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IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF PENNSYLVANIA

ROBERT A. BAYTON	C. A. No. 79-677J
ROBERT E. MIDDLETON, et ux.	C. A. No. 78-592
EDWARD A. POWERS, et ux.	C. A. No. 78-591
TERESA ANN RYDEN, Executrix, etc.	C. A. No. 77-644
CLYDE W. HORNE, et ux.	C. A. No. 79-957
ELSIE MILLER, etc.	C. A. No. 78-1283
ALICE M. WEBER, Executrix, etc.	C. A. No. 77-671
Plaintiffs,	
vs.	
JOHNS-MANVILLE PRODUCTS CORPORATION, a corporation, et al.,	
Defendants,	

DEPOSITION OF DR. THOMAS FRANCIS MANCUSO, a witness called in behalf of the plaintiffs, taken pursuant to the Federal Rules of Civil Procedure, by and before Richard E. Powers, a Registered Professional Reporter and a notary public in and for the Commonwealth of Pennsylvania, at the U. S. Post Office and Court House, Pittsburgh, Pa., on October 17 and 18, 1979.

DR. THOMAS FRANCIS MANCUSO, a witness called in behalf of the plaintiffs, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HENDERSON:

Q Would you state your name, please.

A Thomas Francis Mancuso.

Q Where do you presently reside?

A Pittsburgh, Pa.

Q What is your profession?

A Physician.

Q By whom are you presently employed?

A University of Pittsburgh. I'm employed as a research professor in occupational health.

Q Is that at the Graduate School of Occupational Health?

A Graduate School of Public Health.

Q Where did you attend medical school, Dr. Mancuso?

A Creighton University, Omaha, Nebraska.

Q What year did you graduate?

A 1937.

Q Following your graduation from Creighton Medica' School in 1937, would you trace for us quic

your vocational and professional activities have been to date.

A I spent five years in internships and residencies in eastern hospitals, particularly at King's County Hospital, Brooklyn, New York. At the time of the outbreak of the war I was assigned by Medical Procurement to an assignment to the Public Health Service in 1942, and I was assigned to the Division of Industrial Hygiene and I was sent to the State of Michigan as an industrial hygiene physician for one year. Following that, I became the director of the Division of Industrial Hygiene for the State of Oregon for two years.

Following that, I then became director of the Division of Industrial Hygiene for the State of Ohio and was director of the Division of Industrial Hygiene for the State of Ohio for 17 years. After that I became a professor, was appointed research professor at the University of Pittsburgh.

Q And you have been there since 1962?

A That's right.

Q Now, you were subpoenaed, were you not, in connection with a case in the state court of California?

A Yes, sir.

Q When was that subpoena served upon you?

A The end of August.

Q And did that deposition, which has been marked as Plaintiff Deposition Exhibit No. 1 --

MR. LOCKS: Plaintiff exhibit.

Q I'm sorry. The subpoena which has been identified as Plaintiff's Exhibit 1, was that the subpoena which was served upon you in the latter part of August of 1979?

A Yes, sir.

Q Did it call for a date on which you were to give a deposition?

A Yes. It was to be within the first week, September 7, 1979.

Q Did that deposition take place?

A No.

Q Were arrangements then made by me to take this deposition of you today?

A Yes. I was extremely busy at the time. It was impossible for me to undertake that.

Q And what has been marked as Plaintiff's Deposition Exhibit No. 2, which is the subpoena I gave you the

other day, would you identify that for me, please.

A I have it here.

Q Do you have a copy of it?

A Yes, I do.

Q That is in the case of Robert A. Bayton versus Johns-Manville Products Corporation and others at Civil Action No. 79-677?

A Yes, sir. This is the document.

Q Did both of those exhibits, Plaintiff's Deposition Exhibit Nos. 1 and 2, indicate to go over and provide to us certain notes, memoranda and the like in connection with your consultancy with Philip Carey Company in 1962 and 1963?

A Yes, sir.

Q Are those documents available for review?

A Yes, sir.

Q Dr. Mancuso, I'm going to ask the court reporter, Mr. Powers, to hand you Deposition Exhibit No. 3 and ask if you can identify that.

A Yes, sir. This is a Curriculum Vitae, my Curriculum Vitae of Thomas P. Mancuso. It identifies my professional career, my professional offices, and the types of work and positions that I have held, and

my publications.

Q What is your birth date?

A February 19, 1912.

Q How old are you?

A Sixty-seven.

Q In connection with your Curriculum Vitae, and particularly beginning at Page 2, what is the title of Page 2 and what follows?

A "Offices held in professional association." Under that is a list of a whole series of professional associations in which I had been affiliated in major capacity over the years, starting in 1955 and continuing on to 1972.

Q In connection with the second one, indicated as, quote, "Consultant to Surgeon General," and so on, would you tell us what that is?

A I was selected by the Surgeon General of the Public Health Service to undertake a special assignment on a national basis to undertake to determine the range and scope of the research necessary to determine the biological effects of air pollution. That was in 1955, and this was an extensive effort, and I submitted an internal report to the Surgeon General of the

United States.

Q Dropping down to the second below that, beginning with, "Diplomate," would you indicate what that is for us?

A That means that I'm certified as a specialist in occupational medicine.

Q By the way, are you licensed to practice medicine in any state?

A Yes, sir. I'm licensed to practice medicine in Pennsylvania, New York and Nebraska, and I have reciprocal arrangements with most other states.

Q If I might, at this point I'd ask you to characterize what your specialty has been since you began your professional activities in 1942 in the State of Michigan.

A Well, concentration relating to the investigation and control of occupational diseases. The primary objective was to identify the causative factors relative to the occupational diseases and determine the appropriate means for prevention and control.

Q Dropping down to the next one immediately below the one that you just described, it shows that you were an officer in the American Conference of Governmental

Industrial Hygienists. Would you tell us what that organization is?

A Well, it has the title, "Governmental," but actually it's non-governmental. It's a professional organization of individuals who work with city, state and federal governments, who were involved directly or indirectly with the concern of protecting -- investigating occupational diseases and instituting procedures for prevention and control in their respective areas of jurisdiction. It is similar to any organization, for example, if you had people who were chemists in the government who join together, or engineers. This is that type of thing.

Q Would you read the next note, the next several of those, and indicate for us what offices and committees that you have served on and at what times with the ACGIH or the American Conference of Governmental --

A I --

Q Let me finish so the record will be clear.

-- Governmental Industrial Hygienists.

A I was chairman of the Committee on Labeling of Toxic Substances, and I was national chairman of

the American Conference of Governmental Industrial Hygienists.

Q What year was that?

A 1958. And I was also chairman of the Committee on the Epidemiology of Occupational Diseases in '59 and '60. I was also chairman of the Committee on Industrial Case Studies on Occupational Diseases in 1960-62 of the American Conference of Governmental Industrial Hygienists.

Q I note about -- it's fourth from the bottom -- that you were with the Environmental Health Studies section in 1960 to 1961. I ask you what that office included?

A Well, that is a select group. The system in the United States and in the National Institute of Health is to have a series of study sessions, which consists of research scientists who are picked to review the research grants of other scientists throughout the country. I was on that committee for 1960 and '61 and, if you will look at the next page, from '61 to '63. This meant, in effect, that the scientists throughout the United States that were submitting research applications relative to environmental effects and biological effects from environmental

causes, that we would review the scientists' applications to determine whether they had sufficient merit to determine whether they should be approved or not, and I was on that particular select group.

Q Immediately below that, what did that committee assignment include?

A Well, this was a Committee on Industrial Case Studies on --

Q Excuse me. I'm referring to Page 3, the third committee assignment.

A The Committee on Asbestos and Cancer of the International Union against Cancer, this was a committee that I and Dr. Christopher Wagner and Dr. Smithers of England initiated, in which we proposed and actually developed an international approach to research relative to cancer.

Q Dropping down, if I might, Dr. Mancuso, to the title headed, "Items of Related Interest," do you see that at the middle of Page 3 of your Curriculum Vitae?

A Yes, sir.

MR. POWER: Let me interrupt you. Would you ask him to give the dates, because we don't have copies of the matter that you are

dealing with.

Q Doctor, would you indicate under the second award or category, starting with National Career Development Award, what that was?

A The National Career Development Award from the National Cancer Institute to me for research on long-term biological effects of the microchemical environment and studies in environmental cancer from 1962 to 1972 meant that there was an effort and program of the National Cancer Institute to select certain promising scientists in the country and to support their research at a university so that they could continue their research work. I was one of those individuals that was selected, and I was supported for ten years by the National Cancer Institute for that purpose.

Q And the one immediately below that, the award from the ACGIH?

A The National Award of Merit by the American Conference of Governmental Industrial Hygienists was "for his substantial contributions to the methodology of investigation of incidence of chronic occupational disease and for his outstanding administration of

governmental industrial hygiene agencies." That was awarded April 26, 1960. This was an award that was given by that organization for unusual contributions and exceptional merit.

Q Noting, Dr. Mancuso, the next several pages, up to and including Page 7 of your Curriculum Vitae, is a list of those articles under the heading of "Publications." Is that accurate?

A Yes, sir.

Q What comprises the heading, "Publications"?

A Well, within that group of 82 it consists of not only my scientific publications but also includes progress reports and presentations before various groups.

Q How many did you say?

A Eighty-two.

Q Now, for what period of time were you chief of the Division of Industrial Hygiene in the State of Ohio?

A 1945 to 1962.

Q I note attached to your Curriculum Vitae are several pages of your outline and responsibilities, or what I think most of us would refer to as a job description. Would you indicate particularly what is

included therein with particular reference to your consultancy with Philip Carey Manufacturing Company in 1962 and 1963.

A Well, the professional skills described in this that relate to my position as chief of the Division of Industrial Hygiene are that I had extensive responsibility in the investigation of occupational diseases. I was actually in charge of investigating occupational diseases for the whole State of Ohio, of which there were approximately 12,000 manufacturing industries and at least two million people exposed to various culminations of chemicals; and relationship to the investigation of occupational diseases is perhaps well described on the second page, in which I conducted field investigations of industries throughout the state for occupational disease problems.

I analyzed various records, medical records, in industry, and I provided recommendations to industry relative to the identification and resolution of their problems. I conducted industrial health research relative to occupational diseases of populations exposed to specific chemicals or groups

of chemicals. I identified and directed medical engineering and chemical research efforts to control toxic and cancer-causing substances.

I provided technical consultation to the industries, to the physicians, to the companies, both large and small; and on the attachment probably which relates to the graphic description of my breakdown of that, it shows that I was division chief and I had within my group three major units: medical, chemical and engineering.

And among those facets of the medical, I was providing investigative work relative to occupational diseases, plant medical programs, conducting cancer studies, plant studies. And the engineering work was involved to the evaluation and control of toxic chemicals, conduct of air sampling, noise elimination, hazard and so forth.

So it was really a combination of effort, which in industrial hygiene you have an inter-disciplinary approach of the medical, nursing, chemical, engineering, focusing on a particular problem, evaluating it, and determining the appropriate means of control and making appropriate recommendations for

their control of those occupational diseases.

Q I notice on the second page of the organizational chart, which is entitled, "Division" -- do you see that?

A Yes, sir.

Q Under that you have listed three different categories.

A Yes, sir, I have.

Q What are they?

A Well, there's --

Q Just indicate what they are, if you will.

A Under "Medical" is Occupational Health, Radiation, and Air Pollution; and under that category there is consultation, epidemiology, health education, and direct services.

Underneath "Consultation" there are Occupational Diseases, Plant Medical Programs, Local Health Department Programs; and under "Epidemiology" there are Cancer Studies, Other Occupational Diseases, and Plant Studies.

Q What is epidemiology?

A Epidemiology is the science directed at trying to determine the common factors directed at trying to

elicit the cause of a particular event, and Public Health would be toward a disease or a health problem.

Q Is a shorthand way of saying that that that is a means by which a cause and effect relationship is established?

A This is a scientific approach to that direction.

Q Doctor, if you would, I'm referring to some period of time prior to the summer and early fall of 1962 and ask you to relate for us at what point in time and the means by which that interest arose and grew insofar as your investigation of asbestos-related diseases.

A Well, I had been conducting a study relative to asbestos. I had been conducting a study of a plant manufacturing asbestos brake linings, and this had been going on for several years and had developed findings relative to this, in which there was higher rate for lung cancer and also mesotheliomas; and I had at that particular time conveyed that information to my colleagues or peers in Europe.

Q Was there anyone in particular that suggested that you begin to investigate asbestos disease?

A Yes, there was. Dr. Wilhelm C. Hueper, who was chief of the Environmental Cancer Section of the National Cancer Institute, made that suggestion to me in 1955,

that he had come upon a series of lung cancer cases in this particular plant which I eventually studied. Dr. Hueper suggested that I consider the study of asbestos and that I take such a study, and I did.

MR. PARLER: We again ask that the witness, when he is responding to the question, give the dates of these events that he is relating.

MR. HENDERSON: Did you hear 1955?

MR. PARLER: I did. It finally came in on that one.

BY MR. HENDERSON:

Q Dr. Mancuso, I will ask Mr. Powers, the court reporter, to hand you what has been marked as Plaintiff Deposition Exhibit 4 and ask you to identify that.

A This is a scientific paper that I published. It is entitled, "Methodology in Industrial Health Studies, The Cohort Approach, with Special Reference to an Asbestos Company," and the co-authors are Thomas F. Mancuso and Elizabeth J. Coulter, Ph.D.

It was submitted for publication July 19, 1962, and it was published in February 1963 in the archives of Environmental Health of the American Medical

Association. I had previously presented this report at a scientific meeting in February of 1961 at the American Academy of Occupational Health.

Q Who was the subject of that study?

A The asbestos exposure in plant manufacturing asbestos brake lining.

Q Is there any significance to the form of methodology that you utilized in connection with that study marked as Plaintiff Deposition Exhibit No. 4?

A Yes. The study was unique not only relative to its observations pertaining to asbestos and cancer and the development of mesotheliomas, but it was unique in the sense that this was the second time that I had utilized a method which I had developed using the Social Security record system, in which it was possible to establish the population at risk, the employees at risk, at a given point in time many years before, at any point in time since Social Security came into existence in 1937, '38 and '39 on, and to use the intervening period of time to fulfill the latent period required for the development of cancer.

Consequently, in this particular plant I was

able to have Social Security identify the population at risk which they kept internally. That information was not provided to me. Only the information pertaining to deaths was provided to me, and that made it possible then to trace this population of all those individuals who were employed in 1938 and '39, follow them through to 1964, determine to mid-1960 in this first paper, to determine who died and where they died; and then eventually I obtained death certificates, from which then I conducted the mortality study. Then I proceeded from there to the pathological review, the microscopic review of certain selected cases, for which I had the fortunate help of Dr. Wilhelm C. Hueper.

Q What were your findings, Dr. Mancuso?

A The findings were that there was higher than expected rate of lung cancer and mesotheliomas occurring in the individuals who were exposed to asbestos. This was considered a conservative estimate insomuch as the fact that the workers were not characterized by duration of employment. It was any individual who had been employed at a specific point in time. So, consequently, if there was a large number of people

who were employed for short periods of time, this would act as an averaging or dilution effect.

Q Explain what the averaging or dilution effect was.

A Well, if you are studying a population, for example, suppose that the more significant -- suppose in this particular plant or any other occupational cancer study that you are conducting you find that the clustering of the cases requires that an individual have, say, five years of exposure; that although they can occur with less than that, suppose most of your cases appear that way. Well, if you have a plant population in which 1,000 of the individuals were employed for only one year and you haven't characterized your population by duration of employment, naturally you are going to dilute or average the rate that you get.

Q Did you have occasion to participate in the conference arranged by Dr. Selikoff in October 1964 at the New York Academy of Science?

A Yes, sir. I was on the Planning Committee.

Q Was there another meeting that went on immediately subsequent to that meeting?

A Yes, sir. There was a meeting of a Committee on

Asbestos and Cancer of the International Union against Cancer, in which I participated and arranged.

Q In connection with the background of those two conferences, Dr. Mancuso, I would first ask Mr. Powers to provide you Deposition Exhibits 5 through 11 and hand them to you at this time.

MR. LOCKS: Off the record.

(Discussion off the record.)

Q Dr. Mancuso, you have before you what has been marked as Mancuso Deposition Exhibit 5, do you not?

A Yes, sir.

Q Would you identify that for us, please.

A This is a letter from Dr. W. J. Smither, Works Medical Officer from England, to Dr. Thomas F. Mancuso, and it refers to letters of January 2 and January 8 which I had written to him. He expresses his appreciation of my letting him know of my findings. He advises me of his findings like together with the same observations that Dr. Wagner in South Africa was obtaining, and he was referring to his own research work which he hoped to publish in this field.

Q What findings are you referring to regarding Drs.

Smither and Wagner?

A Mesothelioma.

MR. MEANEY: What is the date of the letter?

THE WITNESS: The date of the letter is January 16, 1962.

Q Who was Dr. Smither?

A Dr. Smither was the medical officer of and he was associated with Cape Asbestos. He was a major person in England and was coordinating the research work relative to asbestos and was one of the principal persons in England relative to asbestos.

Q Going on to Mancuso Deposition Exhibit 6, I'd ask you to identify that.

A This is a letter from me to Dr. J. Smither.

Q What is the date.

A The date is April 2, 1963, and I am providing him with a reprint of the article that I had prepared relative to asbestos that he had inquired about last January.

Q Was that referred to earlier as your methodology report as Mancuso Deposition Exhibit 4?

A Yes, with the special reference to the asbestos plant. That's the reprint. And I also advised him that Dr. Hueper was conducting the review of the slides relative

to my study; that I was continuing; and I called his attention to the fact that my particular population that I was studying was only those employed at any time in '38 or '39; it could have been for one week, one month, or one year; and this was therefore a conservative estimate and that Dr. Doll's work had emphasized the importance of duration of employment in his findings.

Q What is mesothelioma, Doctor?

A Mesothelioma is a cancer. It's a devastating cancer. There is no hope of recovering from this type of cancer. Its name is derived because it comes from a particular cell, called mesothelial cell. That's why it is called mesothelioma.

It's a tumor of that type of cell which occurs in certain parts of the body. It can occur in the abdomen, the lining of the body. That's why you get mesothelioma of the peritoneum. It occurs in the chest wall and on the outer lining of the lung, which is the pleura. That's why you have pleural mesothelioma. That's why it's called --

Q You said it kind of quickly. I heard what pleura is. What is the peritoneum?

A The peritoneum is the surface, lining surface above the intestines.

Q Now referring to Mancuso Deposition Exhibit No. 7, would you identify that for us, please.

A Yes, sir. This is a letter that I wrote to Dr. W. J. Smither at the Cape Insulation and Asbestos Products Company in Essex, England.

Q What is the date?

A The date is July 22, 1963, and I advised him that the asbestos used in the study which I had conducted was Chrysotile from Canada; that this information came indirectly from Dr. O'Donnell, who was the pathologist who had originally observed the large series of lung cancer cases with asbestosis in that particular community where the plant was located; and that I could not get any information from the company direct.

The bottom of the letter relates to the fact that I suggested to him that I wanted to take this opportunity to suggest that some form of planned coordination be developed relative to asbestos research between the various countries and that an international committee be considered for this purpose. "I presume that such coordination may be going on in England, but

this is not so in the United States. In view of the international use of asbestos and the health and socio-economic implications of this problem, a common need exists for research and for an agreement on uniform control measures and safe practices."

MR. SCHULTZ: Now I believe that you are reading from a document, are you not?

THE WITNESS: Yes, sir.

MR. SCHULTZ: I believe the document speaks for itself. I know that we are reserving all objections, but I'm afraid that might be lost forever if we did not put on the record that he is reading from the document. I caution him not to do that, that he is to paraphrase.

A To paraphrase the last paragraph of the letter, I had proposed that an international committee be set up relative to the study of asbestos on a world-wide basis.

Q Was that suggestion ultimately reflected in that meeting that took place in New York following the meeting of the New York Academy of Science in October 1964?

A Yes. This resulted in the meeting developing after

the New York Academy of Science meeting; but, of course, there was a meeting prior to that time in order to prepare for them.

Q Looking now at what has been marked as Mancuso Deposition Exhibit No. 8, I'd ask for you to review that and identify it for us, please.

A This is a letter from Dr. Smither to Dr. Mancuso. The essence of this letter refers to the information --

MR. LOCKS: Doctor, give the date first.

A I'm sorry. August 2, 1963. He relates to his own cases and studies pertaining to mesothelioma, but he refers to his enthusiastic agreement of the idea of a planned coordination on an international basis. He goes on to say that he is active as the chairman of asbestos research groups, and he starts to list all the different organizations that he is affiliated with and he identifies individuals whom he also believes would be very much interested in an international approach relative to asbestos in cancer.

Q Going on, Doctor, to Mancuso Deposition Exhibit No. 9, I ask you to review that quickly and identify that for us, please.

A This is a letter by me to Dr. J. Christopher Wagner at

Penarth in South Wales, a letter to him referring again to the asbestos with Chrysotile from Canada, and that I had also gotten confirmation from another source that the type of asbestos was Chrysotile, and that I had made a recommendation to him that an international committee be established for coordination relative to asbestos.

Q Who is Dr. J. C. Wagner?

A Dr. J. Christopher Wagner was the person who originally discovered in South Africa the mesotheliomas in relationship to asbestos to mesotheliomas. He left South Africa and joined Dr. John Gilson and continued his research work in England.

Q What is the date of that letter?

A July 22, 1963.

MR. SCHULTZ: Excuse me. I thought that was the date of Exhibit No. 7.

MR. HENDERSON: I think they are both the same.

MR. DeLORENZO: No. Exhibit 8 is --

MR. LOCKS: Off the record for a second.

(Discussion off the record.)

BY MR. HENDERSON:

Q The dates of Plaintiff's Exhibits 7 and 9 are the same?

A Yes, they are.

Q That is, July 22, 1963. Moving to Mancuso Deposition Exhibit No. 10, Doctor, I'd ask you to review and identify that for us, please.

A This is a letter that I wrote, dated March 17, 1964, to Dr. Bernard Naylor, Department of Pathology, School of Medicine, University of Michigan, Ann Arbor, Michigan.

The essence of this letter was to tell him that I had been in London in February of 1964 and that I had met with the Occupational Health Committee of the Medical Research Council. I had presented before the British Medical Research Council my findings relative to asbestos in cancer, Dr. Naylor's findings relative to mesothelioma, Dr. Selikoff's findings which he had provided to me in advance and asked me representing the United States to present his research work, and in conjunction with the others there.

And I also advised him that we had planned a three and a half day meeting after the meeting in New

York at the New York Academy of Science Meeting and that this would be sponsored by the Committee of the International Union against Cancer, and that I would keep him advised of it and I would hope that he would participate at an international level on this program.

Q When you referred to the Committee of the International Union against Cancer, is that what we sometimes see as the UICC?

A Yes, sir. It's the French, UICC, but it's the International Union against Cancer.

Q When you were in London in February 1964, could you give us a sampling of those individuals with whom you met and planned the session in New York the following October?

A Yes, sir. I met with Dr. John Gilson, who was chairman of the committee. I met with Dr. Richard Doll. I met with Dr. Christopher Wagner. I met with Dr. Smither.. I believe Dr. Elmes from Ireland was there. I think Dr. Sluis-Cremer from Africa was there, Ian Webster, as was Dr. Bohlig from Germany. These would be those individuals who would be eventually participating in the long-term international committee work on research on asbestos

in cancer, and they would be the ones who would be participating in the New York Academy of Sciences Meeting which was going to be held in October of 1964, that year.

Q Dr. Mancuso, in connection with Exhibits 5 through 10, first let me ask you about the letters that you sent. Were those sent to the persons indicated on or about the date that the letter suggests?

A Oh, yes, sir.

Q And those letters which you received from those individuals, were they received by you on or about the date indicated?

A Yes, sir.

Q With respect to the copies that are before you, were you able to provide me with the originals? When I refer to originals, I mean the copies which you retained or the original letters which you received.

A Yes, sir. I gave you all the originals and all my first copies. You have that.

Q And those are before you now?

A Yes, sir.

Q Dr. Mancuso, turning to Plaintiff Mancuso Deposition Exhibit No. 11, would you look at that and identify it

for the record for us, please.

A This is a publication, a scientific document called, "Working Group on Asbestos and Cancer." It consists of the report and recommendations of the working group convened under the auspices of the International Union against Cancer.

This represents the deliberations and compilations of the recommendations of the three-day conference that we had after the New York Academy of Science Meeting, and these meetings were held October 22 and 23. They were held at the Barbizon Plaza Hotel. I arranged and planned the meeting, and coordinated the report and submitted the report for publication which I have in my hands here.

Q Is that a reprint of the publication?

A Yes, sir.

Q When and where was it published?

A It was published August of 1965 in the Archives of Environmental Health of the American Medical Association.

Q Who arranged that meeting?

A I arranged it in the United States and Dr. Christopher Wagner, coordinating with him in England. Both of us

together were the prime movers relative to this international committee, international research program which we were developing.

Q I note that the first two pages and part of the third are confined to a list of participants. Is that accurate?

A Yes, sir. We listed each country and then we listed the names of the individuals representing each country, and also gave their addresses; and the listing includes, of course, Australia, Canada, Finland, France, Germany, Great Britian and Ireland, Italy, United States, South Africa.

Q Specifically were Drs. Wagner and Smither present?

A Yes, sir. They are listed on Page 222 near the bottom of the page, fourth from the bottom: Dr. W. A. Smither, Dr. J. C. Wagner.

Q Dr. Mancuso, in light of the history of asbestos at that point in time, what was the purpose of that meeting in October of 1964 in New York?

A Well, the extensive recognition of asbestosis was well-known, primarily of the work that was done in England and some work done in the United States and Europe, and the observations relative to cancer.

The point of the matter was to try to develop international cooperation and try to determine the ways and means, if it was at all possible, in which asbestos could be used safely, for one thing, whether changing the physics and chemistry of the asbestos product, or the studies or research done relative to that might make it possible for this particular product to be used safely because we recognized how important it was.

And, of course, the other part was that we all recognize the problem of observer variations among physicians, not only in the same country but in different countries, and the idea was to try to develop a uniform type of interpretation, uniform type of approach to the evaluation of problems.

For example, the chemists and physicists in the sampling of the asbestos dusts or in the analysis and measurement, the experimental pathologists in determining the amount of the sample and having a uniform sample when he subjected the animals to this, and the interpretation relative to chest X-rays.

This idea was to develop common factors and common means of interpretation and evaluation so that

we would move forward without duplication and save as much time as possible so that we could be as helpful as we could to see if we could use this product safely and, of course, to prevent and control the disease as much as possible.

Q Were you aware of Dr. Doll's study in 1955?

A Yes, of course. I met Dr. Doll in February of 1964 and knew his work published in 1955, in which he had found that there was a ten-fold increase relative to lung cancer among individuals who had been employed in asbestos plants who had been employed for, I believe it was, ten years or more, I think it was, something like that.

Q Had there been any work earlier than that by any others suggesting that asbestos was a carcinogen?

MR. PARNELL: I object to the question as leading and suggesting an answer.

MR. HENDERSON: I'll withdraw the question.

Q Doctor, was there any prior work before Dr. Doll's relative to the relationship of asbestos in cancer?

MR. PARNELL: Same objection.

MR. SCHULTZ: I object to the form of the question. I don't believe that it has

necessarily been established that there is such a relationship, and certainly it was not established in 1965 or 1964.

MR. LOCKS: One second. For the record, the prior objection was made by Mr. Parnell and the subsequent ones by both Mr. Parnell and Mr. Schultz. If you could just throw out your last name, it would make it a little easier.

MR. SCHULTZ: I'm sorry.

Q Doctor.

A There was adequate information prior to 1955, and this related to a series of works by Nordmann, by Merewether, and a series of other reports which go into the forties and into the fifties.

Q Did you refer to Dr. Nordmann?

A Yes, I did.

MR. HOOD: I object to the last comment of counsel, the form of the comment.

MR. LOCKS: That is Mr. Hood.

Q Do you need some water, Dr. Mancuso?

A Yes, I would like some.

(Recess.)

BY MR. HENDERSON:

Q Dr. Mancuso, would you now provide us with the initial contact and other background information relative to the period of your retention as consulting corporate medical director with the Philip Carey Manufacturing Company starting sometime in the fall of 1962?

MR. VINES: Objection to the form of the question.

Q Go ahead.

A I was chief of the Division of Industrial Hygiene for the State of Ohio, and I had been frequently referred to as an individual who was an expert on occupational diseases relative to compensation cases. Mr. John Cantlon, who was a consulting actuary who handled compensation cases for different industries in the state, knew me personally and knew me professionally; and I told him of my research work that I was undertaking and had completed and was in process and what the findings were relative to the asbestos brake linings, and I advised him of these particular findings of asbestos, findings of lung cancer, mesothelioma.

He advised me that one of his clients was a

company that was engaged in the manufacture and sale of an asbestos product and the name of the company was Philip Carey, and he thought it would be very helpful to the company if I would be willing to act as a consultant to the company in view of this increasing national information that was developing about the serious health hazards associated with asbestos.

Q As a result of those discussions with Mr. Cantlon, did you have occasion to meet with representatives of the Philip Carey Company?

A Yes, I did.

Q When was that?

A I met them in September.

Q Of what year?

A Of '62.

Q Who were the particular Philip Carey Manufacturing Company employees with whom you either met initially or with whom you had contact at some point during the year or year-plus of your consultancy?

A My initial contact was with Mr. Lou Pechstein, who was the assistant secretary, and Mr. L. Knippa, who was the plant manager, Mr. Karl Krieg, who was the employee relations director, and Mr. John W.

Humphrey, I think it was, who was the president of the company, and Mr. Fasold, who was secretary of the company.

Q What was your proposal and agreement in connection with your role as consulting corporate medical director?

A My proposal was that of a corporate medical director as the medical director company-wide. The company had been engaged in the manufacture of asbestos products for several decades. It was faced with a serious medical problem which was now developing national attention.

The latent period of the developing of the cancer took many years. Consequently, the serious health effects would be increasing. They were faced with increasing liability. They were faced with increased responsibility, all company-wide, and I proposed that the resolution of their problem would be to develop the necessary policies and procedures relative to the manufacture and use of their particular product in order to protect not only the workers in the industrial population but also to protect those who used the product and the general public.

I had recommended that my approach would be one to

develop these policies and procedures company-wide because it would only be effective that way. I knew from my experience as chief of the Division of Industrial Hygiene being consultant to many industries in the state, both physicians and corporate medical directors and executives, that the only way that you could really bring about change in a company or corporation would be to work with top level, to work with the executives of those corporations; and, consequently, I felt that the only way that I could bring about the change and the development of appropriate policies would be to work with the corporate executives. For that reason I was able to convey the importance of this and they readily accepted, and that was the way I carried it out.

I had, of course, a certain degree of professional standing, not only with my particular position as chief of Industrial Hygiene. I also had a certain type of national recognition, and the only type of position that I would have considered actually would be in relationship to a company-wide, because it to me served as a professional opportunity, unique opportunity, as a person who was experienced in

public health and a specialist in occupational diseases, to bring about the prevention and control of a major problem which would affect not only the industrial workers but also the users and also the public as a whole.

So, therefore, I saw it as a way of implementing and bringing about a way of preventing and controlling what I considered to be a major problem.

Q Who were the users?

A Well, the users were everybody who bought and used the product. This included not only the industrial users but everyone who used their product in any occupation, including the insulation worker. There was no restriction at all, I made it quite clear, and I actually emphasized to the company that this was the time to develop a positive approach relative to the consumers. This was the time to take leadership relative to this to devise safe practice manuals, to devise illustrated ventilation guides before the consumers or anyone who used that product so they could be able to use their product safely so that no serious health effects would occur and there would be no liability to the company.

Q Doctor, I'm going to show you and ask the reporter to hand you a copy of Plaintiff's Exhibit No. 12 and ask if you might identify that for us.

A This is a letter dated September 8. It is a three-page letter from John --

MR. LOCKS: What year, Doctor?

A Sorry. September 8, 1962, from John T. Cantlon, President, to L. A. Pechstein, Assistant Secretary of the Philip Carey Manufacturing Company. Carbon copy was made to me.

The nature of the letter relates to a meeting that was held in his office September 7, 1962, relative to development of an occupational health program. It emphasizes to the company the importance of asbestos compensation claim. It indicates the increase that will occur to this.

It also indicates the increase in liability and the cost that would occur from any particular case. It then goes on on the second page that they recommended that this occupational health program be undertaken, in which I would be retained.

Q Dr. Mancuso, referring to Page 1 of Plaintiff Exhibit No. 12, I'd like to read a couple small

portions of the letter. The first paragraph, quote, "Dr. Thomas F. Mancuso and I discussed with you and your associates, during our visit to your plant and office on September 7, 1962, the various current and potential health problems and the need for a planned occupational health program on a company-wide basis," close quote. Did I read that accurately?

A Yes.

MR. PARNELL: I object to the form of the question, reading into the record of any document. That portion read will speak for itself. My name is Al Parnell. Can we have a continuing objection, Mr. Henderson, if you are going to do that form of questioning so we don't interrupt the deposition?

MR. HENDERSON: Yes.

MR. PARNELL: Thank you.

Q Did I read that accurately, Dr. Mancuso?

A Yes, sir.

Q Now referring to Page 3 --

MR. VINES: Mr. Henderson, did you read the word, "occupational," in that paragraph?

MR. HENDERSON: Oh, yes.

MR. VINES: We object if you did not.

MR. HENDERSON: I hope I did. I meant to. The "occupational health program," is that what you are referring to?

MR. VINES: Yes.

MR. HENDERSON: I'm sorry. That's the same phrase, by the way, that appears on the September 23, 1963, document that we will refer to later on. Is that what you meant?

MR. VINES: Is this on the record?

MR. HENDERSON: Well, it was your comment on the record.

MR. VINES: I merely objecting and moving that your remark be stricken.

MR. HENDERSON: Thank you.

BY MR. HENDERSON:

Q Referring to the fourth paragraph of Page 3, and I quote, "This has been further discussed between us, and Dr. Mancuso and I now propose that he be made Consulting Medical Director for your company, to advise and carry out broad occupational health policies," and so on. Did I read that portion of that paragraph accurately?

A Yes, sir.

Q Are those references to the September 8, 1962, letter, referred to as Mancuso Deposition Exhibit 12, consistent with that which you just testified to a moment ago?

MR. CARPENTER: Objection as to the form.

A It's consistent in referring to the broad occupational health policies and the Consulting Medical Director and in relating to the concept of a company-wide type of service.

Q Doctor, moving to Plaintiff Deposition Exhibit No. 13, you have before you now, I trust, a copy of Plaintiff Deposition Exhibit No. 13, do you not?

A Yes, sir.

Q I'd ask you to indicate what the date of that letter is, first, and tell us to whom it was sent, by whom it was sent, and who received copies.

A September 27, 1962. It was a letter written by John T. Cantlon, President of John T. Cantlon and Associates. It was written to Mr. L. A. Pechstein, Assistant Director of the Philip Carey Manufacturing Company.

Q Did you receive a copy of that?

A Yes, I did.

Q Does it show that you received a copy?

A Not on this first page.

Q Okay, but your recollection is that you did receive a copy?

A Yes.

MR. CARPENTER: I object to the form of the question.

MR. HENDERSON: I withdraw the question for Mr. Carpenter's purpose.

Q Did you receive a copy of the letter?

A Yes, I certainly did. I prepared the document.

Q Which document did you prepare?

A The attachment to the letter.

Q How many pages comprise the attachment?

A Three pages.

Q Doctor, referring to Page 2 of the attachment, which would be Page 3 of Deposition Exhibit 13, I refer you to Roman numeral IV, Subparagraph (b). Do you see that?

A Yes, sir.

Q And I read among other things you were to, quote, "Preparation of scientific reviews of published data and abstracts of reference sources on particular

chemicals, the physiological or toxic effects and recommended control measures," close quote. Did I read that accurately?

A Yes, sir.

MR. DON KENT: Objection to the form of the question.

MR. HENDERSON: I think with Mr. Parnell's earlier comment, you have a continuing objection as to the form with respect to my reading that.

BY MR. HENDERSON:

Q Did you do that, Dr. Mancuso?

A Yes, I did.

Q I show you next what has been marked as Plaintiff Deposition Exhibit 14 and ask you if you can identify that?

A This is a letter that I wrote to Mr. Louis Knippa, the plant manager of the Philip Carey Manufacturing Company, dated August 15, 1963; and I sent a carbon copy of that to Mr. Karl F. Krieg, Employee Relations Manager, and Mr. L. A. Pechstein, Assistant Secretary of the Philip Carey Company.

Q With reference to that letter, and in particular the first paragraph thereof, would you indicate with whom

you had some, quote, "latest discussion," close quote.

A With Mr. Louis Knippa and Mr. John W. Humphrey, president of the company.

Q What did you indicate that you were going to do at that meeting?

A I'm sending copies of the articles which related to the medical literature pertaining to the hazards concerning asbestos exposure that was important to the company relative to their industrial workers and also to the adjoining population, the surrounding population.

Q What did you tell Mr. Humphrey with respect to that discussion?

A Well, whenever I met with Mr. Humphrey my efforts were rather concise and broad. I emphasized to him that the company had been engaged in the manufacturing of an asbestos product which was now -- which was recognized that they would have an accumulative problem relative to their medical and liability, that they had to institute immediate long-range plans to control the problem, that they would have extensive liability and that they ought to undertake measures for protection of the purchasers and users of the

problem, and that I would alert him to the current information relative to this problem with this asbestos because I happened to be deeply involved in it.

I also emphasized to him the fallacy of any company manufacturing an asbestos product relying upon the Braun-Truan report of the Industrial Hygiene Foundation, which was sponsored by the asbestos industry, because I told him that the findings were broad and that the asbestos problem, the cancer problem relative to asbestos, was real, that it would not go away, that they were deeply involved in it, and that this would take a major undertaking, that this would require all serious consideration by his facilities, whether they would be able to institute all the appropriate control measures at each of the facilities or whether they should design new facilities with the most modern type of equipment and control measures.

Q Who were the purchasers and users?

A Everybody who bought and used. I didn't know who the purchasers and users were of the Philip Carey Company. I had no information relative to that. I knew that

the product was national in scope. It had been used and distributed nationally. And I knew that other industries had bought it and, of course, other subcontractors had it; and, of course, I knew that insulation workers would be using the product.

Q Dr. Mancuso, I will turn your attention now to Plaintiff Deposition Exhibit 15 and ask you, if you might, to identify Plaintiff Deposition Exhibit 15 for us.

A The label on this document is entitled, "Medical Literature, Occupational Health Program, The Philip Carey Manufacturing Company." In ink it's marked, "8/15/63." The imprint on this green document is, "John T. Cantlon & Associates, Inc., Consulting Actuaries, Columbus, Ohio."

Q Is Plaintiff Exhibit 15 a particular document that you retained in your files since August 15, 1963?

A Yes. This is my personal copy.

Q Would you describe the outside of that deposition exhibit?

A Well, this exhibit is a bound volume, a bound report in a green cover, with the "John T. Cantlon & Associates" imprint on it; and inside the document --

it's a spiral-bound document -- inside the document is a series of medical reports, scientific reports pertaining to asbestos, which I had selected, which I believed to be important and were necessary to warn the company and to advise the company of the impact of asbestos, both relative to the occupational exposures of asbestos inside the plant, outside the plant, and to the community at large; and they consist of a series of documents which relate to accomplish that particular purpose.

It also details for the company and the responsible physicians the magnitude of the situation and the implications of the situation and their potential liability and the serious health risks which would develop.

Q Dr. Mancuso, how many medical articles are contained in Plaintiff Deposition Exhibit 15?

A Seven.

Q Was that bound report sent to the Philip Carey Manufacturing Company under the cover of the letter dated August 15, '63, to which it is referred in Plaintiff Exhibit 14?

A Yes, it was sent to them, but actually I had it in my

hand at the time we were discussing with the various officials of the company the contents of this document. So that I made sure that the information that was within that I intended to inform them of, that they were well aware of the nature and impact of the particular scientific documents that I had put together.

Q Thank you, Doctor. Referring now to the first article contained within Plaintiff Deposition Exhibit 15, would you tell us what that is, please.

A The first article is entitled, "Asbestos Exposure and Neoplasia," by Dr. Irving J. Selikoff, Dr. Jacob Churg, and Dr. E. Cuyler Hammond. And it was presented before the Joint Meeting of the Sections on Radiology and Diseases of the Chest of the American Medical Association and the American College of Chest Physicians on June 17, 1963, at Atlantic City, New Jersey.

Q By August 15, 1963, was that article published in the medical and scientific literature?

A This was available. This was presented on June 17, 1963. I made it available ahead of time to the company. It was not available in the scientific

journals. Dr. Selikoff and I had been communicating with each other and working together relative to our individual observations over a period of several years, and he provided me with this copy in advance of the publication.

MR. PARNELL: I object to the responsiveness of the answer, Mr. Henderson.

Q Was the paper later published?

A Yes, sir.

Q Who did the Selikoff study include, Dr. Mancuso?

A The Selikoff study included insulation workers. They had the workers of the union members of the International Association of Heat and Frost and Insulation and Asbestos Workers, and they comprised the body of the data; and it was the observations of these individuals in which he determined the cause of death and their relative -- the pattern of the cause of death and the excess risks. So the answer is the asbestos -- what we refer to as insulation workers.

Q What were the findings?

A The findings were principally that there was an excess of lung cancer, death due to lung cancer among

the insulation workers approximately seven times that -- 6.9 or seven times that of the general population.

The second observation was that they had found mesotheliomas, both pleural mesotheliomas and, I believe, peritoneal mesotheliomas, which is a rare type of tumor, which, of course, was excessive; and the major finding, of course, was the fact that insulation workers were exposed to a minimum amount of asbestos and yet these individuals had developed an excess risk relative to lung cancer and mesothelioma.

And, of course, the report was also important in the sense that it involved the long latent period of the interval of time between an individual being exposed to asbestos and then subsequently developing disease. And this is very important, because sometimes if one conducts a study where the cancer has a long latent period and if you make observations in too short a period of time, you will underestimate the degree of risk.

Q What is the latent period?

A Well, the latent period is the term that we use to describe -- there are various interpretations. The

interpretation I give to the latent period is the interval between the first exposure to the carcinogenic agent and the subsequent recognition of the development of the cancer. Now, if the individual is alive, that would be the point in time when the individual was exposed to the time that he was clinically observed to have the cancer.

If you don't know when the individual develops this cancer first but you only know it at the time of death, then you use the interval latent period between the time of observation and the date of death.

Q Moving to the third article contained in your bound report to Philip Carey, identified as Plaintiff Deposition Exhibit No 15, do you have that article before you by Dr. E. E. Keal?

A Yes, I do.

Q What is the title of that paper?

A The title of the paper is, "Asbestosis and Abdominal Neoplasiums." It's published December 3, 1960. It was published in the British medical journal called "The Lancet."

Q Are there two tables included on the first page of that article, which is Page 1211?

A Yes, sir, there's two. The first, Table 1, refers to the cases of asbestosis that relate to women. Table 2 relates to the cases of asbestosis that relate to men.

Q Dropping down to Case No. 22, would you indicate what is listed under "Type of Exposure."

MR. SCHULTZ: I object to the form of the question as leading and suggestive of an answer.

Q Well, to the extent that it shows pipe lagger as type of exposure --

MR. SCHULTZ: I further object to the question and move that the comments of counsel be stricken from the record.

Q We'll start all over again. Referring to Case No. 22, what is the type of exposure indicated?

A Pipe lagger.

MR. SCHULTZ: Same objection.

Q What is a pipe lagger?

A A pipe lagger is the same work as an insulator or pipe coverer. This term is interchangeable. In some countries they call them pipe laggers, in some countries they call them insulators.

Q Dropping down to Case 25, what is the occupation listed

there?

A Asbestos lagger.

MR. SCHULTZ: I object to the form of the question as leading and suggestive of an answer.

A Asbestos lagger.

Q Is there any associated disease?

A Yes: Carcinoma of the lung.

Q Dropping down to Case 32, is there an indication of the type of exposure?

MR. SCHULTZ: I object to the form of the question as leading and suggestive of an answer.

A The printed document shows boiler coverer as the type of exposure. This would be the same as an insulation worker and also the same as a pipe lagger.

Q Is there any associated --

MR. CARPENTER: I object to the answer. I don't know if the doctor has any way of knowing that's the same thing.

Q Referring to the heading, "Associated Disease," what is that with respect to --

A Carcinoma of the lung.

MR. SCHULTZ: I object to the form of the question as leading and suggestive of an answer.

Doctor, I'd appreciate it if you would pause briefly after he finishes his question so we can get our objections into the record. Thank you.

Q Referring to Case No. 34, would you indicate what the type of exposure listed there is?

MR. SCHULTZ: Same objection.

A Boiler coverer.

Q And is there an associated disease?

A Carcinoma of the lung.

MR. SCHULTZ: Same objection.

Q With respect to Case 36, is there a type of exposure indicated?

MR. SCHULTZ: Same objection.

A Boiler coverer.

Q Dr. Mancuso, referring to the next article, would you indicate what that is, by whom it was written, when and where it was published.

A The title of this article is called, "Diffuse Pleural Mesothelioma and Asbestos Exposure in the North Western Cape Province." The authors are J. C. Wagner, C. A. Sleggs, and Paul Marchand. It was published in the British Journal of Industrial Medicine, 1960.

Q Is that the same Dr. Wagner to whom we were referring earlier in your testimony?

A Yes. This is the same Dr. J. Christopher Wagner who made the observations in Africa relative to mesothelioma, the same Dr. Wagner who joined with me in the development of the international program and effort committee on research on asbestos in cancer.

Q What were the findings of Dr. Wagner?

A He found that a large series of cases of mesothelioma had occurred, of pleural mesothelioma, of individuals who were non-occupational cases. They were resident. They were individuals who were exposed outside of any working exposure; and this was very important because the exposures -- for two reasons -- were minimal and, secondly, it indicated the long latent period relative to the development of the subsequent disease, mesothelioma.

Q Were there any occupationally exposed individuals who had contracted mesothelioma in that article?

A Well, he refers on Page 269 to four industrial cases. Two of the patients were laggers, lagging locomotive boilers, and one was lagging steam pipes.

Q What is a lagger?

A A lagger is equivalent to an insulation worker and a boiler coverer.

Q Thank you. Doctor, before you now is Mancuso Plaintiff Deposition Exhibit No. 16. I'd ask you to indicate the date of that exhibit, what it is, to whom it was sent, by whom it was sent, and who received copies.

A The date is October 4, 1962. It was sent by Mr. L. A. Pechstein, Assistant Secretary of the Philip Carey Company. It was sent to Dr. Thomas P. Mancuso. Subject was, "Occupational Health Program." Copies were sent to Mr. L. Knippa, he was the Plant Manager; Mr. C. Bedford, he was the Assistant Plant Manager; Mr. C. Krieg, he was the Employee Relations Manager; Mr. A. Brockmeyer; and Mrs. V. A. Williams, who was the nurse. I don't know whether I got Bedford's and Brockmeyer's positions interchanged, but --

Q Referring to the first paragraph of that letter, would you paraphrase what that meant to you.

A It says that they had confirmed the concept of the Occupational Health Program which had been outlined in the attachment of a letter September 27, 1962, and they accepted the proposal.

Q Was the attachment to which you refer that three-page attachment you indicated that you had prepared?

A Yes, sir.

Q I believe you now have placed before you, Dr. Mancuso, what has been identified as Plaintiff Mancuso Deposition Exhibit No. 17, and I ask you to identify that.

A This is a letter by me to Mr. L. J. Knippa, Plant Manager of the Philip Carey Company. It is dated May 23, 1963, and carbon copies were sent to Mr. L. A. Pechstein, Assistant Secretary, and Mr. Karl F. Krieg, Personnel Manager.

Q Did you send that letter, Dr. Mancuso?

A Yes, sir.

Q By May 1963 had any procedure been developed relative to reducing to writing previous meetings or conferences?

A Yes. A number of conferences I held with the various officials of the company individually and jointly, and the procedure I adopted was to try to summarize the various points that I had made and to highlight these points in the form of a written document so that they would have something to refer to as we continued the progress in this particular area. So I definitely

adopted this particular procedure.

I used it in a summary fashion because, when I spoke to these individuals I not only provided them with the major points but gave them the details of it; but at this time I provided a summary statement relative to the points I had made with them and provided the broad scope in broad terms.

Q What did the letter of May 23, 1963, represent?

A The letter represented in broad terms a recognition of the extensive serious medical problem that the company was faced with companywide in the manufacture and sale of its products and, of course, with its liability relative to the employees and to the users of its products and, as well, to the community at large; the importance of trying to develop a constructive approach so that the company could sell and could use its particular product, that it could sell its product safely.

So, in essence, the proposal consisted of identification of an awareness of the serious problem nationally and internationally. I emphasized again the weakness of the Industrial Hygiene Foundation report by Braun & Truan, and I emphasized

the series of recommendations that they should undertake individually and in cooperation with other asbestos industries.

I told them of the importance of doing that type of work, and I accepted the positive approach relative to consumer guidance and assistance, and outlined a whole series of steps that should be taken for that. These steps included the recommendations relative to the establishment of safe practice manuals which contained illustrative ventilation control design, for safe handling procedures and safe data sheets, so that the various dusts could be controlled and so that the consumers and the persons who used this particular product could use it safely.

And, of course, I emphasized the importance of providing technical assistance to the consumers of their product and the purchasers of their product, and I advised them the way to carry this out was to employ an industrial hygiene engineer, who would develop and design the safe practice procedures, who would evaluate and control the work procedures, who would evaluate and control the work procedures and exposures not only at that plant but at each plant that

the company had, and at all of its operations, including Canada.

I went on to describe the importance relative to air pollution control. I went on to describe the importance of instituting protective measures relative to evaluating the health effects of any new products that the company was making and instituting this at the beginning before the release of any product.

And, in essence, all my efforts were trying to help the company to be able to utilize their product and to try to find a way in which it could be done safely to protect the people who were buying and using it, both inside and outside the plant; and this was my primary objective.

Q Was there any particular reason or reasons for your emphasis on the consumer uses in the outline of May 23, 1963?

A Yes. There was a combination of reasons relative to that. I had already done my work relative to the asbestos brake lining study. I had already made available to the company the Keal Report, which emphasized that minimum exposures would be identified by pipefitters or boiler coverers who would develop an

asbestosis or lung cancer. I had identified the information that I had heard from Smither and from Selikoff and relative to their work, in which Smither had identified that at a minimum exposure mesotheliomas could offer.

I had information from Selikoff long before he presented his information on June 13, 1963, in New Jersey, because we had been corresponding, and I had written to him and he advised me of that work, and I had found a case of an insulation worker with mesothelioma which I had identified in 1962.

But the more striking and more important convincing point that I tried to get across with the Philip Carey Company was the practice that they were at risk in severe liability because they had the practice of being on national contracts in which the insulators would be put on the Philip Carey payroll. This was a national practice. It had been going on for a large number of years. I pointed out to the company the inadvisability of this. I pointed out to them that this was an increase in liability that should be discontinued and that it was very important that control measures be instituted relative to

insulation workers. So these combinations of minimum exposures were able to convey to the company the necessity of instituting control measures and safe practice procedures for minimal exposures to asbestos.

Q Dr. Mancuso, I show you what has been identified as Plaintiff Mancuso Deposition Exhibit No. 18 and ask you to identify that, please, both in terms of date, by whom sent, to whom sent, and the context of the document.

A This is a letter from Dr. Irving J. Selikoff to Dr. Thomas F. Mancuso, dated May 24, 1962. He refers to the fact that I had written on March 6, 1962, to Mr. Carl W. Sickles of the International Association of Heat and Frost Insulators and Asbestos Workers and that my letter to Mr. Sickles of that union had been referred to in March of '62, had been referred to Dr. Selikoff. He then told me that he was --

Q Excuse me, Dr. Mancuso. Do you have a copy of the letter that you wrote to Mr. Sickles?

A No, I don't have that. I couldn't find it.

Q What did you say to Mr. Sickles of the asbestos workers?

A Well, at the same time that I was conducting my study

relative to the asbestos brake linings and had made the observations relative to the mesotheliomas, I started to dig into the possibility of other cases of mesothelioma in the case of Ohio, and I had uncovered other cases of mesothelioma; and this particular case, which was very clear-cut, was that an individual had been identified as an insulation worker. So I wrote to the Internation Union trying to determine whether I might be able to get information from them as to the length of time he was employed as an insulator and if I could get their cooperation in providing information about the Insulation Workers Union; but, of course, Dr. Selikoff was already engaged in working with that union in the development of that type of study.

Q Turning to Plaintiff Mancuso Deposition Exhibit No. 19, I'd ask you to identify that for us in terms of date, by whom and to whom the document was sent and received.

A This is a letter from Dr. Thomas F. Mancuso, dated May 29, 1962, to Dr. Irving J. Selikoff, and this acknowledges the letter that he had sent to me on May 24, in which I stated that I was pleased to know

that he was undertaking the studies relative to the insulation workers, and I indicated that I hope that we will be getting together shortly and exchanging our information.

Q. Next, I show you what has been marked as Mancuso Plaintiff Deposition Exhibit No. 20 and ask you to describe and identify that document.

A This is a letter from Dr. W. J. Smither, Cape Insulation and Asbestos Products Limited, dated April 23, 1963, addressed to Dr. T. F. Mancuso; and the document refers to the fact that he had found a significant number of cases of mesothelioma in which the exposure was minimal and the lapse of years before diagnosis was considerable. He then goes on to discuss the different types of asbestos being used and the comments relative to other investigators in different parts of the world.

Q Dr. Mancuso, what reaction resulted from the corporate officials to whom you presented the substance of your May 23, 1963, report, identified as Plaintiff Deposition Exhibit 17?

MR. CARPENTER: Objection to the form of that question, unless you identify who you are

talking about. The vague form of that question, what reaction of corporate officials, I find objectionable.

Q To whom did you discuss the contents or substance of the May 23, 1963, report?

A Mr. Lou Pechstein, Mr. Knippa, Mr. Krieg, and I believe on some occasions Mr. Humphrey himself.

Q What was the individual and/or collective reaction to the contents of that report?

MR. CARPENTER: Objection to form.

MR. PARNELL: I object to the collective reaction.

Q Indicate for us what the reactions were in the manner that you can do it.

A The manner was one of appreciation in the sense that they had had extensive liability practice relative to the use of their Philip Carey insulators, which was a practice that would only increase their liability and one in which they -- it was a sober type of reaction relative to their realization not only of their liability but the seriousness of the medical problems which had accumulated over several decades.

The seriousness related to the fact that

individuals who had been exposed many years in the past would be developing lung cancer or serious other lung diseases in the succeeding years, and that the potential relative to compensation claims and relative to Workmen's Compensation and relative to lawsuits would be very substantial.

So it was a question of appreciation relating to the recognition of any developing of the broad picture for them, letting them be able to see the components so that they could visualize their role as an asbestos industry and their inter-relationship with other asbestos industries and their role in the manufacture and sale of that product relating to industry and, of course, their buyers and consumers and users.

Q Who provided you with what you recognized to be the, quote, "appreciation," end quote, of the problem? What particular company officials?

A The appreciation I would say would come from Mr. Pechstein and from Mr. Knippa and Mr. Krieg.

Q Dr. Mancuso, I show you what has been marked as Plaintiff Mancuso Deposition Exhibit No. 21 and ask you to identify that in the same manner that you have

other exhibits.

A This is a letter from Mr. John T. Cantlon, President of the John T. Cantlon & Associates, dated June 11, 1963, marked "Personal and Confidential," sent to Mr. L. A. Pechstein, Assistant Secretary of the Philip Carey Manufacturing Company.

It refers to the Occupational Health Program and says, in effect, that it was agreed and understood that the evaluation of the operations in the program that Dr. Mancuso had undertaken would be carried out by him and continued by him as a research project in his capacity as a professor at the University of Pittsburgh, and it goes on to make the terms of the agreement.

Q What was the date of that?

A June 11, 1963.

Q Dr. Mancuso, you now have before you what has been marked as Plaintiff Mancuso Deposition Exhibit No. 22, and I'll ask you if you can identify that.

A This is a bound document with a white label, called "The Philip Carey Manufacturing Company, Occupational Health Program, Thomas F. Mancuso, M.D.M.P.H., September 23, 1963."

It had a green cover. It has the imprint -- the same green cover as in the previous document, the August document, and it's the same imprint: "John T. Cantlon & Associates, Inc., Consulting Actuaries, Columbus, Ohio."

Q Did you have a meeting at sometime in September 1963 relative to the report that you have identified as Plaintiff Deposition Exhibit No. 22?

A Yes, sir, I did.

Q When was the meeting?

A September 23, 1963.

Q Do you recall who was present?

A Yes. It was Mr. John Cantlon, myself, Mr. Lou Pechstein, the Assistant Secretary, Mr. Meisner, the Vice-President of Engineering and Research, and I believe either Mr. Knippa or Mr. Karl Krieg. I think it was Mr. Knippa.

Q Would you describe the essentials of the September 23, 1963, report.

A This is a document which followed the procedures that I had established to put into written form the various details and procedures and recommendations and policies of procedures that I had recommended. It

consists of 11 pages and it is divided into several groups relating to different types of questions, the first question relating to the immediate long-range goals, and this is an itemized in one, two, three, four, five, six, seven, eight fashion, nine, ten, eleven, in which I identify all the means to identify the various chemicals and materials to which the workers and the general population and the users of the product would be exposed, the means to evaluate and control them, the necessity for setting up a medical surveillance system, and the necessity to identify the occupational risk at each of the plants affiliated with the Philip Carey Company, including the Canadian mining operations.

Then I reaffirmed in that particular facet of this particular document statements that I had already made on May 23, 1963, in which I said that they should develop safe practice ventilation guides and safe practice procedures for their consumer use, and to avoid compensation liability and liability by their consumers.

I identified then recommendations and I specified a whole series of recommendations of what the company

should do relative to hiring the technical staff to carry out these recommendations, and particularly to hire a professional well-qualified hygiene engineer to carry out all the parts listed in Part 1, and also to carry out the environmental control procedures for the in-plant, as well as the external, the integration of the industrial occupational exposures and the air pollution problems.

Then I went on to the recommendations of conducting medical studies relative to the problems that may be associated with the sale of their products and their legal responsiblity, and then I identified the questions that the consumers and the purchasers and the users would be asking relative to their asbestos product; whether it would be safe or whether it would cause cancer or not, that it was necessary for the company to be in a position to be able to answer those questions.

Then I go on in detail to cite illustrations of what may come on relative to the future and the desirability of what could be done. I then emphasize again that the recommendations that I was making were really nothing more than the type of recommendations

and program that any good experienced corporate medical director would carry out in his responsibility for a company to try to protect and help the company by identifying its risks, not only to its employees but in the sale of its products, and to undertake those policies and procedures to correct and prevent those things from happening.

I then also cited illustrations of information that could be obtained by studying the Plymouth plant, the Canadian plant; and then I also advised them about establishing a medical and engineering consultation service relative to the consumers, purchasers and users of their products.

I advised them very strongly to discontinue their practice of putting on the Philip Carey payroll employees of the subcontractors who were the insulator. I advised them to set up certain types of medical examinations. I advised them to set up certain types of medical examinations. I advised them to set up certain types of medical systems and detector systems.

I then, of course, accentuated the fact that they were faced with the realization that they had

accumulated the problem over several decades, that they should give serious consideration whether they should relocate, whether the magnitude and the extensive financial investment that would be required to control these problems might be of such a nature that they might consider relocating; and, in effect, I really laid it on the line to them in detail, and that was the essence of this particular report.

(Discussion off the record.)

Q On September 23, 1963, did you provide the corporate officials of the Philip Carey Manufacturing Company whom you have identified earlier a copy of Plaintiff Deposition Exhibit No. 22?

A Mr. John Cantlon and myself jointly presented that to the officials. We discussed the contents of the document.

Q And was the document provided to them?

A The document was definitely provided to them, because we went over it page by page, paragraph by paragraph. They asked certain types of questions. I remember certain questions that they had asked: "Why us? Why can't someone else do certain things?"

But I tried to convince them of the importance

of taking the leadership relative to this particular field, and I thought that it would be a credit to the company to exercise leadership relative to the prevention and control so that the product could be used. We had luncheon. We continued to discuss it during lunch, and then we continued to discuss it after lunch.

Q Directing your attention, Dr. Mancuso, to Page 3 of the report, I'm going to read Paragraphs 9 and 10.

MR. SCHULTZ: Does Mr. Parnell's previous objections to reading from the documents still stand?

MR. HENDERSON: Yes.

BY MR. HENDERSON:

Q "9. Evaluate and determine toxicological or harmful effects of company products or components under various conditions of use, and as used in specific installations and occupations, buildings, industries, et cetera, by consumers.

"10. Develop safe practice ventilation guides with illustrative drawings, as well as medical guidelines, for distribution with sales, for consumer protection and relations, to avoid added

health problems and proper guidance on ventilation controls for the company's products.

"4. Discontinue the practice of placing on Philip Carey's payroll employees of subcontractors in different areas of the country because of the occupational disease liability. It has already been established by the recent study supported by the union that the union members have a high lung cancer rate."

Paragraph unnumbered: "It is highly unlikely that these installers, exposed to asbestos over the years, and generally continuing the same type of work, will develop high lung cancer rates. It is inadvisable to place the company in the position of defending against such claims and having such suits associated with Philip Carey."

Did I read those portions of Page 10 accurately?

A Yes, sir.

Q To whom were you referring when you referred to consumers and/or Philip Carey payroll employees and subcontractors?

A Well, it's very clear that the whole category was for insulation workers. It was a broad, very clear and very --

Q Were there any discussions with any of the company officials relative to the implications of the so-called Braun-Truan report?

A Would you repeat that question.

MR. PARNELL: I object to the form of the question.

MR. HENDERSON: Would you repeat the question.

MR. PARNELL: Would you try to rephrase it since you've got to repeat it, anyway.

BY MR. HENDERSON:

Q Going back to Page 6, Dr. Mancuso, of the same document of September 23, 1963, I refer to the top paragraph, and I quote:

"Internally, within the company, the question has been raised as to why medical problems, particularly relating to cancer and asbestos, were not recognized before. Actually they were recognized, but the asbestos industry choice to ignore and deny their existence. Evidence of this was as recent as the Industrial Hygiene Foundation Study, sponsored by the Asbestos Industry, at a cost of $40,000, which provided a basis for the companies to argue against this recognition of asbestos and lung cancer. The

report, when properly analyzed, had many weaknesses, upon which the conclusion was drawn, and these weaknesses have been recognized in scientific circles."

Did I read that paragraph accurately?

A Yes, sir.

Q With whom at the company level did you have conversation relative to the so-called Industry Hygiene Foundation Study?

MR. PARNELL: I object to the form of the question.

(Multiple objections.)

MR. LOCKS: Excuse me. For that purpose, for me, would you state the reason for your objection to that last question.

MR. PARNELL: I don't believe that I have to state the reasons for the objection.

MR. LOCKS: No, but if you are objecting to the form, I just wonder so he can correct it. He just said in the last question with whom in the company he talked to about that.

MR. PARNELL: That's not it. Read the last question back, Mr. Reporter, including the

quotation.

MR. HENDERSON: Let me phrase another question.

BY MR. HENDERSON:

Q To whom, Doctor, in this corporate scheme did you refer or did you have conversation relative to that portion of your report outlined in that paragraph?

A This was one of the first points that I had made with each official that I had contact with with the Philip Carey Company. I not only said it once, I said it many times. I said it to each individual. I said it specifically to Mr. Lou Pechstein, the Assistant Secretary, Mr. Knippa, the Plant Manager, Mr. Krieg, the Employee Relations Manager.

It was also said to Mr. Humphrey, the President. It was also mentioned to Mr. Fasold, the Secretary. It was mentioned to every person that I had spoken to or had any contact with, because I wanted to make sure that they were not operating under the illusion that they had a defense relative to a compensation case or against a lawsuit by the use of the Braun-Truan report, and I made that quite clear.

Q What is the Braun-Truan report?

A The Braun-Truan report refers to the document which was in -- previously refers to the study conducted by the Industrial Hygiene Foundation. This is a typographical error. It isn't Industry Hygiene, it's Industrial Hygiene.

It was a study that the asbestos industry supported, in which they conducted the study and they came up with scientific findings which were not justified.

Q Doctor, I now show you what has been marked as Plaintiff Deposition Exhibit No. 23 and ask you if you can identify that. Would you identify Plaintiff Mancuso Deposition Exhibit No. 23?

A This is a copy of my typed critique of the Braun-Truan report, entitled, "An Epidemiology Study of Lung Cancer in Asbestos Miners," which was published in the AMA Archives, June 1958.

I reviewed it. It carries a caption, "Review by Thomas F. Mancuso, M.D., Chief, Division of Industrial Hygiene." The date is November 18, 1960.

The document consists of -- I didn't number the pages. It consists of 11 pages, and it's structured in a way in which I make a comment relative to

excerpts from the statement that the Braun-Truan authors made in their document, and then I make comments myself which highlights certain points they want to make; and this goes in general fashion, and then it gets down to specifics relative to the analysis of the data and why I interpreted that questionable nature of the way they conducted the analysis and questionable nature relative to the interpretation, and other data on how they used their figures.

Q What was your conclusion with respect to the conclusions of the Braun-Truan report?

A That instead of disproving it, that they actually proved the relationship between asbestos and lung cancer.

Q Did you submit the review to anyone for publication?

A I didn't submit it for publication, but I submitted it to a colleague, Dr. Herbert Stokinger. I submitted it the same month in which I wrote it, in November 1960. I sent it to Dr. Stokinger who was Chief Toxicologist of the Public Health Service of the Federal Government.

Q I notice on that first page that there is a reference

to a report of Holleb (1942). Is that correct?

A Yes.

Q I show you what has been marked as Plaintiff Mancuso Deposition Exhibit No. 24 and ask you to identify that.

A This is a document, a copy of an article authored by Herbert B. Holleb and Alfred Angrist, entitled, "Bronchiogenic Carcinoma in Association with Pulmonary Asbestosis, Report of Two Cases."

Q Where was that published?

A I don't have it here, but I think this was in the American Journal of Pathology; and it was submitted for publication on May 19, 1941.

Q What were the diseases of the two persons, case studies, who were the subjects of Drs. Holleb's and Angrist's report?

A Asbestosis and lung cancer.

Q What were their occupations?

A They were pipe coverers.

MR. SCHULTZ: I object to the form of the question. You are asking him what was their occupation when in the report there is an indication for it.

Q What were there occupations as listed in the article?

A Pipe insulation workers.

Q Dr. Mancuso, referring back to your Curriculum Vitae, if you would, which is Deposition Exhibit No. 3, would you indicate where, if any place, any further reference by you to the Braun-Truan report is located?

A It's Item 39. My participation in the New York Academy of Sciences and my discussion of the cancer effects, that included the critique of the Braun-Truan report in summary fashion.

Q I show you what has been marked as Plaintiff Deposition Exhibit No. 25 and ask you if you can identify that?

A This is a document from Dr. Irving J. Selikoff, dated August 8, 1964, to Dr. Thomas F. Mancuso, saying, "Dear Tom," and itemizing and providing to me in a whole series of paragraphs covering five pages, totaling 18 items, his criticism of the Braun-Truan report.

Dr. Selikoff made this available to me because he knew of my work in the analysis of the Braun-Truan findings, and he called to my attention a

series of observations which I was not aware of which further weakened the Braun-Truan report. For example, in his first paragraph he cites the fact that -- he quotes a statement by Braun and Truan relative to Klotz, saying that a certain number of lung cancers in a series of four in 478 cases of asbestosis, where Dr. Selikoff pointed out that Braun-Truan had misquoted completely, that there was no such document, that what the paper really referred to was silicosis, and carcinoma of the lung had nothing to do with asbestosis. Then Dr. Selikoff --

MR. PARNELL: Tom, I can't go any further without -- he is now reading something that he didn't author.

THE WITNESS: I'm not reading.

MR. HENDERSON: He is paraphrasing a letter that he received from a colleague in August 1964.

MR. PARNELL: Is that your position? All right.

THE WITNESS: I'm not reading it at all. It would take me 15 minutes to read this.

MR. PARNELL: Just as long as he is not reading. I don't want him to do that.

MR. SCHULTZ: I'm sure the doctor would.

BY MR. HENDERSON:

Q Go ahead, Doctor.

A Dr. Selikoff had identified in the letter certain observations which he had an opportunity to make, which I did not know of. He had visited Canada. He knew the distribution and the miles between -- the large distances from where the miners were and the hospitals, and he contributed a number of observations which I was not aware of which lessened considerably my already -- which lessened considerably any credibility that the Braun-Truan report had; and, in fact, he augmented and confirmed my observations but strengthened them.

Q Dr. Mancuso, referring back now to various exhibits, and maybe to save a moment, I'll just indicate the ones. With reference to Deposition Exhibit 12, which is the letter to L. A. Pechstein from John A. Cantlon, with a copy of you, dated September 8, 1962, did you receive a copy of that letter on or about September 8, 1962?

A Yes, sir.

Q With respect to Plaintiff Deposition Exhibit 13, which is the letter from Mr. Cantlon to Mr. Pechstein, with the three-page attachment, did you receive a copy of that letter on or about or shortly after September 22, 1962?

A Yes, sir.

Q With respect to Plaintiff Deposition Exhibit 14, which is the letter to Mr. Knippa from you, with copies to Messrs. Krieg and Pechstein, did you send that letter to Mr. Knippa on or about August 15, 1963?

A Yes, sir.

Q With respect to the bound report referenced, "Medical Literature, Occupational Health Program, The Philip Carey Manufacturing Company," with pen date of 8/15/63, did you send that to Mr. Knippa on August 15, 1963, at the time that the letter was sent?

A Yes. The staff, I know, transmitted it.

Q With reference to Plaintiff Exhibit 16, which is the letter dated October 4, 1962, to you from Mr. Pechstein, with copies to Mr. Knippa, Bedford, Krieg, Brockmeyer and Ms. Williams, did you receive that letter on or

shortly after October 4, 1962?

A Yes, sir.

Q With respect to the report of May 23, 1963, directed to Mr. Knippa, with copies to Messrs. Pechstein and Krieg, did you mail, send that on or about May 23, 1963, through the U.S. mails?

A Yes, sir.

Q With respect to the letter from Dr. Selikoff to you, dated May 24, 1962, identified as Plaintiff Deposition Exhibit 18, did you receive that letter from Dr. Selikoff shortly after May 24, 1962?

A Yes, sir.

Q With respect to Plaintiff Deposition Exhibit 19, a copy of a letter to Dr. Selikoff from you, did you send that letter to Dr. Selikoff on or about May 29, 1962?

A Yes, sir.

Q With respect to Plaintiff Deposition Exhibit 20, dated April 23, 1963, from Dr. Smither to you, did you receive that on or after or shortly after April 23, 1963, from Dr. Smither?

A Yes, sir.

Q With respect to letter dated June 11, 1963, from Mr.

Cantlon to Mr. Pechstein, with a copy to Dr. Mancuso, identified as Plaintiff Deposition Exhibit 21, did you receive a copy of that document shortly after June 11, 1963?

A Yes, sir.

Q With respect to Plaintiff Deposition Exhibit No. 23, the review of the Braun-Truan report, dated November 18, 1960, did you prepare that report on or about November 18, 1960?

A Yes, sir.

Q With respect to the letter from Dr. Selikoff to you, dated August 8, 1964, identified as Plaintiff Exhibit 25, did you receive that shortly after August 8, 1964?

A Yes, sir.

MR. HENDERSON: Let's break until three o'clock.

MR. VINES: Does that finish the direct?

MR. HENDERSON: That finishes the direct.

(Thereupon, the deposition was recessed at 1:40 p.m. and resumed at 2:45 p.m.)

MR. LOCKS: I'm ready to go back on the record. Everyone else, if it's too late, it's