication of more serious 24 systemic injury if the exposure was allowed to continue." 25 Dr. Kelly, did you ever get any more specific data on the

Page 137 1 extent of the blackheads described by Doctor or by Elmer P. 2 Wheeler in this letter? 3 A First of all, he's not a doctor. He is, I 4 believe, a Master's degree. He's an industrial director of 5 industrial hygiene. Well, I called Maigs about this, the 6 doctor that took care of it, and after the article 7 appeared, and it wasn't very severe frankly. In fact, I 8 think he said one or two of them didn't know they had it 9 until they were called in. All the workers were called in 10 and the doctor examined them, said, "Hey, I think we've got 11 chloracne." 12 Q Would you agree that with this case of 13 chloracne a general practitioner would not necessarily be 14 expected to identify it as he states? 15 MR. CARNEY: Well, I'm going to object. I 16 think it would call on this witness to speculate about some 17 unknown general practitioner, what he might or might not 18 find with regard to a mild case of chloracne which referred 19 to in this letter which I think was a reference to a Maigs 20 article. 21 A I think it all depends on the interest of the 22 general practitioner. He certainly can diagnose acne. 23 He's seen acne in a lot of cases, and if this were a 24 peculiar type of acne, he might very well decide to look up 25 the literature and come out with an answer.	Page 139 1 MR. McCREA: Okay. What, Doctor, would you 2 describe as the mildest case of chloracne that could be 3 caused by exposure to PCB? 4 A Well, it started as half a dozen blackheads 5 over the cheekbones. 6 Q Could it consistent of one blackhead? 7 A I would doubt very much if it consists of one. 8 I don't know how you could tell a blackhead there from a 9 hickey. No, I don't think so. I think you have to – You 10 diagnose chloracne on the extent of it. Just if there's 11 one blackhead, that's not chloracne. You look at 12 pigmentation. You look at several things. 13 Q Could chloracne consistent of blackheads only? 14 A Blackheads only? 15 Q Yes, sir. 16 A It's possible. 17 Q Is that a permanent condition? 18 A No, sir. It depends again. Now, how 19 permanent is permanent? For the rest of its life? 20 Q Yes, sir. 21 A No, I don't think. It might. I think 22 sometimes they do. If they turn into cysts, if they get 23 infected cysts, they have scars which last the rest of 24 their life. If the blackheads are expressed and they were 25 removed in exposure, it isn't permanent.
Page 138 1 Q (By Mr. McCrea) Does this suggest that an 2 individual could have chloracne as a result of exposure to 3 PCBs and that that condition could easily go undiagnosed by 4 his general practitioner? 5 MR. CARNEY: I'm going to object. Your covered 6 these questions several days ago at length. There was 7 about a half hour's worth of questions about that, and now 8 you're coving it repetitiously again, so it's 9 repetitious. 10 A Well, somebody diagnosed those cases because 11 that's how Maigs got the word around. So it wasn't Maigs 12 that diagnosed them. It must have been a general 13 practitioner up there in Connecticut someplace. 14 Q (By Mr. McCrea) Didn't it say an industrial 15 physician? 16 A I don't know. Did it? I don't – 17 MR. CARNEY: I'm going to object. You're 18 asking him to -- The Maigs article would be the best 19 evidence of what it says, and this is just a brief summary 20 of what was in that Maigs article. 21 A I think they refer to Maigs at that time, but 22 Maigs didn't go out at the plant to look at them. I think 23 somebody saw these people in chloracne and decided to 24 call in the industrial medical department of the state of 25 Connecticut.	Page 140 1 Q Do you agree with the statement that this 2 condition of blackheads could be an indication of more 3 serious systemic injury if the exposure were allowed to 4 continue? 5 A Well, yes, if the exposure were allowed to 6 continue, yes, but if the exposure were allowed to 7 continue, then exposure were severe, you'd have more than 8 blackheads. You'd have – you might have widespread 9 chloracne. You wouldn't get systemic injury if you just 10 had a few blackheads. 11 Q Isn't it a sign of systemic injury that you 12 have blackheads? 13 A You wouldn't get any other systemic injury. 14 Yes, I believe the blackheads are a systemic reaction to 15 the chloracne, to the PCBs. It's not a local skin contact, 16 but you would not, it would not necessarily mean that he 17 had any other systemic effects rather than that limited 18 amount of chloracne. 19 Q Doctor, can you turn to page 64? 20 A Yes, sir. 21 Q Do you know why this document was 22 confidential? 23 MR. CARNEY: Let me object. I don't think 24 you've established any foundation that the doctor saw this 25 document during the time he was employed by Monsanto.

Page 141 1 Q (By Mr. McCrea) Dr. Kelly, did you review 2 this document or read this document while you were medical 3 director at Monsanto Company? 4 A Not that I remember. I wouldn't have the 5 slightest idea why it's marked confidential. 6 Q You recognize this as a Monsanto Company 7 document? 8 A Well, I can't tell. The name is on there, 9 but I don't know whether that's a Monsanto document or not. 10 Q Do you recognize the names of the preparers 11 of the document, J. W. Molloy and R. G. Moody? 12 A No, sir, I do not. 13 Q It has a date of July 1964; correct? 14 A Correct, on — 15 MR. CARNEY: You read it on the document. 16 A On the document it's correct, yes. 17 MR. McCREA: Yes. 18 A Yes, that's correct. 19 Q (By Mr. McCrea) Can you turn to page 70? Can 20 you explain to the jury the difference — strike that. On 21 page 70 under the heading "Safety and Housekeeping" there 22 is a subparagraph six and then a list of chemical 23 compounds. Is that correct? 24 A Yes, sir. 25 Q Do you see B?	Page 143 1 wrote I do not believe was written by any medical 2 authority. 3 Q Will you turn to page 78, please? 4 A 78? 5 Q Yes, sir. 6 A Yes, sir. 7 Q Are you familiar with the corporate 8 development committee as it existed at Monsanto Company on 9 April 22, 1968? 10 A Yes, sir. 11 Q Can you tell us what the positions were of the 12 gentlemen listed on page 78? 13 A Well, Charlie Sommer was chairman of the 14 board. I don't know if Ed Bock was the president at that 15 time or whether he was executive vice president. Christian 16 was a vice president. Gillis was a vice president. 17 Mueller was a vice president. O'Neal was a vice president. 18 He was later chairman of the board. Throdahl was a vice 19 president, and Flitcraft was a secretary. 20 Q On page 79 there is a reference or an excerpt 21 from the minutes at the bottom. Do you see that? 22 A Yes, but I'll have to assume that this is an 23 excerpt from the minutes. I mean, I don't know of my own 24 knowledge that this is an excerpt from the minutes. 25 MR. CARNEY: I don't think there has been any
Page 142 1 A B? 2 Q B. 3 A Yes. 4 Q Which says "Byphenyl"? 5 A Yes, sir. 6 Q Is that a PCB without the chlorine? 7 A Well, you cannot have a PCB unless you have a 8 chlorine. This is a biphenyl. So PCB is chlorinated 9 biphenyl. 10 Q What are the chemical elements in a biphenyl? 11 A Carbon and hydrogen. 12 Q Do you have an opinion as to the toxicity of 13 the biphenyl compared to polychlorinated byphenyl. 14 A Yes, I think it's less toxic. 15 Q Do you agree with the last sentence in the 16 right-hand column under biphenyl which states, "Inhalation 17 of biphenyl fumes is not recommended since it can cause a 18 drugged effect on the person"? 19 A Well, I don't know why that last sentence is 20 in there. I would say, "Inhalation of biphenyl fumes or 21 any other fumes is not recommended," period. 22 Q Do you know what it meant by drug effect? 23 A No, I don't know, but something like gasoline, 24 I suppose. If you inhale gasoline fumes you get a jag. I 25 imagine what this is, what they call it. What this man	Page 144 1 foundation that Dr. Kelly was oon he corporate development 2 committee, and I don't think there's been any foundation 3 and I doubt that he was in attendance at the April 22, 1968 4 meeting, and it doesn't at least show that he was in 5 attendance, so I don't know what purpose reading some 6 minutes that haven't been authenticated is to Dr. Kelly. 7 It might be more appropriate if you ask questions of the 8 people who were at the meeting. 9 Q (By Mr. McCrea) Dr. Kelly, in 1968 were you 10 familiar with the marketing projections of Monsanto for 11 PCBs? 12 A No, sir, I was not. 13 Q Would you turn to page 80? 14 A Yes, sir. 15 Q Can you identify the document on page 80 with 16 a date of March 3, 1969? 17 A Yes, that is a document written by Elmer P. 18 Wheeler or somebody. I don't know whether it was a 19 publication or in-house use or out-house use, extra house 20 use. Sorry. On second thought, it must have been sent 21 outside. Whether it went outside to customers or to whom, 22 I don't know, or to other people in the industry, I don't 23 know. 24 Q All right, sir. The date of this document is 25 what?

Page 145 1 A March the 3rd, 1969. 2 Q Will you address your attention to the fifth 3 paragraph on page 81. 4 MR. CARNEY: Which was page two of the 5 document? 6 MR. McCREA: Correct. 7 A The fifth paragraph, yes, sir. 8 Q (By Mr. McCrea) It start PCBs are. 9 Paragraph states, "PCBs are used in several quote, 'plastic 10 type', quote, applications. Here the chemical is 11 incorporated into the polymer as an integral part of the 12 solid material. This applies whether the polymer is used 13 as an adhesive, an elastomer or surface coating." Is that 14 an accurate statement? 15 A Yes, sir. 16 Q Do you know for what period of time PCBs had 17 been used in plastic type applications by Monsanto? 18 A No, sir, I don't. I know when they were 19 stopped. I think they were stopped around 1970. 20 Q Will you turn to page 83? 21 A 83? 22 Q Yes, sir. 23 A Yes, sir. 24 Q The date of that document is what? 25 A April the 14th, 1969.	Page 147 1 Q And this again is the corporate development 2 committee? 3 A Yes, sir. 4 Q Can you identify the people on that document? 5 A Yes, sir. Ed Bock, I think he was the 6 president of the company. He was chairman of the corporate 7 development committee. Bible was a vice president. Gillis 8 was a vice president in charge of sales. Putzell was the 9 secretary of the company and general counsel. Charlie 10 Sommer was the chairman of the board of the company. 11 Throdahl was vice president in charge of research, I 12 believe. John Ehlets was a lawyer who was a secretary of 13 the committee. 14 MR. CARNEY: When you're asking him to 15 identify the document, are you saying the, can he identify 16 this as the minutes that were taken on the 28th? 17 MR. McCREA: No, I'm asking him to identify 18 these people. 19 MR. CARNEY: Okay. And identify the document, 20 you weren't asking him to identify that these, in fact, are 21 the minutes, are you. 22 MR. McCREA: No. 23 MR. CARNEY: I didn't think you were. 24 Q (By Mr. McCrea) Have you seen this document 25 before today?
Page 146 1 Q Do you recognize it? 2 A Yes, I recognize it. 3 Q Do you know what it meant by the second 4 sentence in the second paragraph, "We can't really satisfy 5 pollution people with this explanation"? Do you know? 6 A I would -- again this is a surmise. It looks 7 like they were getting the Aroclor back and putting it into 8 operations that they thought were not, were not likely to 9 leak into the environment, and they also said the pollution 10 people may think this is probably not correct. It may leak 11 into the environment. 12 Q Can you turn to page 85? 13 A 85? 14 Q Yes, sir. 15 A Yes, sir. 16 Q Well, first can you go back and identify the 17 people at the top of page 83, Olson, Bryant, Kountz, Kuhn 18 and Johnson? Do you see that, sir? 19 A Yes. Don Olsen was, I thought, in marketing. 20 I don't remember any of the other names. 21 Q Now, can you turn to page 85? 22 A Yes, sir. 23 Q The date of this document is April 28, 1969. 24 Is that correct? 25 A Yes, sir, yes, sir.	Page 148 1 A I think I saw it yesterday. 2 Q All right. Are you familiar or is -- On page 3 86, Dr. Kelly. 4 A Yes, sir. 5 Q It states, "Organic Division Appropriation 6 Request Number CEA-2080 for \$1,100,000 for solid Aroclor 7 expansion - Anniston." Can you tell us what is meant by 8 solid Aroclor expansion? 9 MR. CARNEY: I'll going to object here. I 10 don't think there's any testimony that the witness was at 11 this meeting, and so this might call for him to speculate 12 as to whoever took these minutes, what they meant by 13 putting some words down that probably were a very brief 14 summation of what was said. 15 A Well, some Aroclors are solid, and that's what 16 solid means, solid like a piece of ice or a lump of coal. 17 Expansion means they were going, presumably they were going 18 to expand the production facilities of Anniston for this 19 solid Aroclor. 20 Q (By Mr. McCrea) Do you know in what products 21 they were used? 22 A They were not used electrically, in 23 electrical. I don't know. 24 Q Turn to page 87. 25 A Yes, sir.

Page 149 1 Q At the bottom of the page it states, 2 "Monsanto's worldwide Aroclor business amounts to 104 m 3 pounds a year." Is that -- what it that? 4 A Million. 5 Q And the says, "70 m." Is that 70 million 6 pounds? 7 A That's correct. 8 Q "Used in the functional fluids." Is that like 9 capacitors and transformers? 10 A Capacitors, transformers, heat transfer units, 11 hydraulic fluids. 12 Q All right. And "34 million pounds in the 13 plasticizers." Can you give us examples of plasticizers? 14 A Well, waxes and lubricants. I think they were 15 putting some of it in vinyl sheeting. I'm not sure. They 16 were using it in carbonless carbon paper as a plasticizer. 17 Q How much of that went to non-industry people? 18 MR. CARNEY: I'm going to object. I'm not 19 sure that this witness -- 20 A Non-industry? You mean like who by 21 non-industry? 22 MR. McCREA: Consumers that would use the 23 product outside of an industry setting. 24 MR. CARNEY: You mean in the home? 25 MR. McCREA: Correct.	Page 151 1 as to whether Aroclors escape from end products, either 2 through leaching or by dispersal in burning." Would you 3 agree with that statement as being accurate? 4 A Yes, sir. 5 MR. CARNEY: We've got less than two minutes. 6 Q (By Mr. McCrea) Can you turn to page 89? 7 There a list of paragraphs there one, two, three through 8 12. Do you see those? 9 A Yes, sir. 10 Q And were you familiar with this plan of action 11 as described on page 88 and then itemized on 89? 12 A Yes. Let's read the recommended plan of 13 action that's on page 88. This is to establish the 14 tailored program for each business group and each customer 15 market situation to assure that the loss of PCBs in the 16 environment, if any, is minimal. That's our plan of action 17 there. Then one to 12. 18 MR. CARNEY: We're off the tape. We'll have 19 to continue. 20 (Thereupon, a short recess was taken.) 21 Q (By Mr. McCrea) Dr. Kelly, directing your 22 attention to page 89, do you see paragraph six and seven or 23 itemization six and seven? 24 A Yes, sir. 25 Q Were these part of the plan of action as you
Page 150 1 MR. CARNEY: I don't know that this witness -- 2 Well, if he can answer it. 3 A I don't know. I think the only one that you 4 can possibly use was the carbonless carbon paper. 5 Q (By Mr. McCrea) Can you turn to page 88? 6 A Yes, sir. 7 Q At the bottom of the document it states, "Plan 8 of Action - H. S. Bergen and J. E. Springgate." 9 A Yes, sir. 10 Q Who is Mr. Bergen? 11 A Well, he and Springgate were the top people in 12 the department that were the product managers for PCBs. 13 That meant they were in charge of production, marketing, 14 research. 15 Q On the date of November 17, 1969 the statement 16 is made in the "Plan of Action, "The availability of 17 alternate products to satisfy customer requirements was 18 reviewed. Main problems are that no replacement product is 19 available for capacitors and replacement products for other 20 uses pose a pollution problem." Is that an accurate 21 statement as of November 17, 1969? 22 A Yes, sir, it is. Pollution means pollution to 23 the environment. 24 Q And is it -- All right. And then the next 25 paragraph, "In plasticizer uses, evidence is not available	Page 152 1 knew it? 2 A Yes. Let me read the plan of action. 3 Q Yes, sir. 4 A This is from the corporate development 5 committee meeting of November the 17th, '69 at which I was 6 present. That's on page 87. It shows me as being present, 7 and the recommended plan of action is to establish a 8 tailored program for each business group and each customer 9 market situation to assure that the loss of PCBs in the 10 environment, if any, is minimal. Now we go to page 89. Do 11 you say six and seven? 12 Q Yes, sir. 13 A Yes, sir. Any questions? 14 Q Yes. At this meeting in which you were 15 present, number six and on the agenda states, "Introduce to 16 market replacement products for Aroclor 1254/1260." What 17 replacement products were considered on that date? 18 A I think they were all gleams in the eye. I 19 don't think they had any. They were potential products in 20 the research group. I don't believe they had any ready to 21 go in market. 22 Q Were they chlorinated hydrocarbons or were 23 they non-chlorinated hydrocarbons? 24 A They may have been either one, but I don't 25 know because it said develop them, and I don't know when

Page 153 1 they're going to develop. I was not -- That wasn't part of 2 my responsibility. That was the research department's 3 responsibility. They were supposed to develop, introduce 4 to market replacement products, but also, I believe they 5 had to develop them. 6 Q Number seven status, "Continue and expand 7 biodegradation test program with Aroclor series, 8 particularly 1242, 1248 and 1254." Can you describe that 9 for us? 10 A You mean describe what the test program was? 11 Q Right. 12 A No, sir, but I'll tell you what it was. They 13 were testing how you get Aroclors that are in the 14 environment to biodegrade faster. 15 Q What was the thinking at that time as to how 16 that should, could be done? 17 A I can't answer that. 18 Q Was there any plan under the plan of action to 19 replace Aroclor 1242 with a non-chlorinated hydrocarbon? 20 A I don't know, but if you see in channel 21 number ten they were going to talk about seeing if they 22 could eliminate two of the carbon atoms from Aroclor 1242 23 and 1248. 24 Q Do you know if on this date there was any plan 25 to replace Aroclor 1242 with a non-chlorinated product?	Page 155 1 it our effluent stream. 2 Q But Monsanto assumed that responsibility? 3 A To educate the customers. I mean, there are 4 two responsibilities there. One is to stop it and the 5 other is to tell the people the need to reduce it, and so 6 Monsanto certainly educated the customers on the need to 7 reduce and effectively control PCB effluents in their 8 plants. 9 Q In items one through 12, were human health 10 effects a consideration? 11 A I would say -- 12 MR. CARNEY: I'm sorry. Which items? 13 A On number eight it was when we said continue 14 the toxicological test program because we did not know what 15 the feasibility, what the long term effects of small 16 amounts of PCB, if taken or when taken in the food, might 17 be. 18 Q (By Mr. McCrea) Did you tell people to whom 19 you sold PCBs that you did not know the long term effects? 20 MR. CARNEY: Well, let me object to it. The 21 question is vague unless you explain what you mean by long 22 term effects. Long term effects in rats, in rabbits, in 23 birds? I'm not sure what you're talking about there. 24 Q (By Mr. McCrea) You may answer if you recall the 25 question.
Page 154 1 A I think they would be happy to do it if they 2 had one that worked that had inflammability and it was a 3 good dielectric. 4 Q Number three, it states, "Reduce and 5 effectively control PCB effluents from Monsanto plants." 6 Why was that part of the plan of action? 7 A Well, we couldn't very well talk to our 8 customers and say, "Don't let the PCBs go into the 9 environment," if we were doing it ourself. 10 Q Was an effort made to reduce and effectively 11 control PCB effluents from Monsanto plants? 12 A Oh, yes, a very successful one. 13 Q Did you feel that was necessary to protect the 14 environment? 15 A Yes. 16 Q Number four, "Educate customers on need to 17 reduce and effectively control PCB effluents at their 18 plants." What was format of the education program? 19 A I don't know. That was not part of the 20 medical department's responsibility. 21 Q Did Monsanto take on that responsibility? 22 A To educate the customers on the need to reduce 23 them? Yes. You must recognize, they said the need the 24 reduce it. They couldn't very well tell them how to reduce 25 it because they didn't know what other compounds went into	Page 156 1 A Yes, I told people of any -- quite a number of 2 people called me up and I said, "To the best of our medical 3 opinion, there are no long term health effects from the 4 ingestion of PCB in the amounts that are present in the 5 food." I told them that I've consulted with the government 6 about it and showed them what we were doing and what our 7 preliminary results are, and I told them that from, my 8 opinion was there would be no problem. 9 Q Did you tell people on the date of 1969 that 10 you were going to conduct a toxicological test program to 11 determine the long term effects? 12 A I'm sure I did. I'm sure I said we are, have 13 tests under way to reinforce my opinion. 14 Q And you expected those tests to show there 15 were no long term effects? 16 A I expected them -- I expected some of the 17 tests to show it. Certainly when you do a test you want to 18 get positive results in some of the levels, but I was also 19 sure we'd come up with a safe level. 20 Q Did any of the other itemizations under the 21 plan of action relate to human health? 22 A I don't think so. 23 Q Did Monsanto ever consider who in the United 24 States had the most exposure to PCBs and where the greatest 25 need was to concentrate on the prevention of disease

Page 157 1 processes? 2 MR. CARNEY: Objection to the form of the 3 question, compound. 4 THE WITNESS: Will you repeat the question? 5 (Thereupon, the reporter propounded the pending 6 question.) 7 A Well, you have two questions there. I didn't 8 know who had the most exposure. I knew who the people who 9 used the most material, but I didn't know the perimeters of 10 their exposure. GE and Westinghouse certainly were the 11 large users of the material. Westinghouse had information 12 that we had sent them. Westinghouse had information that 13 they had carried out themselves on the inhalation and 14 feeding of PCBs. 15 So I knew they were all larger user, large users, 16 but I didn't know the amount of exposure. We had told them 17 what the recommendations were as far as safe handling 18 procedures and that if their followed them, we knew they 19 would have no trouble. 20 Q Was there any change in the manner in which 21 Westinghouse -- strike that -- the manner in which Monsanto 22 attempted to prevent contamination of workers during this 23 period of time, 1969? 24 MR. CARNEY: Objection to the form of the 25 question. I don't know what you mean by manner. It	Page 159 1 setting. Now, that's a little different statement. 2 Q Then obviously there was no corresponding 3 increase in education? 4 A There was not an increase in education. We 5 had carried out an educational program since the products 6 were introduced, and we had no reports of any ill effects 7 from our customers. 8 Q The bottom of that page it states, "The status 9 of Aroclor 1242 should continue to be tested to determine 10 whether it contributes to this problem." Is that the 11 environmental problem? 12 A Yes, sir. 13 Q And what was the result of that testing? 14 A Well, I think they thought it would biodegrade 15 and they found out later that it did not biodegrade as much 16 as they thought it would, so eventually they discontinued 17 the use of Aroclor 1242. 18 Q As of 1969 there was no plan to eliminate 19 1242? 20 A Well, I don't know whether there was or not. 21 They were going to change the type of configuration of 22 Aroclor 1242, and I don't know. I think that the, in the 23 back of their head was if they couldn't eliminate the five 24 and six, the chlorine from the five and six positions, that 25 they might very well have thought, "Well, we'll have to get
Page 158 1 contains undefined terms. 2 Q (By Mr. McCrea) Let me restate that. In 3 paragraph four you state as part of the plan of action to, 4 "Educate customers on need to reduce and effectively 5 control PCB effluents at their plants." Was there any -- 6 Was there any program to educate customers on the need to 7 reduce and effectively control PCBs in the workplace so as 8 to prevent contamination of workers? 9 A We had told them that from the time we started 10 selling them the material. We did not increase our 11 warnings. Remember, this whole problem was not because of 12 problems with workers. This whole plan of action was to 13 decrease the, to decrease the environmental contamination 14 which was causing birds to lay, to lay eggs without shells, 15 and we were afraid you could kill a whole species of birds. 16 Q So in 1969 there was no increased concern 17 about the PCB health effects on workers? 18 A I didn't say that. Is that a question? 19 Q I thought you did say that. 20 A No, I didn't. 21 MR. CARNEY: I didn't hear that, either. 22 Q (By Mr. McCrea) Was there an increased 23 concern in 1969 by Monsanto Company with regard to the 24 health effects on workers exposed in an industrial setting? 25 A No, sir, there wasn't in an industrial	Page 160 1 out of the 1242." They at that time thought it was going 2 to be biodegradable, and when they found out later that it 3 wasn't biodegradable, then they decided to get out of the 4 1242 business, also. 5 Q Dr. Kelly, in Plaintiff's Exhibits Three, in 6 your letter to Dr. Herbert Blumenthal on April 8, 1970 you 7 stated, "Secondly, we have essentially a crash program 8 under way to find non-persistent, non-chlorinated 9 substitute products." Was there a crash program under way 10 on April 8, 1970 to find non-persistent, non-chlorinated 11 substitute products for Aroclor 1242? 12 A If that's when I wrote the letter there was. I 13 certainly didn't lie to him. Yes, if I in April 8th, 14 1970, which is now four months after, five months after 15 these minutes that I've been reading from, we did have 16 essentially a crash program that defined non-persistent, 17 non-chlorinated substitute products, yes. 18 Q For 1242? 19 A For all of them. 20 Q Is that, to your knowledge, documented 21 anywhere in the minutes of Monsanto Company? 22 MR. CARNEY: I'm going to object unless you 23 can establish that this witness has reviewed all the 24 minutes of the company over the last 30 or 40 years. 25 Q (By Mr. McCrea) Do you know if the crash

Page 161 1 program to find non-persistent, non-chlorinated substitute 2 products for Aroclor 1242 is documented in any minutes or 3 any letters or memoranda which you have read? 4 A Well, which I have read? 5 Q Yes. 6 A Yes, it certainly was documented in the things 7 that I have read because I didn't pull this second 8 paragraph out of thin air. I didn't make it up. I 9 knew they had a crash program under way. Whether that 10 documentation still exists or not, I can't tell you, but I 11 knew it. Otherwise, why would I write to them? 12 Q What was the Aroclor 1016 product? 13 A What was it? 14 Q Yes? 15 A It was a chlorinated compound that was 16 chlorinated to 16 percent. 17 Q And did that replace the Aroclor 1242? 18 A In some instances it did, yes. 19 Q Do you know when the program was commenced to 20 develop Aroclor 1016 in relationship to your letter dated 21 April 8, 1970? 22 A No, sir, but 1016 is a chlorinated product and 23 I'm talking in my letter of April the 8th, they were also 24 looking for non-chlorinated. 1016 is non-persistent, but 25 they were also looking for non-chlorinated. 1016 is	Page 163 1 A Well, as I mentioned Bergen and Springgate 2 before, they were either the product managers or one of 3 them was a boss, one was a number two in the PCB 4 department. Minckler was head of the, vice president, head 5 of the organic division of Monsanto Chemicals Company, 6 whichever it was called at that time. Phosha Park was a 7 man in the environmental department. 8 Q Was he also a lawyer? 9 A He was a lawyer in the environmental 10 department. 11 Q All right. Springgate? 12 A Springgate is the same as Bergen. 13 Q This letter went to W. B. Papageorge? 14 A That's correct. 15 Q WPAPA stands for what? 16 A That's the code number for the mailing 17 department. That's like a ZIP code. William P-A-P-A, 18 PAPA. Just like I'm RKEL. 19 Q In the first sentence you state, "We have been 20 in communication with Dr. Hill of the Ohio State Board of 21 Health." Does that include you? 22 A It includes members of the medical department. 23 I think Wheeler was the one that was doing most of the 24 communicating with Hill. 25 Q Did you talk with Dr. Hill?
Page 162 1 chlorinated. 2 Q Why did they use the number 1016? 3 A Because it's biodegradable. 4 Q Why did they use the number 16 in the 1016? 5 A I believe it's because it was chlorinated to 6 16 percent of -- The average chlorination was 16 percent. 7 Q Isn't it a fact, Dr. Kelly, that it contained 8 41 percent chlorine and there was no rhyme or reason to 9 calling it 1016? 10 A I don't know that. 11 Q Can you turn to page 90? Do you see the 12 document on page 90 and then, Dr. Kelly, do you also see 13 the document on page 91? 14 A Yes, sir. 15 Q And 90 states, "Retyped for Legibility." Do 16 you see that at the top? 17 A Yes, sir. 18 Q Did you write this memorandum? 19 A Yes, I did. 20 Q The date of the memorandum is what? 21 A March 30th, 1970. 22 Q Did the individuals at the upper right-hand 23 corner receive copies? 24 A Yes, they received them. 25 Q Who are those individuals?	Page 164 1 A I may very well have. I don't recall. 2 Q You state, "He has found PCB, particularly 3 Aroclor 1254, in samples of milk from at least three herds 4 in Ohio." Is that information based on a communication to 5 you by Dr. Hill? 6 A Either to me or to Wheeler to me. 7 Q "He has traced this contamination back to 8 silage from three different silos." Again, was that a 9 communication made by Dr. Hill to either Wheeler or 10 yourself? 11 A Yes, sir. 12 Q "Dr. Hill reported concentrations of 0.2 parts 13 per million of PCB on the silage in the center of the silo 14 and up to 20 parts per million in the material next to the 15 walls." Again, that's a communication from Hill to Wheeler 16 or you? 17 A Correct. 18 Q "He also stated that concentrations in the 19 milk were between 0.1 parts per million and 0.6 parts per 20 million and that some of the milk had been destroyed." On 21 the date of March 30, 1970, what was the recommended FDA 22 limit? 23 A I don't think they had one. 24 Q Did that concern you, Dr. Kelly, that PCBs 25 were getting into milk from the silage?

Page 165 1 A Yes, it did. 2 Q Did that concern you as to potential human health 3 effects? 4 A Potential with a question mark, yes. It also 5 concerned me, I don't believe milk should be contaminated 6 with anything, whether it's PCB or dirt. 7 Q "The silos were concrete silos whose interior 8 surfaces were painted in 1967 using a formulation that 9 contained 1254." Were you knowledgeable in March 30, 1970 10 that PCBs had been used to coat interior surfaces of silos 11 without having had this communication from Dr. Hill? 12 A I don't remember whether I was or not. I 13 certainly wasn't knowledgeable in 1967 because I don't 14 think I had heard about it until -- there may have been 15 something in some of the newspapers or something about this 16 that I may have found out, but I wasn't knowledgeable about 17 it for very long before this communication. 18 Q When you wrote the letter that we spent some 19 time discussing back on page 57, did you send that letter 20 to marketing people at Monsanto? 21 A Where is the letter now? 22 Q That's the letter from you to Dr. J. W. 23 Barrett. 24 A Well, that was to England. 25 Q Did you send it to your marketing people in	Page 167 1 Q You do recognize that as potentially being 2 important? 3 A Oh, certainly. 4 Q Because this wasn't the only silo with PCBs 5 in it? 6 A Well, there were three of them. 7 Q Weren't there 50 others? 8 A There may have been, but we're talking now 9 about March the 30th, 1970, and I don't know whether 50 is 10 correct or not. 11 Q "The presence of PCB in the silage came from 12 flaking off of the material and possibly from leaching out 13 during the silage storage." How do you know that? 14 A Well, I would imagine that's the only two ways 15 you can get the PCB out. The paint either flaked off or 16 the silage leached the stuff out. There's no other way to 17 get it. 18 Q How would the silage leach the PCB from the 19 plastic coating? 20 A Because you're fermenting it and you're 21 getting god knows what sort of chemicals as a result of -- 22 You get acid chemicals from fermentation inside a silo and 23 that has an action on the paint. 24 Q How did you figure that out? 25 A Well, I guess my knowledge of PCBs and paint.
Page 166 1 the United States? 2 A Well, I'll look. No, I didn't. 3 Q The next sentence in paragraph two state, "I 4 don't know" -- 5 A Where are we now? Which page are we now? 6 Q Right, yes, sir, page 90? 7 A We're back on 90. 8 Q The March 30, 1970 memorandum to Mr. 9 Papageorge. 10 A Yes, sir. 11 Q Second sentence, paragraph two. "I don't know 12 if there was any other Aroclor in the formulation nor do we 13 know if the coating -- nor do we know the coating 14 manufacturer; although, this could be found out if 15 important." Did you determine the name of the coating 16 manufacturer? 17 A Well, I gave that problem to Papageorge. By 18 that time he was man in charge of the PCB problem. He was 19 the point man in the whole situation. 20 Q Do you know if Mr. Papageorge expressed your 21 concerns to the coating manufacturer relating to the 22 contamination of the milk caused by the PCBs in the silos? 23 A Frankly, I don't know if he could ever find the 24 coating manufacturer, but to answer you question, I don't 25 whether he did or not.	Page 168 1 Q Did you know that -- 2 A And silos. 3 Q Did you know that in 1967? 4 A No, because I never knew that it was used in 5 1967 in a silo. 6 Q If someone had asked you in 1967, would you 7 have given them that information based on your knowledge of 8 paint? 9 A I wouldn't know whether I would or not at that 10 time. 11 Q Did you have that working knowledge in 1967 12 even though you didn't know PCBs were used in a plasticizer 13 in silos. 14 MR. CARNEY: And you're asking about the 15 knowledge about paint, PCBs and silos? 16 MR. McCREA: The fermentation and the acid 17 leaching out the PCB. 18 A What was the question again then? 19 MR. McCREA: Would you read it back, please? 20 (Thereupon, the reporter propounded the pending 21 question.) 22 A I don't believe I did because of several 23 reasons. One, I had no knowledge if it was being used 24 there, and if there were any used there, there were no 25 reports in '67 that the material was getting into the

Page 169 1 silage and getting into the milk, so I did not have any 2 idea at that time. 3 Q (By Mr. McCrea) Explain the process as to how 4 the fermentation of the silage and the acid leaches the PCB 5 from the plasticizer. 6 A It dissolves the paint and the PCB comes out 7 of the paint. 8 Q How was that established? 9 A I don't know how it was established. 10 Q Well, how did you come to that information? 11 A Well, as I told you before, there are only a 12 couple of ways it can get out of there. You've got this 13 paint, a solid thing on the wall and either flakes out, it 14 come out or it's dissolved by some of the material in the 15 silage. Nobody's in there scraping it off. 16 Q Have you ever stepped into a silo? 17 A Yes. 18 Q With a PCB plasticizer on the walls? 19 A No. 20 Q Have you ever asked a farmer to describe what 21 it is like to be in a silo with silage in it with PCB in 22 the plasticizer? 23 A No, but I've asked the farmer to describe how 24 he's in the silo with no paint at all or enamel silo. 25 There are an awful lot of fumes in there. There are	Page 171 1 Q Did Monsanto pay for it? 2 A I said I don't know. 3 Q Did Monsanto offer to pay for it? 4 A I don't know. 5 Q And the loss to the farmer was how much 6 according to your calculations? 7 MR. CARNEY: Well, you're assuming that that 8 was the farmer and, you know. 9 A Well, whoever owned -- 10 Q (By Mr. McCrea) The cost? 11 A Whoever owned the 150 tons of silage that was 12 destroyed, it would cost \$30 a ton. Whoever owned that 13 silage had an expense of \$4,500. 14 Q In your opinion, was the silo of any value 15 with the PCB plasticizer inside of it? 16 A Was it of any value? Yes. 17 Q Could they reuse that silo? 18 A Yes, they sandblasted it and reused it. 19 Q Do you know what the cost of the sandblasting 20 was? 21 A No, I don't. 22 Q And your testimony is that this silo was 23 sandblasted? 24 A No, I didn't say that a all. 25 MR. CARNEY: You asked him if it was of any
Page 170 1 nitrous fumes in there. There was acid fumes. There's 2 quite a possibility for chemical reaction to go on in the 3 silo. 4 Q But you've never specifically asked a farmer 5 what it was like? 6 A No. 7 Q To be inside a PCB coated silo? 8 A No, sir. 9 Q Next, "At present they will have to destroy 10 about 150 tons of silage which is valued at about \$30 per 11 ton." When you say they, to whom are you referring. 12 A I would imagine the people who owned the silo 13 or the Ohio State Board of Health is telling them to 14 destroy the silage. 15 Q Other than the fact that there are PCBs in the 16 plasticizers which were manufactured by Monsanto and sold 17 by an unknown coat manufacturer, was there any reason 18 to destroy the silage? 19 A Other than the fact that there -- 20 Q Were PCBs in the silos, was there any reason 21 to destroy the silage? 22 A Yes, because when the cows ate it, they had 23 PCBs in the milk. 24 Q Who paid for the loss of the silage? 25 A I don't know.	Page 172 1 value. I think he was saying that it -- 2 Q (By Mr. McCrea) You said -- Excuse me. Did 3 they sandblast this particular silo? 4 A I don't know. 5 Q All right. Do you know what happened to the 6 silo? 7 A I don't know. 8 Q Do you know if the farmer look a loss on it 9 because of the PCBs? 10 A I don't know that. 11 Q Do you know -- and you don't know if he had to 12 replace it with another silo? 13 A I don't know whether he did or not. 14 Q Did you ever communicate with the farmer? 15 A No, sir. I did not. 16 Q Then you go onto say, "As a rough guess, they 17 consider there may be 50 other silos involved in Ohio that 18 were painted with the same formulation." Would those other 19 people predictably have the same problems as this farmer? 20 A It's possible. 21 Q Did you make any effort to communicate with 22 those farmers? 23 MR. CARNEY: I'm going to object, you know. 24 He wrote this memo to Mr. Papageorge who was the point man. 25 I think you've got the wrong witness here. Mr. Papageorge

Page 173 1 is the person who was in charge of Monsanto doing this. 2 Q (By Mr. McCrea) Did you or anyone else at -- 3 Did you make any effort to contract those farmers? 4 A I did not. 5 Q Did anyone at Monsanto make any effort to 6 locate and contact those farmers? 7 A I don't know. 8 Q In your opinion, was there a human health, was 9 there a potential human health problem as a result of PCBs 10 in those silos? 11 A No, sir. 12 Q Didn't you just say that there was a human health 13 problem as a result of .6 parts per million? 14 A No, I did not. 15 Q In the milk? 16 A I did not say that. I said we didn't want any 17 in the milk. We didn't want any contamination in the milk. 18 I didn't say we didn't want .6 PCB in the milk because 19 there was a health hazard. I said I don't believe milk 20 should be contaminated with anything. 21 Q In your opinion, was there a potential human 22 health problem? 23 A Well, in March 1970 I don't think we knew. 24 That's why we're running our long term experiments. 25 Q Was there a potential human health problem?	Page 175 1 Q Has Monsanto ever paid to replace a PCB coated 2 silo? 3 A I do not know. 4 Q Do you have any estimate as to how many PCB 5 coated silos there were in the United States as of this 6 date? 7 A No, sir, I do not. 8 Q Next sentence says, "All in all, this could be 9 with quite a serious problem, having legal and publicity 10 overtones." What do you mean by publicity overtones? 11 A Well, I believe that the publicity, if a 12 Monsanto product were present in the milk, that's bad 13 publicity. 14 Q And how would that affect Monsanto? 15 A Well, Monsanto wants to be a good neighbor. 16 Monsanto doesn't want PCBs in milk. They don't want PCBs 17 adulterating food. 18 Q What efforts did Monsanto make to eliminate 19 the PCB contamination of milk from the PCB plasticizers, 20 caused by the PCB in plasticizers in silos? 21 A You'll have to ask Mr. Papageorge and I 22 believe he will tell you that whatever they did. He will 23 also tell you that it was quite successful because you 24 don't hear any more about PCBs in milk or in silage. 25 Q Could that be because they've all been
Page 174 1 A Well, I said we did not know if there was a 2 potential. 3 Q All right. The next sentence says, "They are 4 also looking into the fat contamination of the cows 5 themselves." Do you know the results of those tests? 6 A No, sir, I do not. 7 Q Did you maintain any communication with Dr. 8 Hill after March 30, 1970? 9 A I do not recall if I did. I believe that Mr. 10 Papageorge may have, but not I. 11 Q Do you know of any herds of cattle which had 12 to be destroyed in the United States as a result of the PCB 13 contamination from silos? 14 A I do not know. 15 Q Did you offer to assist Dr. Hill in remedying 16 this problem? 17 A Yes, I told him Monsanto would do anything 18 that we could to cooperate with them in any shape or form 19 and he should contact Mr. Papageorge who could direct Dr. 20 Hill's request to the proper agency inside Monsanto. 21 Q Did you offer to replace the farmer's silo? 22 A I personally? 23 Q Monsanto? 24 A That was not my responsibility, To answer it, 25 no, I did not.	Page 176 1 condemned? 2 A No, sir, I don't believe so, and I don't know 3 what you mean by condemned. 4 Q Condemned. 5 A Tore down? 6 Q No, condemned, ribbons placed around them 7 marking condemned? 8 A I don't know if anyone ever was. I don't 9 know. I never saw one. 10 Q Did you tell Mr. Bergen this was a serious 11 problem verbally? 12 A Well, I wrote him a letter. I don't know 13 whether I discussed this memorandum after I talked with him 14 or not -- after I wrote him I mean. I may have talked with 15 him. 16 Q You state, "All in all, this could be quite a 17 serious problem with legal overtones." What are the 18 legal overtones for Monsanto from this serious problem? 19 A Well, there again I get outside my field, but 20 I thought if we were contaminating silage due to our PCBs, 21 the farmer may look to us for remedial action. 22 Q Did you take any efforts to avoid that 23 consequence by going to the farmer first? 24 MR. CARNEY: I'm going to object. You've 25 asked this question about six or seven times. He indicated

Page 177 1 he didn't know what happened, whether the Monsanto paid the 2 farmer or if indeed it was the farmer that owned the 3 silage. He doesn't know. I think he wrote this memo to 4 Mr. Papageorge who was the point man for Monsanto. You've 5 established that he doesn't know what Monsanto did. I 6 don't know how much clearer that can be made. I will 7 stipulate that with regard to what Monsanto did with the 8 farmer, Dr. Kelly doesn't know. He's said it very clearly, 9 and I don't think asking him three or four times is going 10 to move the deposition along. 11 Q (By Mr. McCrea) Dr. Kelly, you recognized 12 that this could cost Monsanto money? 13 A That was the least of our problem. 14 Q What was the most of your problem? 15 A We didn't want the milk contaminated. 16 Q Did you suggest to Mr. P. S. Park that 17 Monsanto correct this problem of PCBs in silos? 18 A Mr. P. S. Park is a lawyer in the 19 environmental group. He is a very ethical Monsanto 20 employee. He's now retired from Monsanto. I clued him in 21 onto the legal problem, and it is up to him to do it. It 22 was not up to me to handle any legal problems with 23 Monsanto. 24 Q Do you know if Monsanto ever calculated the 25 number of PCB silos in the United States and what it would	Page 179 1 Q You state, "I think it is very important that 2 this be done." Why? 3 A Well, we still didn't want PCB in the milk. 4 Q "It may be that some of our customers will 5 assure themselves on the basis of non-extractability that a 6 particular formulation might be safe, but I think we should 7 make a blanket recommendation against these uses." That 8 was your opinion? 9 A Yes, sir, it was. 10 Q And you were adamant about it? 11 A Yes. 12 Q And you sent it to everybody you knew who was 13 of authority in Monsanto? 14 A Yes, sir. 15 Q Were you a medical doctor? 16 A Is that a question? Yes, I was and am. 17 Q Doctor, can you tell us what it is that you 18 brought to this particular situation that somebody without 19 a medical agree could not? 20 A Well, I don't believe that what I brought to 21 this situation was information of a problem, and I believe 22 I summarized a problem and sent it to the important, 23 responsible people in the legal department, in the 24 production department, in the marketing department and to 25 the man who was in charge of the environmental aspects of
Page 178 1 cost to replace them? 2 A No, sir, I do not know. 3 Q Last paragraph, "This brings us to a very 4 serious point"; correct? 5 A Yes, that's what I said. 6 Q "When are we going to tell our customers not 7 to use any Aroclor in any paint formulation that contacts 8 food, feed or water for animals or humans?" 9 A Was there a question? 10 MR. CARNEY: You read that -- you read his 11 words accurately. I'll agree with that. 12 A Yes, and I wrote that. 13 MR. CARNEY: I don't know if there's a 14 question. 15 Q (By Mr. McCrea) When did you tell your 16 customers not to use any Aroclor? 17 A I do not know when the marketing people told 18 them. I do not know if they had already told them by the 19 time I wrote Papageorge and I didn't know about it, so I 20 cannot answer your question. 21 Q Do you know if it was ever done? 22 A Of my own knowledge did I ever, do I recall 23 sending a memorandum to the customers? I don't know, but I 24 would imagine that it was done, but that again is 25 speculation.	Page 180 1 PCB. 2 Whether or not Mr. Wheeler could have done the same 3 thing, I think he probably could have because there was not 4 a great deal of information in there that you need a 5 medical person to talk about. We don't want PCBs or 6 Aroclor in any food, feed or water for animals or humans, 7 and you didn't have to have a medical degree to know that. 8 Q If you had to communicate to the farmers of 9 this country your expression of concern, what would, how 10 would you have done that? 11 MR. CARNEY: What time are you talking about? 12 MR. McCREA: 1970. 13 A All the farmers in the country, whether they 14 have silos or not? 15 Q (By Mr. McCrea) Correct. 16 A Whether they use PCB paint or not? 17 Q Correct. How would you have gone about that? 18 A I would have said -- Well, first of all, I 19 wouldn't have gone about it. I would have gone to the 20 person whose responsibility it was. There is a man working 21 full-time on PCBs. I'm in charge of the medical 22 department. We've got lots of other things that are doing. 23 This man's full-time. He's got his own staff doing it, so 24 I would tell him my beliefs and let him do it. I would not 25 communicate with the farmers.

Page 181 1 Q Do you know if there was any notification to 2 your insurance carriers of this potential liability? 3 A I don't know. 4 Q You knew that Monsanto had used publicity 5 releases to communicate it's position on PCBs in the past; 6 correct? 7 A Yes, sir. 8 Q Was there any publicity release issued that 9 reflected your concerns on PCBs getting into the milk? 10 MR. CARNEY: I might suggest to you, Mr. 11 McCrea, you're trying to -- I think you're asking a lot of 12 these questions to the wrong witness. Mr. Papageorge has 13 all this information as I think you do know, in fact, in 14 this very same exhibit, and I refer you to starting on page 15 100 and going through to 115 is a Papageorge document 16 explaining and answering some of these questions. 17 MR. McCREA: Are silos referenced in that? 18 MR. CARNEY: I think plasticizers are at 19 page -- 20 MR. McCREA: Are silos? 21 MR. CARNEY: You were talking about 22 plasticizers in the silos. 23 MR. McCREA: Is the problem of PCBs flaking 24 and leaching from plasticizers in silos and getting into 25 the milk of dairy cattle referenced in the Papageorge	Page 183 1 seen Mr. Papageorge testify about these matters, haven't 2 you? 3 MR. McCREA: Never, never. 4 MR. CARNEY: Well, I think you have. 5 MR. McCREA: Never. And I will represent to 6 you that the elimination of PCBs in plasticizers does not 7 solve the problem which Dr. Kelly addressed rather 8 eloquently on March 30, 1970 of PCBs already in the 9 plasticizers. 10 MR. CARNEY: I can say and state for the 11 record that Monsanto did solve the problem very well and 12 with, and they were a very good corporate citizen in the 13 way they handled the problem, an excellent corporate 14 citizen in the way they handled it. Now, Dr. Kelly may not 15 know that because he was the medical director and I don't 16 think he knows everything that went on at Monsanto, but I 17 can state that to you. 18 Q (By Mr. McCrea) All right. Well, I accept 19 what you state and quite frankly don't have that much 20 information about what they did. Dr. Kelly, after you 21 wrote this March 30, 1970 communication to Mr. Papageorge, 22 did you get any feedback from him, Mr. Bergen, Minckler, 23 Park or Springgate as to the remedies and the, that you 24 suggested? 25 A I may very well have. I don't recall it. I
Page 182 1 affidavit dated September 14, 1971, if it's an affidavit? 2 MR. CARNEY: I think if you look at page 107, 3 they talk about the plasticizers, eliminating the 4 plasticizers. 5 MR. McCREA: Do you see silos mentioned there? 6 THE WITNESS: Are you talk to me or to him? 7 MR. McCREA: No, I'm not, sir. It's hard for 8 me to turn all the way around. 9 MR. CARNEY: You know, I think if you'd ask 10 Dr. Papageorge, he would be the one that would be most 11 knowledgeable about this. Dr. Kelly was the head of the 12 medical department. 13 MR. McCREA: All right. I'll just state for, 14 not for the jury and not for Mr. Kelly, Dr. Kelly, that 15 there's no reference to silos in that particular 16 communication if I read it properly. 17 MR. CARNEY: I didn't say there was, did I? 18 MR. McCREA: No, but you said I could read it 19 and determine the response. 20 MR. CARNEY: No. What I'm telling you is that 21 what -- You've asked a lot of questions about what Monsanto 22 did with regard to the plasticizers. Did they eliminate 23 them? You've asked lots of questions about how they 24 noticed or notified the various people in various groups, 25 and I think you have that information. You know -- You've	Page 184 1 do know that over the years the problem diminished to a 2 zero point. 3 Q All right. Before March 30, 1970 had you made 4 similar requests verbally? 5 A Well, I don't think so. 6 Q Other than this document which speaks for 7 itself, Dr. Kelly, do you recall any other efforts on your 8 behalf to see that the customers did not use Aroclor in the 9 paint? 10 A Well, I never talked to any customers. I 11 don't know whether, what Wheeler might have done with 12 Papageorge. I don't know, but to answer your question, I 13 did not and as I said this, you talk like this was in silos 14 all over the country. This was in a pretty small group of 15 areas where this paint was distributed. 16 Q Do you know how many silos were involved? 17 A No, sir, I do not. 18 Q But if it's one farmer and it's his silo, it's 19 important, correct? 20 A Of course it is. 21 Q Did you correspond with the FDA about this 22 problem? 23 A Yes, I talked to them, and that's when I 24 talked to Dr. Fitchu of the FDA because he knew about it. 25 He asked me how our tests were coming and when we started

Page 185 1 them and when we were going to get finished with them. 2 Yes, I talked to the FDA about it. 3 Q When you say test, you're talking about what? 4 A A long-term feeding test. 5 Q Did you talk to the FDA about the number of silos 6 in the United States with PCBs in them and what could 7 be done to see that that was not getting into the milk of 8 dairy cattle? 9 A Not I, but I don't know whether that came up 10 at the time when Colander and I went up to see Dr. Fitchu 11 and other people of the FDA when we were starting our tests 12 which can dated in this letter, I believe. Yes, I 13 certainly did, I believe. Where are we, March? Yes, I 14 antedated that. We told them what we were doing. They 15 agreed with what steps we should do as far as the testing 16 is concerned, and I believe they were cognizant of the fact 17 that there was PCBs in the milk. Certainly they were. 18 Now, as far as answering your question did I talk to 19 the FDA about what we were going to do about getting, 20 cleaning up this problem with the silage, I don't know 21 whether I taked to them or not. 22 Q Dr. Kelly, you described earlier in your 23 testimony 12 points of a plan of action dealing with 24 environmental aspects of PCBs. Did you add to that plan of 25 action a recommendation and potential solution for PCBs	Page 187 1 A I don't know what it includes, but I don't 2 even know if there was Aroclor being used in silage, paint 3 for silage in April of 1970. If you notice, our 4 plasticizer sales have dropped down pretty much. It's down 5 to \$3 million worth. I don't know what it was before, but 6 it was considerably higher than that. 7 Q Did that include an aggressive program of 8 customer education with regard to the customers who had put 9 PCBs in plasticizers where they were existing on farmers' 10 field? 11 A I don't know. This says the division has. 12 The medical department did not. This was a division 13 responsibility. They had Papageorge there. They had 14 Bergen there. They had Minckler, they had Mason, they had 15 Smith, Springgate, all these people from the division. 16 They're the ones that carried out the aggressive program of 17 customer education, cooperative efforts with government 18 research, etc. 19 Q You see on page 93 it states at the top, "FDA 20 indicated it was contemplating a residue level of 0.5 parts 21 per million in milk." Do you see that? 22 A Yes. 23 Q And did the levels in Ohio exceed that? 24 A Did what? 25 Q Did the levels in the milk in Ohio exceed that
Page 186 1 getting into the milk as a result of their flaking and 2 leaching from the plasticizers in silos? 3 A We didn't have to write it out. We knew we 4 had a problem and got on it. I mean, we didn't write it 5 out and say, "Okay, now we've got 13 plans instead of 12." 6 We recognized the problem and we, and Papageorge started 7 out to solve the problem and to remedy it. 8 Q Can you describe for the jury what he did? 9 A No, you'll have to ask him. 10 Q Can you turn to page 92? 11 A Yes, sir. 12 Q This, sir is minutes of meeting of the 13 corporation management committee, April 20, 1970. Is that 14 correct? 15 A Yes, sir. 16 Q And you attended the meeting as indicated by 17 your name under the heading "Organic Division - Report of 18 PCB Status"? 19 A Yes, sir. 20 Q There are figures there representing sales of 21 Aroclor? 22 A Yes, sir. 23 Q You say, "Division has maintained an 24 aggressive program of customer education." Does that 25 include the people who put PCBs in plasticizers in silos?	Page 188 1 level? 2 A No, sir. 3 Q I thought it said 0.6 parts per million. 4 A Did it? I don't know. Maybe it did. 5 Q Can you refer to page 90, the last sentence of 6 the first paragraph? 7 A Page 90? Well, that's a little confusing here 8 because on, when it's retyped it says between 0.1 ppm and 9 0.6 and then the one I'm looking at where it wasn't 10 retyped it says 0.1 and 0.5 ppm. 11 Q I read that as a six on — 12 A You want to look at mine? 13 Q I accept that you're saying. 14 A Okay. 15 MR. CARNEY: Mine says five. 16 Q (By Mr. McCrea) All right. Did Monsanto do 17 any testing to determine levels of PCB in fish which were 18 in waters in which Monsanto discharged PCBs? 19 A I think they may have, yes, sir, but I'm not 20 certain which locations. 21 Q You don't know the results? 22 A No, sir, I don't. 23 Q Second paragraph on page 93 references the 24 targeting of effluent levels. Do you know how those were 25 established, 50 parts per billion and ultimate target of 10

Page 189 1 parts per billion? 2 A I think that was established by what we 3 thought was feasible. We tried to get down to as low as we 4 could, as low as we could. 5 Q Third paragraph states, "Sales are being 6 terminated to a number of industrial users where there are 7 inadequate possibilities of control for such uses as 8 pesticide extenders." What is a pest -- how were PCBs used 9 on the date of April 20, 1970 as a pesticide extender? 10 A Well, I think it would be better if you asked 11 somebody from the agricultural, Department of Agriculture 12 of the United States Government because they were the ones 13 that came out with the idea to use PCB in agricultural as a 14 pesticide extender. In other words, you mix this and 15 presumably it stays around on the plant longer. 16 It was peanuts as far as our marketing was concerned 17 and we were not happy with it, but the government, the 18 Department of Agriculture stated that this is possibly a 19 good use for PCBs. 20 Q How were PCBs used in medicinal products? 21 A I never heard of it. I don't know. 22 Q Dental products? 23 A Waxes. 24 Q Cosmetics? 25 A I don't know.	Page 191 1 fires in the transformers in 1970, I don't believe there 2 was any record of any fires of transformers or fires of 3 capacitors or leaks in -- Well, there were leaks in heat 4 transfers at Yusho at that time. 5 Q Dr. Kelly, if a manufacturing plant called you 6 today and asked you if you thought it was advisable to have 7 1,337 PCB capacitors inside their plant, what would you 8 tell them? 9 A I'd say, "I'd like to come out and look at 10 your plant and see how they're being used." 11 Q Do you think that would present a risk that 12 should be eliminated by replacing the same capacitors? 13 A I would have to make that decision after I saw 14 the installation. 15 Q Down under conclusions, Dr. Kelly, it makes 16 reference in the first paragraph, the last line to NCR 17 application. What does that stand for? 18 MR. CARNEY: I think we're about to lose our 19 tape. 20 A Well, I can answer that real fast. That's a 21 carbonless carbon paper, National Cash Register. 22 MR. McCREA: Thank you. Break. 23 (Thereupon, a short recess was taken.) 24 Q (By Mr. McCrea) Dr. Kelly, we're back on the 25 record. On page 93 under conclusions the committee states,
Page 190 1 Q Did Monsanto locate these industrial users and 2 then terminate the sales? 3 A Well, they said they did. Sales were being 4 terminated to a number of industrial users. 5 Q Did you attend this meeting where it was 6 discussed? It indicates you did. 7 A Well, yes, but I don't think they elaborated 8 on it anymore than that. They said, "We're terminating 9 these to a number of industrial users with inadequate 10 possibilities of control," but I don't think they put them 11 out by name. 12 Q When did Monsanto first know that PCBs were 13 used in pesticides, as pesticide extenders? 14 A I haven't the slightest idea. 15 Q The statement is made, "Sales will be 16 continued for transformers, capacitors and heat transfer 17 uses which are closed systems or sealed units and which 18 permit reclamation or other control of material." Is that 19 correct? 20 A You read it correctly, yes, sir. 21 Q Do you consider transformers, capacitors and 22 heat transfer uses as closed systems today? 23 A They are unless something happens to the heat 24 transfer units. Sometimes there are leaks in it. 25 Sometimes there are fires in the capacitors, but as of	Page 192 1 quote, "A replacement product should be developed on a 2 crash basis for the NCR r application," which stands for 3 National Cash Register in the use of PCBs in carbonless 4 paper. Is that correct? 5 A That is correct. 6 Q And H. L. Minckler was on the corporate 7 management committee on April 20, 1970; correct? 8 A I don't think he was. 9 Q Well, I believe you're right. He was on the 10 organic division? 11 A Yeah. 12 Q And J. E. Springgate was a member of the organic 13 division? 14 A Yes, sir. 15 Q And H. S. Bergen was a member of the 16 organic division? 17 A Yes, sir. 18 Q And were those people participants in the 19 decision to develop a crash program or to develop on a 20 crash basis a replacement product for carbonless paper? 21 A Yes, sir. 22 Q And the date of that meeting was April 20, 23 1970? 24 A Yes, I'll take your word for it. I've 25 misplaced paragraph, page 93. I've got a 92. That's April

Page 193 1 the 20th, 1970. 2 Q All right. 3 A But I don't have 93. It must be in here 4 someplace. 5 Q I think the record will reflect that the date 6 of the minutes of the meeting of the corporate management 7 committee was April 20, 1970. And on March 30, 20 days 8 before that, you sent your letter expressing your concerns 9 about the PCBs in milk from the silos to H. S. Bergen, H. 10 L. Minckler and J. E. Springgate; correct? 11 A Yes, sir. 12 Q Did they discuss anything to be done on a 13 crash basis with respect to those concerns which were 14 expressed by you to them 20 days earlier? 15 A I don't know. I certainly know that 16 Papageorge was very, very much involved and very much aware 17 of the problem and he might be much better -- he will be 18 much better able to answer that than I do, than I am. 19 Q Go to page 94. 20 A I've got problems. Something's happened to my 21 pages from 91. 22 MR. CARNEY: Do you want to use mine? 23 A I don't have a 94 here. In fact, my next page 24 is 100. In thought I had one before, but I don't. Yes, 25 sir.	Page 195 1 A Well, what it says is, "A bill to prohibit the 2 introduction or delivery for introduction into commerce of 3 the chemical compound known as polychlorinated byphenyl." 4 Q And the date is July 26, 1971? 5 A That's correct. 6 Q Do you have any working knowledge today as you 7 testify of the purpose of H. R. 10085 true introduced by 8 Congressman Ryan? 9 A Well, except what he said, "To prohibit the 10 introduction and delivery for introduction into commerce of 11 the chemical compound known as polychlorinated byphenyl." 12 take it that was his purpose. 13 Q Did Monsanto have meetings to discuss this 14 bill in which you attended? 15 A No, sir. That doesn't mean that he didn't 16 have meetings, but I do not recall ever being at a meeting 17 where they discussed Ryan's bill. 18 Q All right, sir. Dr. Kelly, will you turn, 19 please, to page 97? 20 A Yes, sir. 21 Q Are you -- This is a speech by Congressman 22 Ryan to Congress reported in the "Congressional Record," I 23 believe. Have you seen this before today? See the heading 24 in the left-hand column, "PCBs - En" -- 25 A I see that. I don't believe I have. I do not
Page 194 1 Q (By Mr. McCrea) Can you identify the document 2 on page 94 of Plaintiff's Exhibits Six? 3 A Well, I will read what it says. It's a 4 photostat of some letter written by a Bernard H. Falk, it 5 looks like, to the representatives of the member companies 6 in the transformer section, capacitor section of the 7 National Electrical Manufacturers Association dated August 8 the 6th, the 2nd, 1971. 9 Q Dr. Kelly, did you have any communications 10 with Congressman Ryan? 11 A No, sir, I did not. 12 Q Did you have any participation in preparing any 13 speeches or information to be given by Monsanto to 14 Congressman Ryan? 15 A No, sir, I did not. 16 Q On this date do you have any understanding of 17 the effort being generated by Congressman Ryan with regard 18 to PCBs? 19 A I may have heard about somebody talking about 20 it at lunch, but I certainly had no formal connection with 21 any of Congressman Ryan's actions. 22 Q Will you go to page 95? 23 A Yes, sir. 24 Q Can you identify this document which consists 25 of two pages and attachments of an additional three pages?	Page 196 1 read the Congressional Record." 2 Q All right. Without spending a lot of time on 3 this document -- 4 A Okay. That will be new. 5 Q Congressman Ryan makes reference to chickens 6 being contaminated with PCBs, I believe, in North Carolina 7 by leaks of PCBs from a heat transfer system. With that 8 general statement, Dr. Kelly, as you sit here today, did 9 you in any way participate in the investigation of that 10 particular situation? 11 A No, sir, I do not believe I did. 12 Q Do you have any working knowledge of the 13 situation in which the chickens became contaminated with 14 PCBs? 15 A No, I don't. In fact, they talk about the 16 Campbell Soup Company. Is that what we're talking about, 17 with the chicken fat? Is that the one? That's the first 18 time I saw it. I don't know anything about it. 19 Q All right. Down at the bottom of column one 20 on page 97 there's a one paragraph description of human 21 health effects as described by Congressman Ryan on the date 22 of this address to Congress, July 23rd, 1971. Would you 23 please read that paragraph which starts at the bottom of 24 column one and ends at the top of column two to yourself 25 and then tell us if there are any health effects which he

Page 197 1 describes as being caused be PCBs with which you disagree? 2 A Do I wait till I get through reading it or do 3 I mention my differences of opinion as we go along? 4 Q I think it would be preferable to mention it 5 as you go. 6 A "By far the most frightening hazards" -- 7 MR. CARNEY: Well, let me just -- I think he -- 8 MR. McCREA: He can read it out loud. 9 MR. CARNEY: I think he said to read it to 10 yourself. 11 A Oh, okay. 12 MR. CARNEY: And then -- 13 Q (By Mr. McCrea) Why don't you read it out 14 loud and then as you disagree, you can state your 15 disagreement. 16 MR. CARNEY: I'm going to object to any, 17 having -- 18 MR. McCREA: That way it gets on the record. 19 MR. CARNEY: That's what I mean. If you want 20 to get Congressman Ryan in here to testify about what he 21 said, that's one thing, but to have, you know, a speech 22 that he read be read into the record is, you know, hearsay. 23 I don't have Congressman Ryan here to cross examine. We've 24 got Dr. Kelly here. He says he doesn't have any knowledge 25 about this bill of Dr. Ryan's, so I don't know. I think	Page 199 1 "Persons who have been continually exposed to PCB 2 may suffer nausea, vomiting, loss of weight, edema and 3 abdominal pain, increased respiration, lower blood count 4 and inhibition of the carbohydrate metabolism." That -- If 5 he is not referring to Yusho or Yetching, I would like to 6 see his basis for this statement, "More serious effects are 7 those of the kidneys." I don't know where that is 8 documented outside of Yusho. 9 "The principal effect, however, is on the liver 10 possibly leading to atrophy followed by death." That 11 certainly has not occurred in an industrial setting. Now, 12 this I do not consider -- I do not consider a Congressional 13 speech a scientific document. He is making statements, 14 and I don't know the basis of the statement, so I disagree 15 with him. 16 Q All right. Would you go to the top of 17 paragraph three in the first paragraph -- excuse me, Doctor 18 -- the top of column three. In about the middle of that 19 paragraph he states, "I requested that he," and I believe 20 that refers to the administrator of the Environmental 21 Protection Agency, "Obtain from Monsanto those production 22 and sales figures necessary to determine the extent of 23 possible PCB contamination data which Monsanto has refused 24 to provide." Are you aware of a request by Congressman 25 Ryan to Monsanto for sales records in order that the
Page 198 1 you've got the wrong person here to cross examine about Dr. 2 Ryan's speech. 3 A Mr. Ryan, the Honorable Mr. Ryan. He's not a 4 doctor. He's a politician. 5 MR. CARNEY: I'm sorry. I didn't want to 6 demean the profession of doctors by calling him -- 7 A We have a different way of stating things. 8 Q (By Mr. McCrea) Dr. Kelly, why don't you read 9 what he states. Then as you come to something with which 10 you disagree, state your disagreement. 11 A Well, yes, I disagree with the first sentence, 12 "The most frightening hazard is the effect of PCBs on 13 humans." Certainly I don't think there's any frightening 14 hazard. I think that is rhetoric from a congressman. 15 Let's see what else. 16 He also states, gives no limitation of exposure, no 17 statement about exposure. He says, "Polychlorinated 18 byphenyl may be taken into the body by direct actions upon 19 the skin or by a vapor through a respiratory tract." 20 That's true. 21 "The effect on the skin is chloracne." Well, that 22 all depends on how much you get on and how long you've been 23 doing it. "The early symptoms of which are pimples, a dark 24 pigmentation, later, more serious eruptions." That again 25 is how much you are exposed to.	Page 200 1 environmental effects could be checked out? 2 MR. CARNEY: Let me object to the question. I 3 object to your reading a speech back in 1971, July 26, I 4 guess, of 1971, by a congressman who's trying to get 5 publicity and run for office and win votes and making a 6 speech in the "Congressional Record" and then examining Dr. 7 Kelly about the speech which he says he wasn't in 8 attendance at and doesn't recall seeing. You know, this 9 deposition could go on for a year. It's already, you're in 10 your fifth day of cross examination. You've indicated 11 you're going to go tomorrow and, you know, I don't know how 12 many speeches by congressmen or other people you can read 13 into the record. It's improper. If you have a question of 14 Dr. Kelly, ask the question of Dr. Kelly. 15 Q (By Mr. McCrea) Dr. Kelly, did -- 16 MR. CARNEY: And you're not only reading it, 17 but you're making assumptions about who he is. Now, 18 Congressman Ryan isn't even here for me to examine him on 19 what he means by some of those words. So this is an 20 entirely improper course of action that you're taking, Mr. 21 McCrea, and all I can see is that you're trying to delay 22 this case and bore the tears out of the jury and the judge. 23 You've certainly bored me by all this repetition and now 24 just reading a speech 20 years ago by a congressman trying 25 to win votes.

Page 201 1 MR. McCREA: Was he trying to win votes with 2 Monsanto? 3 A I don't think he's alive frankly. I don't 4 know when he was running for office in the '70s, but was 5 there a question on the floor? 6 Q (By Mr. McCrea) There was and you may answer 7 it. 8 A I'd like to know what it is. 9 MR. McCREA: I forget. 10 (Thereupon, the reporter propounded the pending 11 question.) 12 A I am aware of a request, and he states a half 13 truth. He states, "I requested that he obtain from 14 Monsanto those production sand sales figures necessary to 15 determine the extent of possible PCB contamination." 16 Monsanto, I've seen documents that said we will give you 17 sales and production figures. 18 Then he asks for names of customers and Monsanto 19 said that they, to the best of my knowledge, they could not 20 give the names of the customers without some particular 21 reason. So the good congressman is having a half truth in 22 that statement. 23 MR. CARNEY: And I might add, I assume it's 24 probable a misprint, but it doesn't talk about PCBs there. 25 It talks about PCB, and it doesn't say that Congressman	Page 203 1 Tests." 2 A Yes, sir. 3 MR. CARNEY: We're still in -- Can I have my 4 standing objection that you're reading from Congressman 5 Ryan's speech back in 1971? 6 Q (By Mr. McCrea) Yes, you may. It says, 7 "Recently completed Monsanto tests, conducted over two 8 years, showed that rats fed food containing up to 100 ppm 9 showed enlargement of the liver, but suffered no other 10 effects, the company spokesman said. Dogs showed no ill 11 effects, he said. Representative Ryan said he was 12 skeptical of tests ordered by the company for its own 13 product." Did you see that? 14 A Yes. 15 Q Does that refer to IBT tests? 16 A No, he refers to test ordered by a company 17 for its own product, and just like I'm skeptical about a 18 congressman's statements when he's running for office. I 19 think that this is absolutely ridiculous. Who is going to 20 run the tests if the company doesn't run them themselves? 21 Is the government going to run them? The U. S. Food and 22 Drug Division accepted the tests. They know an awful lot 23 more about toxicity than Ryan does. 24 Q All right. My question is: Does that 25 paragraph refer to the tests that were done at IBT or is it
Page 202 1 Ryan requested it. It says, "I requested that he," 2 somebody, whoever he is "obtain it." So there's, I think, 3 a mischaracterization of what's said. This is very 4 confusing. We don't -- It's hard to understand what's 5 being talked about there. 6 Q (By Mr. McCrea) Did Monsanto Company have an 7 action planned to determine the customers who had purchased 8 PCBs in the potential areas of environmental contamination 9 on this date, July 26, 1971? 10 A I don't know what you mean by an action 11 planned. What do you mean? 12 Q Well, I'm referring back to your corporate 13 notes where you say plan of action on page 88. 14 A Yes, sir. 15 Q Did you have a plan of action to determine 16 your PCB customers and the potential environmental 17 pollution as a result of sales to those customers? 18 MR. CARNEY: In addition to the 12 points, the 19 sum of which I think addressed that problem? Are you 20 saying in addition to those 12 points? 21 MR. McCREA: Correct. 22 A I don't know. You'll have to ask Papageorge 23 or Bergen or Springgate. 24 Q (By Mr. McCrea) Could you go to page 99? 25 Column two, fourth paragraph with the heading "Monsanto	Page 204 1 some other test facility? 2 MR. CARNEY: I'm going to object here. You're 3 asking this witness to speculate about what was inside 4 Congressman Ryan's mind, and other than winning votes and 5 trying to get re-elected, which I think we've probably 6 established, but what was inside his mind when he makes a 7 speech back in July 26th, 1971. Why don't you ask 8 Congressman Ryan? 9 MR. McCREA: I would also note that he was 10 interested in protecting the environment and protecting 11 human health, and in 1977 Monsanto company fully concurred 12 with the ban of PCBs. It took six years to educate 13 Monsanto, but they fully concurred with the ban six years 14 later. 15 MR. CARNEY: Well, you know, Mr. McCrea, 16 you're making speeching that are untrue, that are 17 inflammatory, that are improper. You have no -- You're not 18 testifying and here you are making these speeches. We're 19 here to take Dr. Kelly's testimony. If you have a 20 question, fine, but to make a speech that Monsanto did 21 something improperly is an outrage to me, and it's improper 22 and unprofessional conduct on your part, and I would urge 23 you to get on with questions and quit making speeches. The 24 jury into interested in what you think or what I think. 25 They want to hear the evidence from the witnesses that are

Page 205 1 under oath. 2 MR. McCREA: I was just defending Congressman 3 Ryan. 4 MR. CARNEY: Well, I didn't know that was the 5 purpose of this. You're getting so far off the track in 6 the fifth day of your cross examination, Mr. McCrea. Now 7 you're defending a congressman who's running for office, 8 you know. I'm glad you're doing that, but let's not do it 9 on the record and waste the jury's time. 10 Q (By Mr. McCrea) Dr. Kelly, would you turn to 11 page 100? 12 A 100? 13 Q Yes, sir. 14 A I've lost that one, too. Do you have 100? 15 Oh, I'm back here. 16 MR. CARNEY: Why don't you give those back. 17 A I may need those back. Yes, sir. 18 Q (By Mr. McCrea) Are you familiar with this 19 document which has as its caption, "Monsanto's PCB program, 20 W. B. Papageorge, Presented at ANSI," A-N-S-I, all capital 21 letters, "Committee C-107 Meeting - September 14, 1971"? 22 A What did you ask me about it? Am I familiar? 23 Q Are you familiar with it? 24 A Well, I've seen it, but I don't know when I 25 saw it, whether I saw it during my time with Monsanto or	Page 207 1 fifth day and now you're asking the witness to read a 15 2 page document that he says he doesn't know that he saw when 3 he was with Monsanto, and to see if there's a word there. 4 MR. McCREA: Just a second. I'll save you 5 time. 6 MR. CARNEY: Okay. 7 MR. McCREA: I'm agree that the document 8 speaks for itself and that it may be read by the jury. 9 MR. CARNEY: Well, you know, whether -- We're 10 not in the courtroom now. We don't have the jury, and I 11 think we'll have to address that to the judge at the time. 12 Whether it's appropriate to have the jury take the time to 13 read this 15 page document or not, I think we'll have to 14 address at a later date. 15 Q (By Mr. McCrea) But I'm -- Dr. Kelly, I don't 16 think it's necessary for you to read this document unless 17 you'd like to. 18 A No, I don't need to. 19 Q All right, sir. Would you turn to page 114 of 20 the Papageorge document, the sixth line, sixth line from 21 the bottom of the page beginning "There is still" -- 22 MR. CARNEY: You're on 114? 23 Q (By Mr. McCrea) Yes, sir. 24 A Sixth line, "There is still," yes. 25 Q (By Mr. McCrea) Yes, sir. That statement by
Page 206 1 not. I don't really believe I did, but I've certainly seen 2 it since I've been out. 3 Q Would you turn to page 104? 4 A Yes, sir. 5 Q Would you read the paragraph three beginning, 6 "Through the years," just to yourself and then I'll ask you 7 if that makes any reference to PCBs and plasticizers in 8 silos? 9 A I've read it. What is your question. 10 Q Does it make any reference to silos? 11 A With the exception it said, "Uses such as in 12 paint formulations." 13 Q Is there any references whatsoever in this 14 document consisting of 15 pages to the problem of PCBs 15 flakes and leaching from plasticizers in silos into the 16 silage contaminating the cattle and contaminating the milk? 17 A Well, we might as well turn off the film 18 because I'll have to read this. I can't answer that. 19 Q All right, sir. 20 A So are we turning it off? 21 MR. McCREA: Yes. 22 MR. CARNEY: Well, let me object to this while 23 we're still on the record. 24 MR. McCREA: Let's -- 25 MR. CARNEY: This deposition, you're into the	Page 208 1 Dr., by Mr. Papageorge reads, "There is still a lot of 2 information that is needed to help us determine the long 3 term effect on human beings." That statement was made 4 September 14th, 1971. As of September 14, 1971, do you or 5 did you as medical director concur with that statement? 6 A Well, I have to see -- 7 MR. CARNEY: I don't know that you've 8 established that he actually saw that statement. He 9 doesn't know if he saw this document. Are you asking him 10 today or back -- 11 MR. McCREA: I'm asking him if -- 12 MR. CARNEY: If he saw that in '71, would he 13 agree? 14 MR. McCREA: Did he concur with that statement 15 on September 14th, 1971. 16 MR. CARNEY: Well, I'm going to object to 17 using the word did he concur because I don't think he could 18 concur with something unless he saw it to concur with it. 19 If you're saying did he believe that to be a true statement 20 back then whether or not he saw it or not, I think he could 21 probably answer that. So I object to the form. 22 Q (By Mr. McCrea) Dr. Kelly, on September 14th, 23 1971 did you believe that to be a true statement? 24 A Well, first of all, I'm not going to pick one 25 sentence out of this. Let's take the sentence before it.

Page 209 1 Q Dr. Kelly -- 2 MR. CARNEY: Let him finish his answer, 3 please. 4 MR. McCREA: Just a second, please. 5 MR. CARNEY: Just a minute. If you'd let him 6 finish his answer because I don't like your interrupting 7 him while he's in the middle of his answer, so please.- 8 A You're asking me to pick one sentence out of 9 context, and if I'm going to concur or agree with this 10 statement, I've got to look at the previous statements and 11 the following, the statements following it. 12 Q (By Mr. McCrea) Dr. Kelly, I'm asking the 13 question. Your attorney may ask you on redirect any other 14 information which he feels is necessary to present to the 15 jury. My questions is: Do you agree with the accuracy of 16 that sentence, "There is still a lot of information that is 17 needed to help us determine the long term effect on human 18 beings"? 19 A Now -- 20 MR. CARNEY: Let me object to it. 21 Q (By Mr. McCrea) Now, if you want to go and 22 address other portions of this document as not in response 23 to my question, fine, go ahead, but I would ask that the 24 Court at the trial restrict your answer only to that which 25 is responsive to my question. Go ahead and answer.	Page 211 1 classified as highly toxic." 2 Then he going onto say, "There is still a lot of 3 information that is needed to help us determine the long 4 term effect on human beings." I don't know if at that 5 time we had the two year testing on the two different 6 species. 7 I think that he referred also to other items as how 8 much is in the food that people are taking. So that is 9 just as important as the toxicity of the material. So 10 certainly that information is needed to help us determine 11 the long term effect. You have to equate -- There are two 12 parts to the equation, how toxic are small amounts and 13 what's the size of the amount? Does that answer your 14 question, Mr. McCrea? 15 Q (By Mr. McCrea) Yes, sir. Would you go to 16 page 110? I'll direct your attention to the last sentence 17 in paragraph two beginning, "PCB was brought out." The 18 statement says, "PCB was brought out as" -- 19 MR. CARNEY: Are you talking about the middle 20 paragraph; right? 21 MR. McCREA: Paragraph two. What did I say? 22 MR. CARNEY: I thought you said the last. I'm 23 not sure. 24 MR. McCREA: The last sentence of paragraph 25 two. I don't know what I said. The sentence which states,
Page 210 1 MR. CARNEY: Well, I'm going to object to your 2 picking out a sentence in the middle of a 20 -- I'm sorry 3 -- 15, 16 page document out of context, and that sentence 4 has some undefined words to it. It says, "There's still a 5 lot of information." It doesn't say what kind of 6 information, what he means by a lot. It might call for Dr. 7 Kelly to speculate. I note -- I think that the doctor is 8 entitled to read the sentence in front of it or any other 9 sentence to bring it into context, and I invite the doctor 10 to do that. 11 A Well, I don't believe Mr. McCrea wants me to 12 do that. 13 Q (By Mr. McCrea) No, you can go ahead and do 14 it. I'm just stating that I asked a question as to that 15 sentence and when this is given to the jury, we'll get a 16 ruling from the Court, but you may answer it. I can't 17 restrict you on how you're going to answer it. 18 A Good. Thank you. That was the bottom line on 19 this question? 20 (Thereupon, the reporter propounded the previous 21 question.) 22 Q Well, to answer that in a yes or no situation, 23 I would need a lot of information myself. In the first 24 place, I think it, in context he stated the, "Studies today 25 would indicate that these PCBs are not and cannot be	Page 212 1 "PCB was brought out at an example of a material introduced 2 into society." 3 A Mine says brought up. 4 Q (By Mr. McCrea) Brought up? 5 A U-p, brought up. 6 Q Mine says brought out. 7 A You want to see mine? Page 11, 110? 8 Q Yeah. That's interesting. 9 MR. CARNEY: I think you're looking at a 10 different sentence. It's the last sentence on paragraph 11 two. 12 A Is that what we want now? 13 MR. CARNEY: Yeah. 14 A Okay. That is one of the problems of picking 15 items out of 15 pages. 16 Q (By Mr. McCrea) I don't dispute that, Doctor. 17 A Okay. 18 Q It states, "PCB was brought out as an example 19 of the material introduced into society and thought at one 20 time to be most valuable, but is now considered a serious 21 threat to all of us." Do you agree? 22 MR. CARNEY: I'm going to object. Again 23 you're -- 24 Q (By Mr. McCrea) With that? 25 A No, I don't agree with it.

Page 213 1 MR. CARNEY: And I'm going to object to your 2 taking a 15 page document, reading one sentence totally out 3 of context. If you're going to read from this document, 4 you're misleading the jury by reading sentences totally out 5 of context. You're doing this throughout the deposition, 6 and this is an example of it. That's not a proper way 7 unless you've established that this witness is familiar 8 with the document or he authored the document or he 9 received the document. 10 A And here again I may further explain, you've 11 got to read the sentence in front of it. Individuals -- 12 "Initial hearings were held in August to which a select few 13 individuals were invited to testify." Who were they? I 14 don't know. 15 "PCB was brought out as an example of material 16 introduced in society and thought at one time to be most 17 valuable, but is now considered a serious threat to all of 18 us." Those aren't Papageorge's words. Those are these 19 unnamed individuals who were invited to Senator Phillip 20 Hart's committee, and I don't agree with it at all. 21 MR. CARNEY: And I think this is just an 22 example, Mr. McCrea, of how you're misleading the jury by 23 trying to infer that these were Papageorge's words. This 24 is an example of the improper questioning of the witness by 25 implying that it's Papageorge's words when now we read the	Page 215 1 Yes, that, we did have one for an entirely different 2 product in which we were looking for a potential bladder 3 carcinogen, and that means you take urine, urine, 4 centerfuge it down, stain the sentiment and look for 5 bladder cells. Now, first paragraph we go to, "Enclosed" -- 6 Q Let me ask this. Does this relate to PCBs, 7 this document? 8 A I don't think so because the next one -- 9 Q All right. 10 A You say, "Enclosed is a copy of the article on 11 bladder cancer in the U. K. that I mentioned on the phone," 12 and following that is this article 117, "Bladder Tumors in 13 the Electric Cable Industry," and I read that four 14 different times and I don't see PCB in it at all. So I 15 don't know what it's doing in here. 16 Q At the bottom she says, "For the sake of 17 completeness, I'm also enclosing the summaries of two 18 articles which I am sure you have seen. Both articles 19 report some findings on Aroclor 1260 Lot AK-3." Do you 20 know what she means by that? 21 A I don't know. It certainly wasn't this one 22 because this doesn't mention Aroclors or PCBs at all. 23 Q Then it says, "Let me know if you need any 24 Aroclor. We seem to have more than sufficient for our 25 studies."
Page 214 1 sentence just before it and it's clear that they weren't 2 Papageorge's words at all, but some unnamed individuals who 3 we don't even know the names of. I don't think the names 4 are in this memo. How can I cross examine some unnamed 5 people? This is total, totally improper. 6 Q (By Mr. McCrea) Dr. Kelly, would you go to 7 page 116? 8 A 16 this time. 9 Q Yes, sir. 10 A Yes, sir. 11 Q Can you identify the exhibit? 12 A Yes. I haven't seen this until this trial. 13 It's a letter from Dr. Kimbrough to Dr. George Levinskis of 14 Monsanto dated October the 15th, 1971. 15 Q Do you know what did -- in the second 16 paragraph, and you state you have not seen this until this 17 date? 18 A That's to the best of my recollection. I may 19 have, but it doesn't fit itself in my consciousness. 20 Q Okay. It says, "Does Monsanto have a cytology 21 screening program?" Do you know what is meant by that? 22 A Yes. It means can you screen -- I presume 23 she's talking about bladders. Again, I'll answer this 24 question and then I'll read the whole letter out. It says 25 here, "Does Monsanto have a cytology screening program?"	Page 216 1 A I don't know what she meant. I mean -- 2 Q Okay. 3 A And frankly this is, just to clarify this, 4 this article that she says, "Enclosed is a copy of the 5 article on bladder cancer in the U. K. that I mentioned on 6 the phone." That's Kimbrough to Levinskis, and the article 7 under your plaintiff's exhibit pages 117 and 120 does not 8 mention Aroclor or PCBs any place. 9 Q I read those and that also is my 10 understanding. 11 A Good. 12 MR. CARNEY: Are you saying -- 13 A Why is it in there? 14 MR. CARNEY: The article that starts on page 15 117 of Exhibit Six is the enclosure. 16 MR. McCREA: I don't know. 17 MR. CARNEY: Okay. 18 Q (By Mr. McCrea) But what I was concerned 19 with, Dr. Kelly, does this statement, "Does Monsanto have a 20 cytology screening program," apply? 21 A Yes, but not for PCB people. 22 Q What is cytology? What does that mean? Is 23 that urine? 24 A Looking at cells. It could be urine. It 25 could be a pap stain from women for cancer. They cough up

Page 217 1 stuff. That's cytology. You're looking for the stuff 2 that's under the microscope. 3 Q All right. Are you familiar with the article 4 written by J. G. Vos and J. H. Koeman of which the, I guess 5 you would call it an abstract, appears on page 121, but not 6 the full article? 7 A Yes, sir, I am. 8 Q On this date do you recall if there was 9 anything in that article with which you disagreed? 10 A No, sir, I don't think so. 11 Q Dr. Kelly, are you familiar with the article 12 written by J. G. Vos and R. P. Beems, B-e-e-m-s, that 13 appears on page 122 again in which only the abstract of the 14 article is provided and the full article is not? 15 A Am I familiar with it? 16 Q Yes, sir. 17 A Well, yes, but I believe on this particular 18 one I would need more information if the next question is 19 going to be do I agree with all the findings. I don't 20 know. 21 MR. CARNEY: I'm going to object to the prior 22 question where you asked if Dr. Kelly agreed with the prior 23 article. He said he didn't disagree with it, but I think 24 that's an overbroad question because I'm sure it has at lot 25 of statements in it. We don't have the full article here,	Page 219 1 sentences down from the first paragraph? It says, "A 2 subsequent study revealed the presence of tetra- and 3 pentachloridibenzofuran in Phenoclor and Clophen." 4 A Yes, sir. 5 Q Is that a reference to what we earlier 6 referred to as furans? 7 MR. CARNEY: I'm going to object. It may call 8 for this witness to speculate. 9 A Yes, sir, but also this again is a fallacy of 10 looking at the abstract because Phenoclor and Clophen are 11 either Italian, German or French pentachlorophenyl, and 12 during the body of this article he says we didn't find 13 these things in the Aroclor. That very little significant 14 statement is not listed in this abstract, but it's in the 15 body of the literature. 16 Q All right, sir. 17 A Tetrachlorbenzenes in the European PCBs, not 18 in the Monsanto PCBs. 19 Q But I believe -- 20 A Under the analysis done in 1971. 21 Q I believe you stated Monsanto tested its PCBs 22 and did find furans? 23 A Later on, but this man did not find it. 24 Q All right, sir. And we've been over that; 25 fair?
Page 218 1 so I would object to the form of the question as being 2 overbroad. 3 Q (By Mr. McCrea) Do you recall the question as 4 to the article on page 121, Dr. Kelly? I asked you if you 5 agreed with that article? 6 A Well, I agreed with the abstract, but there 7 wasn't, I would have to know more about it from going over 8 the whole article to know if I agreed with his findings. 9 Q Fair statement, and I think that's an 10 appropriate clarification. Now, Dr. Kelly, with respect to 11 the article on page 122 again with regard to the abstract, 12 is that information with which you were familiar during the 13 time you were with Monsanto as medical director and do you 14 agree with the information contained in that abstract? 15 A Well, there again because he is talking 16 about -- 17 MR. CARNEY: Objection to the form. It's 18 compound, but go ahead. 19 A He is talking about, could be lesions, but I 20 would have know no more about them because that certainly 21 has not been a very positive thing in the examination of 22 animal toxicity reports. 23 Q (By Mr. McCrea) Would you -- And we've got 24 some fine print here, Doctor, and your eyes are probably 25 better than mine, but would you read the, what appear six	Page 220 1 A That doesn't mean we can't go over it again. 2 Q Will you turn to page 123? 3 A Yes, sir. 4 Q Do you recognize this document? 5 A I really don't. 6 Q Do you recognize the names which are written 7 on page 123, the last L-e-i-s-y it appears, Richard 8 and the last one I can't read? 9 A I recognize Richard here. As I said, he was 10 in research before. I don't know the other people, but 11 obviously one's a general manufacturing superintendent of 12 the East St. Louis plant and the other is a manufacturing 13 manager which is right below him. 14 Q And in looking at this document, you do not 15 recognize it as having been something you have read before? 16 A I may have, but every department in the 17 company has what they call their manufacturing processes, 18 and so I might very well have seen it. 19 Q All right. Would you go to page 125? 20 A Yes, sir. 21 Q It has a Roman numeral three, "Toxicity" in 22 the middle of the page. Underneath that -- You see that? 23 A Yes. 24 Q Underneath that it says, "The following toxic 25 rating code will be used in describing the toxicity

Page 221 1 these materials, 0 - none; 1 - slight; 2, moderate; 3, 2 high' U - unknown." In the first chemical is -- 3 MR. CARNEY: I don't have a record. I'm on 4 the wrong page. 5 MR. McCREA: 125. 6 MR. CARNEY: Okay. 7 MR. McCREA: Do you have 125? 8 MR. CARNEY: Yes, I have it now. 9 Q (By Mr. McCrea) Then the first chemical which 10 they discuss is byphenyl, code 82601. Do you see that? 11 A Yes, sir. 12 Q And in six it says, "Toxic Hazard Rating, 13 Acute Local: U." That means unknown. Is that correct? 14 A Yes. 15 Q "Acute Systemic Ingestion, 3." That means 16 high; correct? 17 A Yes, that's what he says, but I don't agree 18 with him at all. 19 Q "Inhalation"? 20 A Three. 21 Q Three, high "Chronic Local: U," unknown. Do 22 you not agree with that? 23 A No. 24 Q Categorization? 25 A It's --	Page 223 1 MR. CARNEY: I take it your question is did 2 he see this document when he was employed? 3 Q (By Mr. McCrea) Correct. 4 A I really don't remember this at all. It 5 doesn't say who it's from. It doesn't say the date on it. 6 I don't know anything about it. 7 MR. McCREA: All right. Do you see 8 paragraph three? 9 A Which page? 10 Q Page 130. 11 A Yes, sir. 12 Q And does that state, at least in this 13 document, "All plasticizer customers were notified on 14 December 31, 1971 of our intention to discontinue PCT." 15 What does that stand for? 16 A I don't know what it means, but unless they 17 had a different name for the plasticizer use of PCBs. I 18 don't know, but they're talking about PCB, so I'm sure that 19 it's PCBs. 20 Q Does that refresh your memory as to the plan 21 of action with respect to eliminating the PCBs in 22 plasticizers? 23 A Well, yes, but I don't know if there were any 24 other plans. This is undated, so I mean, it's obviously 25 sometime after December 31st, '71. I don't know if there
Page 222 1 MR. CARNEY: Let me object before you answer. 2 A It's not a high toxicity. 3 MR. CARNEY: Let me just object, Dr. Kelly, 4 before you answer the question. 5 A Okay. 6 MR. CARNEY: This is a document that the 7 witness did not author. He doesn't know if he saw it while 8 he was employed by Monsanto. Some of the people that did 9 author it, I notice a Mr. Savage, I know he's still with 10 Monsanto, but, and you're obviously free to take the 11 depositions of people that have knowledge of this document. 12 This witness doesn't know about it. He would have to 13 speculate as to what the authors meant by these 14 designations, number one, and you know, we don't know 15 whether these -- if we don't know what they meant by these 16 designations, it's pretty hard to speculate as to the 17 significant of any of this. I think we've got the wrong 18 witness again. 19 Q (By Mr. McCrea) Do you know who -- This says, 20 "Prepared by: R. M. McCutchan." Do you know who he was, 21 Dr. Kelly? 22 A No, I don't know who he is. He's not in the 23 medical department. 24 Q Would you go to page 130? You recognize this 25 document?	Page 224 1 were other plans of action of which I wasn't privy. I may 2 not have known about it. 3 Q All right. Will you go to page 131? 4 A Yes, sir. 5 Q The second to the last paragraph it is stated, 6 "We have been in close touch with the Federal Interagency 7 Task Force under Dr. Edward J. Burger, Jr.'s direction. 8 This task force, task force is preparing to issue a report 9 on PCBs about mid-February. We will be allowed to work 10 with them in its preparation." Do you have any 11 understanding of Monsanto's involvement in working with the 12 Federal Interagency Task Force? 13 A No, sir, I was not involved with it. I may 14 have seen reports, but I don't know Monsanto's involvement. 15 Q You go to 133? 16 A Beg your pardon? 17 Q Page 133, Dr. Kelly? 18 A Yes, sir. 19 Q Do you recognize this document? 20 A I recognize what it is. It's a letter from 21 Howard Bergen undated, obviously sometime before January 22 the 15th, 1972. I don't know any more about it than that. 23 Q All right. Were you aware that Monsanto was 24 requiring its purchasers such as Westinghouse, General 25 Electric, McGraw Edison to indemnify Monsanto in case

Page 225 1 Monsanto got sued for PCB damage to the environment for 2 health effects? 3 A No, sir, I wasn't. Is that in here? 4 Q Yes, sir. 5 A No, sir, I don't know anything about that. 6 Q All right. Can you identify the document on 7 page 141? 8 A 41? 9 Q 141? 10 A Well, it's a letter from -- 11 MR. CARNEY: Well, again -- 12 Q (By Mr. McCrea) Can you identify it? Have 13 you seen that before this date? 14 A I may have seen it. I saw it yesterday. I 15 took this home last night, but I don't recall it, no. 16 Q Before that date did you see it? 17 A No, I don't recall it. 18 Q Do you have any working knowledge as you 19 testify here today about requests of the U. S. 20 Environmental Protection Agency for a list of Monsanto's 21 customers who purchased PCBs? 22 A No, sir, I do not have a working knowledge. 23 In fact, no knowledge at all. 24 Q Will you go to page 143? Do you know the 25 gentleman who wrote this letter whose signature appears on	Page 227 1 A Yes, the last 48 hours or 24 hours. 2 Q But not while you were serving as medical 3 director of Monsanto? 4 A Not that I recall. I found 93. 5 Q What's that? You found 93? 6 A I said I found number 93 that I was worried 7 about. 8 Q Would you like to go back and discuss it? 9 A No, thanks. I think we discussed it pretty 10 fully. 11 Q Would you go to page -- First of all, can you 12 identify the document that appears on page 148? 13 A Yes, sir. Page 148. 14 Q Yes, sir. 15 A Did you ask me could I identify it? 16 Q Yes. Do you remember this document? 17 A No, sir, I do not. 18 Q All right. Will you go to page -- 19 A I saw no carbon on me on this. Yes, sir. 20 Q All right. Would you go to page 151? 21 A Yes, sir. 22 Q The fourth paragraph on that page which 23 begins, "On the basis of available evidence," do you see 24 that? 25 A Yes, sir.
Page 226 1 page 145? 2 A Mr. T. Katayama? 3 Q Yes, sir. 4 A No, sir, I do not. 5 Q Is this a Monsanto Chemical Company document? 6 A Mitsubishi Monsanto. I don't know if that's 7 fully owned by Monsanto. I thought it was 50-50 or maybe 8 it was 51-49. I don't know. 9 MR. CARNEY: Don't speculate, Doctor. 10 A What? 11 MR. CARNEY: Don't speculate. 12 A I said I don't know, but it's not a Monsanto 13 document. It's a Mitsubishi Monsanto Chemical Company. 14 Q (By Mr. McCrea) He states on page 145, the 15 second to the last paragraph, "The grand funeral of PCB in 16 Japan is close at hand," and that was written on March 22, 17 1974. Did you have any knowledge as to the approach of the 18 Japanese with respect to PCBs on this date? 19 A No, sir, but you must remember, in Japan they 20 had an awful lot of trouble from eating the material, 21 eating the Japanese material. 22 Q All right. Can you go to 146? 23 A Yes, sir. 24 Q Have you seen that article, that letter 25 written by W. B. Papageorge before this date?	Page 228 1 Q It says, "On the basis of available evidence, 2 it would appear that PCBs pose less of an acute toxic 3 health hazard than many substances not proposed for your 4 list, and at the levels found in the total environment are 5 not a threat to public health. We believe these views 6 agree with the conclusions reached by the Interdepartmental 7 Task Force on PCBs in its report dated May 1972 8 (CCN-72-10419)." Do you know who participated on the 9 Interdepartment Task Force in preparing that report? 10 MR. CARNEY: I'm going to object. It's again 11 reading a sentence in a multipage letter that this wasn't 12 authored by this witness or copied to him. 13 Q (By Mr. McCrea) Do you know who participated 14 on the Interdepartmental Task Force? 15 A Well, the Interdepartmental Task Force is not 16 a Monsanto task force. It's a government task force, so I 17 do not know who those people are. Whether any Monsanto 18 people were invited to participate, I don't know. I was 19 not. I don't recall anybody from the medical department. 20 So the answer to your question is no, I don't know. 21 Q (By Mr. McCrea) All right, sir. Do you 22 recognize the document which begins on page 154 titled 23 "Minutes of Meeting on Proposed PCB Effluent Standards, 24 February 28, 1974"? 25 A No, sir, I don't.

Page 229 1 Q On page 157 there's a reference to E. S. 2 Tucker. Was he the gentlemen who did your analytical 3 analysis? 4 A Yes, sir. That's Scott Tucker. 5 Q Did he do analytical analysis on PCB levels in 6 the blood of your workers on any other, on more than one 7 occasion or just the one occasion which he reported in 8 1972? 9 A As long as I was there that's all he did. 10 Whether he did more after I left, I don't know. 11 Q Dr. Kelly, in this document, did you 12 participate in this? 13 A No, sir, I don't believe I did at all. I 14 don't think I ever saw it. 15 MR. McCREA: Break. 16 (Thereupon, a short recess was taken.) 17 Q (By Mr. McCrea) Dr. Kelly, I direct your 18 attention to page 174, a document dated March 12, 1974. 19 A Page? 20 Q 174. 21 A Yes, sir. 22 Q Is the author of that letter the attorney for 23 Monsanto? 24 A He was one of them. He was our environmental 25 attorney. He's not associated with them anymore. I think	Page 231 1 take the position in 1974 that these qualifying phrases 2 were not sufficient to establish --that because of these 3 qualifying phrases, there was not sufficient data to set 4 effluent standards for PCBs? 5 A I can't answer that because I do not know. 6 Q All right. Will you turn, please, to page 7 190? 8 A Yes, sir. 9 Q Does this post-date your employment at 10 Monsanto? The date on the top of the page I see is 11 December 9, 1974. 12 A Yes, it does, and whoever wrote it, obviously 13 my departure didn't make much impression on them because he 14 copied me in. 15 Q I didn't notice that. Where are you copied? 16 A Right below Bratsch, Engman, Fort, Kelly, 17 Levinskas and Savage. 18 Q All right. Did you get -- Did you actually 19 receive this document? 20 A No, sir. In fact, I don't -- 21 Q Do you know who authored this? 22 A I don't know. 23 Q Is this a Monsanto form? 24 A Well, it's Monsanto stationery. 25 Q Is it a memorandum type form?
Page 230 1 he's in a private law practice. 2 Q The next page is the beginning of an affidavit 3 of W. B. Papageorge? 4 A Yes, sir. 5 Q And that affidavit goes to page 189 where it 6 is signed. See that? 7 A Yes, sir. 8 Q I'd like to ask you one question about the 9 affidavit, and that relates to the third paragraph on page 10 184. 11 MR. CARNEY: Let me just state for the record 12 that this is an affidavit dated March 14, 1974. 13 Q (By Mr. McCrea) Dr. Kelly, do you have page 14 184? 15 A Yes, sir, I do. 16 Q The third paragraph on page 184 states, "We 17 note in 'Water Quality Criteria, 1972,' in those sections 18 pertaining to polychlorinated biphenyls, the frequent use 19 of unpublished data and the disturbing use of qualifying 20 phrases such as 'may adversely affect,' which is in 21 quotes, 'Apparently related,' which is in quotes, or 'The 22 work suggests,' which is in quotes. 'In our opinion, none 23 of the questions present, present adequate data to 24 support establishment of responsible effluent standard for 25 PCBs." My question to you, Dr. Kelly, is: Did Monsanto	Page 232 1 A Yes, sir, interoffice communications. 2 Q The names two and then there are six names 3 including yourself. That is correct? 4 A Yes. 5 Q Was it authored by Papageorge and Wheeler? 6 A I can't make -- I just don't know. I don't 7 know who it is. 8 Q All right? 9 A Those two names are up there, but I don't 10 know. I'd like to see the second page, but there isn't any 11 fall, any second part of it. 12 Q This states paragraph two that -- In 13 paragraph one it discusses a meeting with NIOSH. Can you 14 explain to the jury the functions of NIOSH? 15 A It's the National Institute for Occupational 16 Safety and Health. It's a research arm of the government 17 in the Department of Health, Education and Welfare. 18 Q It says the original purpose was to explore 19 whether Monsanto had a suitable occupational group for 20 study to assess the potential chronic affects of PCBs. To 21 your knowledge, before this date had there been any study 22 of workers in America to determine chronic effects of PCBs? 23 MR. CARNEY: I'm going to object to the form 24 of the question as to what you mean by study. 25 A Well, if you consider what I did when I

Page 233 1 examined the people who were presently working in the 2 department, if that's called a study, fine. I don't know 3 when the Zack study was done. I don't know if that was 4 before December. No, it wasn't done before December of 5 1974 because it was done after I left there. She wasn't 6 there when I was there, so I would say mine was the only 7 one and that, as I said, it's not anything I would term a 8 study. It was just a report on the health status of the 9 present workers at the PCB plant of East St. Louis. 10 Q All right. This says, "What this would 11 involve in obtaining work histories of time spent in PCB 12 departments and medical records of active and still-living 13 inactive employees." Is that correct? 14 A Yes, sir. 15 Q And they also make reference to examination of 16 death records? 17 A Yes, sir. 18 Q And they say, "The study was stimulated by a 19 report from Dr. Kimbrough, that she had found an alarming 20 rate of liver cancers in rats fed Aroclor 1260." 21 A Yes, to the female rats, yes, none in the 22 males. 23 Q Do you know if Monsanto agreed to make their 24 employees available for a suitable occupational study of 25 the chronic effects of PCBs?	Page 235 1 MR. CARNEY: I don't know what you mean by 2 agree with it. Did you read the words correctly? We're 3 talking about a document. 4 Q (By Mr. McCrea) You agree with the accuracy of 5 that statement? 6 MR. CARNEY: Well, I'm going to object for 7 the record that we're now getting into documents that 8 are, were generated after Dr. Kelly retired from Monsanto 9 and reading out -- He didn't get the document. He didn't 10 see it. He didn't write it. To ask him questions about 11 documents will take an awfully long time that he didn't 12 having any involvement with. 13 A Will you ask -- May I answer now? 14 Q (By Mr. McCrea) Yes, sir. 15 A Well, this is by a Westinghouse staff 16 supervisor. He writes this on February the 3rd, 1975. 17 There are at least three letters in this batch of exhibits 18 on plaintiff's exhibit from Wheeler to Spiker in which we 19 have explained to him dating back as far back, I think, as 20 1969 what the problem, what the problems were, the toxicity 21 were, the safe handling of data, the maximum allowable 22 concentration, that was all given to him. 23 Now, I don't know whether Albert was right or not 24 because it depends on what the exposure was. I don't know 25 what his exposure was, so I don't know whether Mr. Albert
Page 234 1 A Oh, I'm sure they did because I've seen 2 letters and I know that the people from NIOSH came down and 3 walked through the plant and said, "You don't have enough 4 people here. We don't think it's feasible to do it." Yes, 5 we made everything available, everything they wanted. That 6 presumably, whether this caused Zack, caused the subsequent 7 medical director to have Zack do it or not, I don't know. 8 Q We go to page 191. 9 A Yes, sir. 10 Q Have you seen this document before today other 11 than cursory review? 12 MR. CARNEY: Again, I think all the documents 13 from page 190 through to 262 in the Exhibit Six now 14 post-date the retirement of Dr. Kelly, so I think I just 15 note that for the record so that it might make things go a 16 little faster. 17 Q (By Mr. McCrea) You see the second paragraph 18 on page 191, February 3, 1975, letter from Dan A. Albert to 19 Papageorge? 20 A Yes, sir. 21 Q It says, "We have in the past -- "We have had 22 in the past workplace meetings with our employees 23 explaining proper use of Interteen and telling them unless 24 it is consumed, it presents no real danger to them." Do 25 you agree with that statement?	Page 236 1 was accurate in his statement or not, but he, Westinghouse 2 certainly had all the opportunity in the world to know 3 about the toxicity of Interteen because they even carried 4 out some of their own work back before 1940. 5 Q Do you agree -- 6 MR. CARNEY: Just for the record, I think we 7 ought to note that Albert doesn't appear to work in the 8 Bloomington plant. 9 MR. McCREA: He works in South Boston, 10 Virginia where they make PCB transformers. 11 MR. CARNEY: I don't think any of the 12 plaintiffs worked in that plant, just for the record, so 13 the jury isn't confused. 14 Q (By Mr. McCrea) Dr. Kelly, do you agree with the 15 accuracy of that statement? 16 A Well, it all depends on what you mean. I 17 don't know what his exposure level is. Suppose he has -- 18 If this were in our plant, I would have had a workplace 19 meeting with our employees saying proper use of Interteen 20 will present no real danger, yes, that's true. Unless you 21 eat it, so he -- I don't know if you, he said explaining 22 the proper use of Interteen that's used properly, there is 23 no real danger. 24 Q Okay. Then you have to define what is meant 25 by using it properly; correct?

Page 237 1 A Well, using it according to our instructions 2 is properly. 3 Q All right. Will you go to page 192? Did 4 anyone from Monsanto show you these questions shortly after 5 you finished working for them? 6 A No, sir, not that I recall at all. 7 Q Would you focus on question two? And this 8 comes from Westinghouse. Would you consider this a report 9 of problems? Question two, it says, "Several hourly 10 employees have mentioned recently that many chemicals such 11 as Interteen cause sterilization after a prolonged use. Is 12 this true?" 13 A No, it's not true. I mean, is it true that 14 they mentioned it or is what? 15 Q No, is that true? 16 A Is the statement true? 17 Q Right. 18 A I don't know anything about Interteen causing 19 sterilization. 20 Q All right. 21 MR. CARNEY: Well, note for the record it 22 says, "Chemicals such as Interteen." It doesn't identify 23 the other chemicals. 24 Q (By Mr. McCrea) All right. You go to 25 question six. It says, "There is one employee in our plant	Page 239 1 questions of Mr. Albert repeated in answers from Monsanto 2 to Westinghouse? 3 A Yes, sir. 4 Q Is the answer to question one -- Do you agree 5 with the accuracy of the answer to question one? 6 A May I read it? 7 Q Yes, sir. 8 A Yes, I would agree with it. I don't believe 9 that I would say that polychlorinated biphenyls has not 10 been recognized as skin irritants. It all really depends 11 if you consider paint remover on irritant. If you get that 12 on your hands enough, it's literally efficient paint 13 remover. I think it could detach your skin. With that 14 exception, the rest of it looks all right with me. 15 Q You agree with the, specifically with the last 16 sentence in the next to the last paragraph, "Although 17 chloracne is difficult to evaluate in animals, in humans 18 this takes the form of comedones (large blackheads with 19 typical acute pustules) and may be an external symptom of 20 overexposure preceding serious," and serious is 21 underscored, "liver injury"? 22 A It may be and maybe not. The majority of the 23 chloracnes in industrial work have not been associated with 24 overexposure, but for the sense of completeness, he put it 25 in.
Page 238 1 who had no problem whatsoever with Inerteen years ago. 2 After six years of using, now when he works in Inerteen 3 (which is a part of his job) he develops a swelling on the 4 inner bicep of his left arm, only in one location. Could 5 this be from Inerteen or not? It goes away as soon as he 6 gets out of the Inerteen. It is similar to the swelling 7 after taking an injection." 8 A Is there a question? 9 Q What would your response be to that question? 10 MR. CARNEY: If he had been employed at 11 Monsanto back then? 12 MR. MCCREA: Correct. 13 MR. CARNEY: And got that question? 14 A I would say conceivably maybe he had an 15 allergic reaction. I do not know why it would be just on 16 one spot on his arm unless he has got some job where he 17 leans on a rail or something in that job and he gets 18 contamination, but I can't conceive of any other reason. 19 An allergic local reaction comes and goes that way, and 20 it's only in one spot. 21 Q (By Mr. McCrea) All right. Will you go to 22 page 195? And that is a letter from Papageorge to Albert; 23 correct? 24 A Yes, sir. 25 Q Will you go to page 196? Do you see the	Page 240 1 Q You agree with the last sentence, "Animal data 2 and human experience indicate that the toxic effects are 3 similar whether exposure results from injection, inhalation 4 of vapors or absorption of the liquid material through the 5 unbroken skin"? 6 A Yes, sir. 7 Q Question two says, "Several hourly employees 8 have mentioned recently that many chemicals such as 9 Inerteen cause sterilization after prolonged use. Is this 10 true?" Answer: "There is no evidence that polychlorinated 11 biphenyls cause sterilization in humans." 12 A I agree with that. That's true. 13 Q Is there evidence that polychlorinated 14 biphenyls cause loss of libido? 15 A It had been reported by the workers. Whether 16 it's true that that was the cause, I don't know. 17 Q Question three, "Since Inerteen affects birds 18 and other animals, if there is no real effects to human 19 beings, how do you explain it to employees in such a way 20 that they will understand why it can kill a bird and not a 21 human?" Answer: "There is a potential real effect to 22 humans including death." Do you agree with that? 23 A Well, as discussed in number one. 24 Q As discussed in the answer to question one. 25 A Yes, but he could answer that, they could put

Page 241 1 that answer on to any industrial chemical made in the 2 United States. Potential? What potential? One in a 3 million? It all depends on what you do with it. If you 4 take a bath in it, if you swallow it, a pint of it. So 5 that would -- That's my comment on that statement. Now, 6 you want the second part? 7 Q I don't think there's a question. The second 8 part of the answer? 9 A Yes. 10 Q Would you like to comment on it? If you would 11 like to comment on it, you may. I don't have a question to 12 address to it. 13 A Well, I think that they could probably explain 14 to them that the problem with the birds had been the 15 thinning of egg shells, and that particular mode of 16 reproduction is certainly different than in humans. 17 Q All right. Question four, "If any employee 18 spills Inerteen on his clothing and later takes the 19 clothing home to be," I think that's washed, "With other 20 clothes, will this have any effect on he or his family and 21 should he carry his clothes home to be washed?" 22 Answer: "There should not be any effect on an 23 employee or his family from home laundering of work 24 clothing. If washed with other clothing, there maybe be 25 residual odor of the chlorinated hydrocarbons in the	Page 243 1 Q Well, if it says chlorinated diphenyl, are 2 they talking about chlorinated naphthalene? 3 A Every time they use the term chlorinated 4 diphenyl, they have proceeded it by saying naphthalene 5 and/or diphenyl. It's never -- There's nothing in the 6 literature back in the '30s that said chlorinated diphenyl 7 alone. 8 Q Question five: "Employees carry Inerteen home 9 on the soles of their shoes and complain quite a bit about 10 the affect Inerteen has on wearing out their shoes. Is 11 this a serious problem? Will Inerteen in the soles and 12 leather of shoes over a long period of time have an effect 13 on the feet and skin since the shoe is the only protective 14 equipment we wear on our feet and the Inerteen penetrates 15 through the leather?" 16 Answer: "There should not be polychlorinated 17 byphenyl on the floor for workmen to contaminate their 18 shoes to carry home. The plasticizer or solvent action 19 will destroy or shorten the life of the shoes. More 20 importantly, the wearing of contaminated shoes could lead 21 absorption of the liquid through the soles of the feet 22 as though, as through any other unbroken skin surface." 23 A Yes, sir, I agree with that. 24 Q Do you think it's a serious problem? 25 A Well, if they -- it all depends. If it
Page 242 1 clothing." You agree with that answer? 2 A Yes, sir. 3 Q Shouldn't Papageorge have told them that that's 4 an unsafe practice for a worker to have PCBs on his 5 clothing and that if a worker gets PCBs on his clothing, it 6 should be changed immediately? 7 A I think he answered the question that was 8 asked him. I don't believe he wanted to go into a 9 discourse about all safe handlings. Here is 12 questions 10 they asked him and he gave information to non-technical 11 people, person see he could answer the questions. 12 Q Do you consider it safe for a worker to get 13 Inerteen on his clothing and wear it? 14 MR. CARNEY: That's not the question that was 15 asked here. 16 MR. McCREA: No, it's not. 17 A It all depends how much. Yes, if his clothes 18 were dredged with Inerteen, he shouldn't wear them, 19 certainly not. 20 Q (By Mr. McCrea) Are you familiar with 21 articles in the literature back in the 1930s which stated 22 that clothes worn by a worker should be washed separately 23 from the family clothes? 24 A They're talking about chlorinated naphthalene, 25 Mr. McCrea.	Page 244 1 happens all the time, certainly it's serious. 2 Q Question six -- 3 A Also, if there's that much on the floor, 4 that's a serious problem. 5 Q Questions six, we've already addressed that 6 one, I believe. The answer to questions six which was the 7 fellow that had had swelling in his arm, "We to not believe 8 there can be any association between a swelling of the 9 inner bicep of the arm and exposure to polychlorinated 10 biphenyls." 11 A Well, I would disagree with that. I think I 12 would say this man may be getting some of the transformer 13 fluid in this particular area and he's allergic to it. If 14 it going away when he leaves and when he comes back it's in 15 the same spot, that's an allergic reaction. It can't be 16 anything else. 17 Q Questions seven: "Are there hand cleaning 18 solvent materials that we should be using when working in 19 Inerteen to coat our skin before working in it and to wash 20 it off after we finish working in it? Please give your 21 recommendation. Our employees working in Inerteen are not 22 able to use gloves since it is an assembly area. Even if 23 they could, the Inerteen would destroy the protective 24 glove." 25 MR. CARNEY: Just so we're clear, Mr. McCrea,

Page 245 1 you're not claiming that these questions are questions that 2 employees at the Bloomington plant had, are you? 3 Q (By Mr. McCrea) No. Answer: "We assume the 4 questions refers to the use of barrier creams rather than a 5 hand cleaning solvent. There are a number of barrier 6 creams available to protect workers against water insoluble 7 solvents. Probably the most effective include silicone to 8 provide an impenetrable shield. I problem with such creams 9 is that they may offer a false sense of security. Proper 10 use includes a discipline which requires liberal 11 application at the beginning of a work shift and after each 12 washing of hands during the work day." Do you agree with 13 that answer? 14 A Yes, sir, I agree with it. I also agree -- I 15 might be more positive in saying we really don't think the 16 barrier creams are all that good, but if it's the best 17 you've got, do it. I also think that at that particular 18 time, I'm not sure whether Neopreen gloves were, could to 19 be used or not. I don't know whether that was in, could 20 not be used, couldn't be used with Inerteen or not be 21 dissolved by the material. I'm not sure. 22 Q We go to page 199. Do you identify -- Do you 23 recognize and can you identify the document? 24 A Yes, this is the "Hygienic Guide Series" put out 25 the American Association of Industrial Hygiene on	Page 247 1 thing. 2 Q You would define promptly as what, half hour? 3 A No, promptly would be any reasonable man would 4 assume to be prompt. Now, I can't say because you weren't 5 telling me how much is on the clothes. You're not telling 6 me how far the man is from where he's going to change the 7 clothes, if he's got a set of clothes right next to him or 8 if he has to walk a quarter of a mile. So there are all 9 sorts of variables, and I cannot quantify that. 10 Q Go to column two under B, "Special 11 Procedures." Do you see that, the last paragraph? 12 A Yes. 13 Q The last sentence, "Persons with known liver 14 disease should not be exposed to repeated contact with the 15 chlorodiphenyls." Do you agree with that? 16 MR. CARNEY: I'm going to object. It doesn't 17 define -- I'm sorry. Where are you reading from, the last? 18 Okay. I'll withdraw the objection. 19 A Now, again -- 20 Q (By Mr. McCrea) Now, Dr. Kelly, do you agree 21 with the accuracy of that statement? 22 A Well, I've got to define what contact is -- I 23 mean, what repeated is. Is repeated every day for a year? 24 I don't think anybody should be exposed to repeated contact 25 with chlorodiphenyls whether they have liver disease or
Page 246 1 Chlorodiphenyls containing, 42, 54 and 42 percent chlorine. 2 Q We go to page 201. 3 A Yes, sir. 4 Q Roman numeral four, "Medical Information, A, 5 Emergency Treatment: Skin surface is exposed to 6 Chlorodiphenyls:" That's PCB; correct? 7 A Yes, sir. 8 Q "Should be thoroughly washed with soap and 9 water at once." Do you agree with that? 10 A Yes, sir. 11 Q "If clothing has been contaminated, it should 12 be removed promptly." Do you agree with that? 13 A Well, it all depends what you mean by promptly. 14 I mean, I wouldn't pull it off as though it had 15 battery acid on it or something like that, but ... 16 Q Define promptly for us. 17 A Well, I think you'd have to ask them how 18 they're using it. My idea of promptly might be entirely 19 different than theirs. I might say within a reasonable 20 time. Then he'll ask me what is reasonable. Well, if the 21 man is going to go to lunch in a half an hour, he can 22 certainly, depending on how much he's got on his clothes, 23 he can wear it, use it for a half an hour. 24 Q So you would -- 25 A If it happens every day, that's a different	Page 248 1 not. We warn against repeated or prolonged skin contact. 2 Q Did Monsanto advise prospective employees of 3 that particular special procedure? 4 A Well, we wanted them to avoid repeated 5 contact, so I think we were more conservative than these 6 people. They just said people with known liver disease 7 should not be exposed. We say everybody should not be 8 exposed to repeated contact with chlorinated diphenyls. 9 Q Did you screen potential employees by 10 determining if they had known liver disease before they 11 started working in PCBs? 12 A I think we gave these individuals the same 13 examination we gave any of our industrial workers. 14 Q I'll ask it one more time. 15 A Well -- 16 Q Did you screen prospective employees for the 17 existence of known liver disease before they started 18 working in PCBs at Monsanto Company? 19 MR. CARNEY: I'm going to object to it. You 20 haven't spelled out the time frame. 21 MR. McCREA: From 1936 to 1974. 22 MR. CARNEY: And this question had been asked 23 and answered several times today. 24 A We did not screen the employees who worked in 25 the PC department for liver disease any more than we

Page 249 1 screened anybody who came to work in the chemical plant for 2 liver disease, pre-existing liver disease. 3 Q (By Mr. McCrea) Would you turn to page 203? 4 Have you examined in detail before today's date the 5 documents relating to the IBT studies contracted between 6 Monsanto and IBT? 7 A Well, what document do you mean, Mr. McCrea? 8 Do you mean the reports? 9 Q Yes, sir. 10 A Well, the reports came before I left. I read 11 the reports. There are other reports that came after I 12 left. 13 Q Have you seen this document and reviewed this 14 document before today, the April 18, 1975 letter from J. C. 15 Calandra to Dr. George Roush, Jr.? 16 A I don't think I have. 17 Q Was Calandra indicated along with Wright for 18 falsifying studies at IBT? 19 A I don't know if he was. 20 Q Have you seen the document on page 204 before 21 today which goes 204 through 208? 22 A I may have, but I'm not sure. 23 Q Do you have any present recollection of having 24 seen that document before today's date? 25 A I may have. I mean, I don't know.	Page 251 1 results of their studies? 2 A Well, just a moment. I answer is yes, but you 3 have picked out one sentence and implied that they have 4 edited all these studies and there's two other articles or 5 two other reports he called the material non-carcinogenic. 6 This one and 1254, he said slightly tumorigenic. So 7 Lavinskas wrote them and said, "Let's get the wording 8 together on all the same." 9 As far as the company would be concerned, I think 10 the sentence "does not appear to be carcinogenic" would be 11 worse for Monsanto than slightly tumorigenic, and after 12 all, the problems with the Aroclor, the discussion or the 13 debate about the Aroclor toxicity studies was a presence or 14 absence of carcinogen, of cancers. That was what -- They 15 were reviewing all the material to see does this material 16 cause cancer in the livers of the rats. 17 So the answer then was if it doesn't say it -- Now, 18 it might have been better to say slightly tumorigenic, but 19 does not appear to be carcinogenic, well, I don't think 20 that would hurt anybody, but I believe they wanted, if the 21 condition, if it were true in 40, in 60 and 42, and they 22 wanted the reports to read all the same if that were true. 23 Q Is that testimony based on information given 24 to you by George Lavinskas? 25 A Yes, I've talked to George about it.
Page 250 1 Q All right. Fair answer. We go to page 209. 2 Before today's date, have you reviewed this document which 3 is a letter from George J. Levinskas to Dr. J. C. Calandra 4 dated July 18, 1975? 5 A Again, I may have seen this in conjunction 6 with some of these depositions, but I don't recall whether 7 I have seen it before. I believe I have seen, but I 8 don't recall when. 9 Q Have you seen the data on page 211? 10 A No, this I have no recollection of having 11 seen. 12 Q Page 212. Have you seen this document dated 13 August 4, 1975 which is a letter from J. C. Calandra, 14 president of IBT, to Dr. George Lavinskas, manager, 15 Environmental Assessment and Toxicology, Monsanto Company? 16 A Again I may have. 17 Q Did J. C. Calandra agree to -- In paragraph 18 one he states, "We will amend our statement in the last 19 paragraph on page two of the Aroclor 1254 report to read, 20 quote, 'does not appear to be carcinogenic', quote, in 21 place of, quote, 'slightly tumorigenic', quote, as 22 requested." 23 A What was the question about that, that you -- 24 Q Are you familiar with the fact that your 25 former company requested IBT to change the wording on the	Page 252 1 Q Did George know that slightly tumorigenic was 2 a positive finding indicating a positive result indicating 3 a positive action by PCBs? 4 A I'm sure he did, but remember, we are talking 5 about the problem and this was do these PCBs cause cancer 6 in the liver of rats. Kimbrough said they do. Our work at 7 Bio-Test showed they don't. 8 Q Would you also -- 9 MR. CARNEY: Would you let him finish? 10 MR. McCREA: Yes, I will. 11 A And so tumor, slightly tumorigenic does not 12 mean cancerous at all. 13 Q (By Mr. McCrea) What does it mean? 14 A It means they are hepatomas which are, could 15 be considered a localized overgrowth of normal liver cells. 16 That's what hepatoma is. 17 Q Is that something that is unwanted in a liver? 18 A Well, I think anything -- Yes, it's unwanted. 19 Q What does not appear to be carcinogenic 20 mean? 21 A Does not look like it causes cancer. 22 Q Is that a negative finding? 23 A Well, I don't know. It's pretty positive. If 24 you say, "I don't believe there's any cancers here," that's 25 pretty positive, isn't it?

Page 253 1 Q Positive that it doesn't cause cancer? 2 A Yes, that's right. 3 Q But slightly tumorigenic is absolutely a 4 crystal clear communication that PCBs do, in fact, cause 5 that? 6 MR. CARNEY: Cause cancer? 7 MR. McCREA: No. 8 MR. CARNEY: In rats? 9 Q (By Mr. McCrea) Cause these slightly -- that 10 PCBs are slightly tumorigenic? 11 A But then we would have to get down to the 12 reports on the 1254, and let's see how many there were here 13 and let's see whether that same English was used on 1260 14 and 1242. 15 Q It was, wasn't it? 16 A Well, I don't know. Let's see it. I don't 17 know. 18 Q All right. Go ahead. Look at it. 19 A Where is it? 20 Q They changed the wording in all the reports, 21 didn't they? 22 A No, I don't think so. I was just talking 23 here about 54. 24 Q All right. You don't think they changed the 25 wording on any other reports?	Page 255 1 Q And said, "Dr. Kelly, we've done a magnetic 2 resonance imaging on your grandchild and he has a slightly 3 tumorigenic condition in his liver," would that concern 4 you? 5 A Certainly it would, but the point is you are 6 talking about a completely different situation. On a 7 magnetic resonance imaging you can't tell whether that 8 tumor is a cancer or not. Certainly it would concern me, 9 but here we have got microscopic sections which show that 10 it this is not a cancer. 11 Q Dr. Kelly -- 12 MR. CARNEY: And we're talking about rats 13 here, not a grandchild. 14 MR. McCREA: We're talking about the word 15 slightly tumorigenic and the impact that would have on the 16 reader. 17 MR. CARNEY: But the slightly tumorigenic is a 18 reference to a rat. 19 MR. McCREA: Which Monsanto wants the public 20 to accept as being valid with regard to conditions in human 21 health. 22 MR. CARNEY: Well, I think -- I don't think 23 Monsanto cares whether you use -- Does not appear to be 24 carcinogenic is not inconsistent or at odds with slightly 25 tumorigenic. I think you're acting like these two phrases
Page 254 1 A Well, I don't know. Let's see the reports, 2 Mr. McCrea. 3 Q All right. Well, let's go to the letter. 4 MR. CARNEY: Mr. McCrea, the problem is you're 5 showing him documents. This is six months at least after 6 Dr. Kelly retired from the company, and if you want to ask 7 him about what's in a report and whether it was changed or 8 not, I think you ought to show him the report. That would 9 be the best evidence of it. Then we don't have to 10 speculate about whether it was changed or what it said. 11 Q (By Mr. McCrea) Go to page 209 to determine 12 whether or not Monsanto changed the wording on the reports 13 for 1242, 1254 and 1260. 14 MR. CARNEY: Well, I'm going to object to 15 Exhibit 209 indicating what was done on the reports. This 16 is a letter from Dr. Lavinskas and Dr. Calandra. I think 17 the best evidence of whether a report was, some wording was 18 changed -- I might add it's insignificant. I don't know 19 why we're wasting time on this slight word change, but the 20 reports would be the best evidence. 21 Q (By Mr. McCrea) If a doctor came up to you 22 and he said, "Dr. Kelly, we've done a" -- 23 A Which doctor by the way? Who? 24 Q If a doctor came up to you -- 25 A Oh, okay.	Page 256 1 are at odds with each other, and I think Dr. Kelly is 2 saying they aren't. 3 Q (By Mr. McCrea) We'll let a jury determine 4 whether or not those mean the same thing. All right. Now, 5 with respect to whether or not they changed the wording on 6 other reports -- 7 A Who is they by the way? 8 Q IBT. 9 A All right, all right. 10 Q At the insistence of Monsanto. 11 A Well, I don't know whether there's been any 12 insistence. In the first place, he suggested it. In the 13 second place, this letter that you wrote on July the, or 14 was written by George Lavinskas on July the 18th, 1975 said 15 the previous conclusion of slightly tumorigenic was changed 16 to does not appear to be carcinogenic. Now, I don't know 17 at whose insistence that was changed. Do you have a letter 18 there showing that Lavinskas wrote them and said change 19 these other two? 20 Q Yes, I do. 21 A May I see it? 22 Q All right. The second paragraph, Dr. Kelly, 23 of the July 18, 1975 letter was George J. Lavinskas to Dr. 24 J. C. Calandra states, "In two instances, the previous 25 conclusion of, quote, 'slightly tumorigenic,' quote, was

Page 257 1 changed to, quote, 'does not appear to be carcinogenic.'" 2 MR. CARNEY: What page are you reading from? 3 Q (By Mr. McCrea) Page 209. "The latter phrase 4 is preferable. May we request that the Aroclor 1254 report 5 be amended to say, quote, 'does not peer to be 6 carcinogenic.'" That letter would indicate that two 7 previous conclusions were changed and that he is requesting 8 that a third change for Aroclor 1254? 9 A It doesn't indicate that at all to me because I 10 don't know who changed that. It might very well be that 11 -- After all, they're in there testing for cancer, so it 12 might very well be that IBT decided we believe it's wiser 13 to put down does not appear to be carcinogenic if you're 14 doing a carcinogen study, and they didn't do it on 54 and 15 that's why George wrote them and said the latter phrase is 16 preferable, and I didn't see anything in there about 17 insistence on this stuff. 18 Q Go to page 211. 19 A Yes, sir. 20 Q Does that show three columns, one, the 21 product; two, the supplemental report that was mailed; and 22 three, the supplemental report that JCC delivered? 23 A Yes, sir. 24 Q And for Aroclor 1260 did the mail report 25 contain the conclusion slightly tumorigenic?	Page 259 1 it. They're running this test because there was a 2 reevaluation of the test because there was a dispute 3 whether these materials were carcinogenic, and if you're 4 running a test looking for cancers and you don't find any, 5 I think the thing to do it to say you don't, it isn't 6 carcinogenic. It think in the NCA work they said, with 7 1250, NCI, National Cancer Institute, with 1254 they said 8 under the, under the circumstances of this test, 1254 is 9 not carcinogenic. 10 Q Is there a question to you, Dr. Kelly? 11 A I thought there was. 12 Q On Aroclor 1242 it supplemental report stated 13 slight tumorigenic. The hand delivered report from 14 Calandra was changed to does not appear carcinogenic. Is 15 that correct? 16 A That is correct on this statement, yes. 17 Q Dr. Kelly, have you ever requested a change in 18 a conclusion of a laboratory doing toxicological work? 19 MR. CARNEY: You're implying that there was a 20 change in the conclusion. I think that mischaracterizes 21 the record. 22 MR. McCREA: Well, I understand that your 23 position is that the word slightly tumorigenic and does not 24 appear carcinogenic mean exactly the same thing. 25 MR. CARNEY: No, what I'm saying is I don't
Page 258 1 A Yes, sir. 2 MR. CARNEY: I'm going to object here. You're 3 looking on a summary of some reports and it seems to me it 4 would be better to have the actual reports be the best 5 evidence of what's in there. 6 Q (By Mr. McCrea) And did the supplemental 7 report which was delivered by Calandra contain the 8 conclusion does not appear carcinogenic? 9 A Yes, sir, but it doesn't say at whose option 10 this was put in. You were going to give me a letter where 11 Lavinskas wrote about 1260 or 1242 asking for a change in 12 those two studies and -- 13 Q I'll try and locate that between now and 14 tomorrow. 15 A Fine. I'd be happy to see it. 16 Q Aroclor 1254, the supplemental report which 17 was mailed contained the conclusion slightly tumorigenic. 18 The supplemental report which was delivered also contained 19 the phrase slightly tumorigenic. And do you understand by 20 the letter of July 18 that Lavinskas is requesting a change 21 of that conclusion for 1254 from slightly tumorigenic to 22 does not appear carcinogenic? 23 A It's not a change in the conclusion. What he 24 is doing is saying, "Let's have all the reports read the 25 same." If that's -- If they're not carcinogenic, let's say	Page 260 1 think they're inconsistent, you know. It's not like saying 2 it's carcinogenic and then saying it's not carcinogenic 3 which is, I think, the implication you're trying to give. 4 MR. McCREA: No, tumorigenic as opposed to not 5 causing cancer which he said is a positive finding. 6 Tumorigenic is a positive finding which indicates a health 7 problem. Does cause, does not appear, does not appear to 8 be carcinogenic indicates no health problem. 9 MR. CARNEY: Well -- 10 MR. McCREA: Slightly. 11 A No, it doesn't. Are you quoting me? That 12 isn't what I said. 13 MR. McCREA: All right. 14 A You are putting words that are entirely 15 different than I have testified to. 16 Q (By Mr. McCrea) What does slightly 17 tumorigenic mean? 18 A Means there is a small amount of tumors found 19 in the test animals that were not malignant, were not 20 cancer. 21 Q Is that a physiological change? 22 A It may be. 23 Q Is that a physio -- 24 A And it may be pathological because after all, 25 hepatoma is made up of liver cells. It's not a change in

Page 261 1 the cell. It's made of liver cells, normal liver cells. 2 Q Is that a change in the liver? 3 A Yes, it's a change in the liver. 4 Q Is that a change in the liver caused by PCBs? 5 A It's caused by lots of things, but it could be 6 causes by PCBs, yes. 7 Q What does does not appear to be carcinogenic 8 mean? 9 A It means that it does not appear to be, that 10 PCB does not appear to cause cancers in the test animal. 11 Q And from that can you determine if there were 12 any changes in the liver? 13 A No, sir Remember, we are looking to see 14 whether they're cancerous or not and you are quibbling 15 about phrases and I'm saying that here the National Cancer 16 Institute used the same phrase in describing 1254, does not 17 appear to be carcinogenic under the details of, under the, 18 this program of their testing. They use that term. 19 Q Did you -- Did Monsanto inform the government 20 of this change? 21 A We gave the government every report we had. 22 Q Dr. Kelly, has Monsanto made any independent 23 reviews of the work done at IBT as a result of Paul 24 Wright's indictment? 25 MR. CARNEY: I'm going to object here. You're	Page 263 1 criteria document by NIOSH or not. I don't believe I've 2 seen it in this form as we've got here, 28 pages. It 3 doesn't say where it was published or anything else. 4 Q Would you go to page 229? 5 MR. CARNEY: Why don't we -- If we're going to 6 another page, we're almost finished with the tape, and it's 7 about quarter till six. I think we've been going since 8 8:30 or close to that. That's when we were supposed to 9 start. I guess we got started a little bit late. I think 10 that's a pretty long day, and I believe just -- 11 MR. McCREA: Are you saying you'd like to 12 stop? I mean, that's fine with me. 13 MR. CARNEY: Well, I think we're within a few 14 minutes of the end of the tape. I think you've indicated, 15 so the jury will know when there's light at the end of the 16 tunnel on this thing, that you've thought you could 17 complete or you indicated you were sure you could complete 18 this cross examination in three more hours. Is that 19 correct? 20 MR. McCREA: Correct. 21 MR. CARNEY: Okay. Why don't we quit for the 22 day. 23 MR. McCREA: Agreed. 24 * * * * * 25
Page 262 1 now going back to IBT and I thought we covered that for a 2 couple of hours. I don't know what day it was, but one of 3 the last five days. 4 Q (By Mr. McCrea) If you know. 5 A I know only from an anecdotal point of view, 6 and my answer to that is they have, that they have reviewed 7 and done work on the toxicological work on products of 8 theirs that were suspected or alleged by the government to 9 be affected by the IBT people. Neither of those two -- One 10 was TCC which is a soap bacteria stat and the other was an 11 agricultural chemical, and they, I've never seen any 12 subsequent reports, but I have been told that the results 13 were consistent with what IBT found and PCB was not 14 involved in the case, so they did not recheck it. 15 Q Dr. Kelly, would you go to page 224? Have you 16 seen this document? 17 A I haven't got up to it yet. 18 Q All right. 224. 19 A Yes, but I've got to see the document. 20 Q I understand. I'm trying to help you out on 21 the page. 22 A Well, I don't know what form I've seen this 23 document. It says, "Background Information on 24 Polychlorinated Biphenyls" by NIOSH. I don't know if that 25 was part of the material that went into the proposed	Page 264 1 COURT MEMO 2 IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS 3 STATE OF MISSOURI 4 5 Glenn Brown, et al. vs. Monsanto Company 6 862-00694 7 8 CERTIFICATE OF OFFICER AND 9 STATEMENT OF DEPOSITION CHARGES 10 11 DEPOSITION OF DR. R. EMMET KELLY 12 TAKEN ON BEHALF OF THE DEFENDANT 13 6/15/1990 14 Name and address of person or firm having custody of 15 the original transcript: 16 Amanda Russo 17 Husch & Eppenberger 18 190 Carondelet Plaza, Suite 600 19 St. Louis, MO 63105 20 21 22 23 24 25

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