

1 IN THE CIRCUIT COURT FOR ANNE ARUNDEL COUNTY, MARYLAND

2 -----
3 STATE OF MARYLAND,

4 Plaintiff,

5 vs.

6 KEENE CORPORATION, et al.,

7 Defendants

8 Thursday, April 3, 1986

9 Deposition of

10 James P. VERHALEN,

11 a witness, called for examination by counsel for the
12 State of Maryland, pursuant to Notice, at the Office of
13 the Attorney General, State of Maryland, Attorney
14 General's Conference Room, Munsey Building, 7 North
15 Calvert Street, Baltimore, Maryland, 21202, commencing at
16 2:30 p.m., before John Oliver, a Notary Public, when were
17 present on behalf of the respective parties:

18 ON BEHALF OF THE PLAINTIFF:

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21 Office of the Attorney General
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VERHALEN DEPOSITION

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P R O C E E D I N G S

Whereupon,

JAMES P. VERHALEN,

a witness, was called for examination by counsel for Plaintiff and, having been first duly sworn, was examined and testified as follows:

EXAMINATION BY COUNSEL FOR PLAINTIFF

BY MR. SHEEHAN:

Q Would you state your full name, business address, home address for the record, sir?

A James P. Verhalen. Box 186, Stanhope, New Jersey. My business address is the U. S. Mineral Products Company, Furnace Street, Stanhope, New Jersey.

Q Mr. Verhalen, what's your position with the U. S. Mineral?

A Chairman of the Board.

Q You're also an officer with the company?

A As chairman, I am an officer.

Q Are you also president of the company?

A No.

Q Does somebody else now occupy the position of

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1 president of the company?

2 A Yes.

3 Q Who is that, sir?

4 A Arthur H. Jensen.

5 Q Can you indicate for me at what point in
6 time you were no longer the president of the company?

7 A About June of '84, as I recall, or July of
8 '84.

9 Q Can you indicate for me what the composition
10 of the Board of Directors of U.S.M. is?

11 A There are three of us on the Board of
12 Directors. Art Jensen, myself, and a local attorney
13 named Glen Redboard.

14 Q Can you indicate for me what the authority
15 for the Board of Directors is over the operations of
16 U.S.M.?

17 A I would think it's typical of the authority
18 the board has in any corporation. It elects the
19 officers, it fixes their salaries, it makes major
20 decisions relating to the company and its business and
21 its future.

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1 Q For how long have you been with U.S.M.?

2 A 1948.

3 Q Can you tell me at what point in time you
4 became a member of the Board of Directors?

5 A 1952, as I recall.

6 Q You served continuously from 1952 to the
7 present?

8 A I have.

9 Q During that period of time, 1952 to the
10 present, has the role and responsibilities of the Board
11 of Directors that you just described changed in any way?

12 A Not at all that I know of.

13 Q Sir, can you give me a brief overview of your
14 educational background?

15 A I'm a mechanical engineer graduated from
16 Marquette University in Milwaukee in 1948.

17 Q Then upon graduation, by whom were you
18 employed?

19 A I was employed for a short period of time by
20 the M. A. Hanna Fuel Company, then came to U. S. Mineral
21 and been there ever since.

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1 Q What was your first position with U. S.
2 Mineral?

3 A Plant engineer.

4 Q What plant was that, sir?

5 A South Milwaukee, Wisconsin.

6 Q What was your responsibility as plant
7 engineer?

8 A Oh, pretty much equipment design, oversight
9 of all capital projects, and oversight of the
10 maintenance of the plant and equipment.

11 Q Sir, you indicated you have a B.S. degree
12 from Marquette?

13 A Correct.

14 Q Do you have any post-graduate training at
15 all?

16 A I've had a lot of post-graduate individual
17 studies but no formal degree work.

18 Q In what types of areas have you had post-
19 graduate studies in?

20 A Principally in business, marketing, and that
21 sort of thing.

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1 Q Have you had any in the area of industrial
2 hygiene --

3 A No.

4 Q -- industrial safety?

5 A No formal training and no academic training,
6 if you will. Personal reading, yes.

7 Q What types of personal reading are you
8 alluding to, sir?

9 A I read trade magazines; I read publications;
10 I read the daily newspapers, that sort of thing.

11 Q Sir, how long did you serve as plant engineer
12 in South Milwaukee?

13 A Oh, probably about a year.

14 Q What was your next position?

15 A Plant manager.

16 Q At the same plant?

17 A At the same plant.

18 Q What types of products did this plant
19 produce?

20 A This plant produced the mineral wool, batts,
21 blankets, and blowing oil.

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1 Q Did it produce any other products?

2 A That's all it produced.

3 Q Did it ever produce Cominco and slated
4 cements?

5 A No, sir.

6 Q For how long were you at the South Milwaukee
7 plant?

8 A Was there until we closed it in 1952.

9 Q Throughout that entire period of time that
10 plant never manufactured Cominco and slated cement?

11 A That's correct.

12 Q It did not manufacture any products
13 containing asbestos?

14 A Not to my knowledge.

15 Q Were there other plants operated by U. S.
16 Mineral at other locations during your tenure or was
17 this the only plant?

18 A No. The plant at Stanhope, New Jersey, has
19 been in continuous operation making mineral wools since
20 1875.

21 Q Were there any other plants around the

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1 country at that time?

2 A There was another plant that we leased for a
3 short period of time in South St. Paul, Minnesota. That
4 was closed in 1959 or '50.

5 Q In 1948 and in 1949 when you were in South
6 Milwaukee, were you familiar with the other products
7 produced by U. S. Mineral?

8 A Well, those were the products produced by U.
9 S. Mineral.

10 Q Did U. S. Mineral produce Cominco and slated
11 cements at any of its manufacturing locations in
12 those years that you know of?

13 A It may have intermittently produced Cominco
14 cement in Stanhope.

15 Q But you had no personal involvement with
16 that?

17 A No personal involvement.

18 Q So the produce line that you were most
19 involved was mineral wool products?

20 A Correct.

21 Q Was that considered to be an area of

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1 specialty for you?

2 A Was is that?

3 Q Mineral wool.

4 A That was the company's business. That was
5 the company's only business.

6 Q At that point in time, did you in any way
7 keep abreast of the literature that was published about
8 mineral wool and mineral wool productions?

9 A Tried to.

10 Q What types of literature would you
11 familiarize yourself with?

12 A In those years and even today, there's very
13 little public information about mineral wool. There are
14 no textbooks on the subject. The cupulo-melding
15 practices, there is perhaps more European literature
16 than American. The industry -- everybody thought that
17 what they were doing was so special and different that
18 it was difficult to get much information -- much
19 technical information on what other's were doing.

20 Q During the period of time that you were in
21 South Milwaukee, from 1948 to 1952, were you aware of or

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1 made aware of any alleged hazards associated with
2 exposure to mineral wool?

3 MR. CLAGUE: Objection. It's beyond
4 the scope of the litigation, but you can go ahead and
5 answer.

6 A I don't believe there was a hint of any kind
7 of hazard connected with mineral wool.

8 BY MR. SHEEHAN:

9 Q So you're not familiar with any articles
10 which may have been published that may have raised that
11 to a level of concern among those in the industry?

12 A I would suggest I don't believe there were
13 any.

14 Q Sir, are you familiar with the publication
15 Rock Products?

16 A A magazine. I read it occasionally.

17 Q How about during that time period that you
18 were in South Milwaukee, would you have read that
19 magazine?

20 A I would have occasionally read that magazine.

21 Q Was that considered to be a magazine that

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1 dealt with the trade?

2 A One of the trade publication's I would
3 follow.

4 Q Were there very many at that point in time?

5 A Well, when you say "very many," Foundry
6 Magazine, Rock Products, I would say that most of the
7 other publications I read were more business oriented
8 than they were technologically oriented towards cupulo-
9 melting practices or the foundry or rock industry.

10 Q Now, sir, you mentioned that you left the
11 South Milwaukee plant upon its close in 1952?

12 A Correct.

13 Q And went to Stanhope, New Jersey?

14 A Exactly.

15 Q Was that the only manufacturing plant
16 operated by U.S.M. at that point in time?

17 A It was the only one then operating.

18 Q In what position were you recruited when you
19 moved to Stanhope, New Jersey?

20 A I came without a title, position, or a
21 promise. The company had a sales manager. The company

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1 had a plant manager, but it didn't have leadership. I
2 had no titles.

3 Q Who was the president of the company at that
4 point in time?

5 A Edward H. Daily.

6 Q Did Mr. Daily continue on as president for a
7 number of years thereafter?

8 A He continued on as president until I became
9 president in -- sometime in the sixties.

10 Q Was he also a member of the Board of
11 Directors during that time period?

12 A He was a member of the Board of Directors
13 right up until July of '84.

14 Q And he no longer serves with the company in
15 any role?

16 A At U. S. Mineral, no.

17 Q Now, sir, when you first arrived at the plant
18 in Stanhope, New Jersey, what were your assigned
19 responsibilities?

20 A Stop it from losing money.

21 Q How did you do that, sir?

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1 A First thing we did was to bring in the usable
2 used equipment to make batts and blankets. From
3 Stanhope, brought it, I mean, from South Milwaukee we
4 brought it to Stanhope and installed that used equipment
5 in Stanhope and broadened the product line to include
6 batts and blankets. Prior to that time, the only
7 product made there was blowing oil. Granulated mineral
8 oil. After we got the batt line operating and got some
9 volume of batt business, the losses stopped and we began
10 to make small amounts of profit.

11 Q Now, sir, in preparation for today's
12 deposition in this case, did you have occasion to read
13 or review any documents that may be pertinent to the
14 inquiry?

15 A I consciously avoided reading all the
16 documents that you've called for.

17 Q Have you read any documents at all, sir?

18 A In relation to this, no.

19 Q Now, sir, you've been deposed on prior
20 occasions?

21 A I have.

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1 Q How many occasions?

2 A Three, four, five.

3 Q Do you recall the last time that you took a
4 deposition related to asbestos litigation?

5 A I do.

6 Q When was that, sir?

7 A I don't remember exactly when it was. It was
8 in Stanhope. Maybe a year ago. Less than a year ago.

9 Q What type of case was that, sir? Was that
10 personal injury, bodily injury, or property damage?

11 A It was a personal injury case having to do
12 with either Pennsylvania or Ohio.

13 Q Since that time, you haven't had your
14 deposition taken?

15 A No, I have not.

16 Q Sir, do you recall the first time that your
17 company manufactured asbestos-containing products?

18 A We entered the Cafco spray fiber business in
19 February or March of 1954.

20 Q Prior to that time, to your knowledge the
21 company manufactured no asbestos-containing product?

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1 A The company, I believe, erratically or
2 intermittently may have made some insulating cements at
3 Stanhope. It was not a successful product. Never
4 amounted to a hill of beans.

5 Q When you first arrived there in 1952, was the
6 Stanhope plant manufacturing Cominco cement.

7 A I don't think so.

8 Q When is the first time that you recall that
9 the product was actually manufactured there?

10 A We put it in blending equipment to mix these
11 caskill products in '54. And I believe there was an
12 attempt to make insulating cements in the later years.
13 I do know we produced some for Cuba in the later '50s,
14 '57, '58, '59. I do know we exported some insulating
15 cements to Cuba. I'm sure we may have attempted to
16 market those products intermittently. But it was never
17 a product that got any management attention of any
18 significance.

19 Q Did you also serve the company in a sales
20 capacity before coming to Stanhope?

21 A Well, in the Milwaukee area, in the mid-West

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1 area, I ended up with the sales and marketing and
2 minding the total general management responsibilities
3 for the middle West.

4 Q During that period of time, you weren't
5 selling any Cominco then?

6 A No, sir.

7 Q Now were there other plants located around
8 the country other than Stanhope?

9 A Stanhope and South St. Paul. The St. Paul
10 operation we were involved only for a couple of years.
11 That was a leased operation as I said.

12 Q Now, sir, can you tell me the Columbia
13 Acoustics and Fireproofing Company was formed?

14 A February 24, 1954.

15 Q Was that the time time that you began
16 production of Cafco products?

17 A Cafco products. Correct.

18 Q Who are the principals in Columbia Acoustics
19 and Fireproofing Company?

20 A Well, it was a wholly-owned subsidiary of
21 U.S.M. so the U.S.M. principals were the same as the

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1 Caico Columbia Acoustics principles.

2 Q Sir, do you recall at what point in time U.
3 S. Mineral began to develop asbestos products?

4 A Well, we started a research and development
5 operation when Frank Stumpf joined the company late in
6 1954.

7 Q The research for Caico products was begun
8 with Mr. Stumpf?

9 A Really, yes.

10 Q Was anybody else in the company responsible
11 for the development of those products, the product line?

12 A Other than Frank?

13 Q Yes.

14 Q No, not really.

15 A How about Mr. James Kempthorn, was he?

16 Q Well, we -- what we did is we took a license
17 from Mr. Kempthorne and got presumably the required
18 technology to make these products in February of '54
19 when we started in the business.

20 A So you began to produce Caico spray under
21 license from Mr. Kempthorne?

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1 A Based on his formulas and his test
2 information and his knowledge of the business, yes.

3 Q Was he a person who was knowledgeable in his
4 field?

5 A He thought so.

6 Q Did he serve in any official role with your
7 company?

8 A Never as an employee or officer or in any
9 direct connection.

10 Q Did he serve as a consultant?

11 A As a consultant.

12 Q For what period of time did he serve as a
13 consultant?

14 A Our agreement with him kept him on in that
15 role for five years till 1959.

16 Q During that period you continued to
17 manufacture a product that he had designed?

18 A No. We continued to manufacture his product
19 only until Frank Stumpf had enough time to take the bugs
20 out of his product.

21 Q What was his product called?

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1 A Sprayed-on.

2 Q Was that made under the Cafco name?

3 A For the first year the Cafco product was the
4 same as the Sprayed-on product that he brought to us.

5 Q My question was was it manufactured and sold
6 as Cafco or Sprayed-on.

7 A It was manufactured and sold as Spayed-on in
8 the New York metropolitan area which is the territory
9 that was exclusive to Mr. Kempthorne and everywhere else
10 the same product was marketed and sold as Cafco.

11 Q Was that part of your license agreement with
12 Mr. Kempthorn?

13 A Yeah.

14 Q That was some of the other terms of the
15 license agreement?

16 A He had the exclusive territory. He had -- he
17 got a modest royalty based on our sales outside of New
18 York. There was some minimum royalty payment as I
19 recall. I don't remember the amount. He consulted with
20 us with respect to product development, with respect to
21 machinery, application machinery development, with

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1 respect to marketing and testing and that sort of thing.

2 Q Sir, let me back up. When did your company
3 make the initial decision to go into the spray market,
4 the fiber spray market?

5 A Probably middle third quarter of '53.

6 Q Who would have involved in that decision?

7 A I guess I was principally involved in that
8 decision and Ed Daily and the other directors. When it
9 was finally agreed, we were able to finally work out an
10 agreement with Mr. Kempthorne.

11 Q Who was it that located Mr. Kempthorne?

12 A I did.

13 Q So this was a project that you had assumed a
14 great deal of responsibility for?

15 A Hundred percent.

16 Q Hundred percent. How did you find Mr.
17 Kempthorn?

18 A Impossible. (Followed by laughter)

19 Q Were you responsible for negotiating with Mr.
20 Kempthorne?

21 A Yes, I was.

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1 Q And negotiating this license agreement?

2 A Yes.

3 Q In the course of these negotiations for the
4 manufacture of Sprayed-on, his role of serving as
5 consultant for the company, did Mr. Kempthorne make any
6 of his materials related to spray fiber or the apparatus
7 for spraying fiber available to you?

8 A Mr. Kempthorne came to my attention as one of
9 our bad debts. He was in bankruptcy, and we had been
10 selling him mineral wool, and that's how I became
11 acquainted with him and his creditors and his process
12 and his products. As part of the bankruptcy sale, we
13 purchased the manufacturing equipment that he owned and
14 brought it up to Stanhope and started the manufacture
15 that way.

16 Q Were you aware of the various patents that
17 Kempthorne held for the spraying of mineral fiber?

18 A Oh, sure. We got a license as part of that
19 agreement under all those patents.

20 Q Now which patents would you had a license to
21 use?

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1 A All of his patents.

2 Q Did you have occasion to read through his
3 various patents?

4 A Read through them and discussed them with
5 him.

6 Q So you're familiar with the content of all
7 those patents?

8 A I think generally -- it's a few years ago,
9 but, in general, yeah, I think so.

10 Q So any of the patents that Mr. Kempthorne held
11 at that point in time that related to either the
12 machinery or apparatus for spraying fiber and the manner
13 of spraying, you would have been familiar with?

14 A That was principally what he brought to the
15 table.

16 Q Now, sir, how long a period of time did you
17 continue to manufacture Sprayed-on for Mr. Kempthorne under
18 this license agreement?

19 A Until that five year exclusive territorial
20 thing terminated in '59.

21 Q For what period of time did you manufacture

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1 his formula with your label?

2 A Until Frank Stumpf successfully developed and
3 tested a modification of that product. Probably about a
4 year into the first second-quarter of '55.

5 Q After that time, you no longer used Mr.
6 Kempthorn's formula?

7 A That's correct.

8 Q Only for the manufacture of his product in
9 metropolitan New York?

10 A Oh, after describing to him the improvements
11 that had been made, he quite agreed to accept in the
12 Spray-on bag, the Cafco products so we had only one
13 product to make. It was just put in different bags.

14 Q So Sprayed-on and Cafco were one and the
15 same?

16 A Were one and the same.

17 Q Until 1959?

18 A Until either sometime in March or the first
19 of April, '59, that terminated. We stopped
20 manufacturing for him.

21 Q Did he sever his relationship with your

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1 company?

2 A Quite.

3 Q That was a complete severance?

4 A Quite.

5 Q After that, Mr. Kempthorne went into
6 manufacturing business himself?

7 A Correct.

8 Q With his own formula or with yours?

9 A He had his own formula.

10 Q Do you have any knowledge as to how that
11 differed from yours?

12 A No, and very frankly, we didn't care.

13 Q So it's quite possible he continued to use
14 your formula?

15 A No.

16 Q How would you know that, sir?

17 A Well, let's say it would not have been proper
18 for him to use our formula, nor would it have been proper
19 for him to know our formula.

20 Q Was this the only location that Sprayed-on
21 was made during those years?

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1 A During those years, that's correct.

2 Q 1954 to 1959?

3 A Correct.

4 Q After that point in time, where was Sprayed-
5 on made, if you know?

6 A I believe he set up in Newark.

7 Q At that point in time had the licensing
8 agreement, the exclusive arrangement for the
9 metropolitan New York area ended?

10 A That ended.

11 Q So you were direct competitors at that time?

12 A We were competitors.

13 Q Did you ever have occasion to have your
14 research department, Mr. Stumpf, analyze a sample of
15 Sprayed-on to see the extent it resembled your own
16 formula?

17 A No.

18 Q Was there any controversy ever made known to
19 you that, in fact, he was using your formula or your
20 formulation or a very close replica thereof in the
21 continuing manufacture of Sprayed-on?

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1 A Wall, he was not using exactly the same
2 formula as ours.

3 Q Do you know what differences there were?

4 A No. I just know that it was not exactly the
5 same?

6 Q How do you know that, sir?

7 A If he had exactly the same formula, he would
8 have qualified at Underwriters Laboratories for the
9 same test status that we had, and he did not qualify for
10 that.

11 Q I see. Based upon that, you assume that the
12 formulas were different?

13 A Based on that, I know it's different. I
14 don't know to what extent it's different or how.

15 Q Now, sir, during this period in 1954 to 1959,
16 we can stick with that for a while, what other products,
17 if any, did you manufacture for other companies or other
18 individuals?

19 A In the blended fiber asbestos-containing
20 area?

21 Q Yes.

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1 A None that I recall.

2 Q During this time period, were you producing
3 Cominco cement again?

4 A I do know that we made attempts at it. And I
5 do know that we sold some to Cuba. I think we made
6 attempts to sell to Con Edison in New York, but it's my
7 recollection we failed at that.

8 Q So Cominco was never a very big product for
9 your company during that time period?

10 A It, as I said earlier, was of no consequence.

11 Q Who would have been responsible for the
12 production of Cominco?

13 A When you say "production," you mean the
14 manufacturing of it?

15 Q Yes.

16 A Well, whoever was responsible for
17 manufacturing at Stanhope, that was different people at
18 different times.

19 Q So was there ever a time period you
20 manufactured Cominco cement for Arrid Magnesia?

21 A For Arrid Magnesia. Not that I recall.

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1 Q How about in the 1960s, did you manufacture
2 Cominco for Empire Ace?

3 A Probably.

4 Q Were there any other companies that you would
5 have manufactured Cominco for?

6 A We may have made some for Johns Manville, but
7 I don't recall.

8 Q If you made, for example, Cominco cement for
9 another company, would that be sold under their label or
10 yours?

11 A They would have given us a formula. We would
12 have mixed it, put it in their bags.

13 Q Now, sir, going back to this time period,
14 1954 to 1959, was Mr. Kempthorne responsible for the
15 development of any other products other than Calco
16 spray?

17 A Mr. Kempthorne was not responsible for the
18 development of any product following Mr. Stumpf's
19 arrival at our company.

20 Q Did you recruit Mr. Stumpf?

21 A I did.

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1 Q Were you familiar with his background?

2 A No, yes.

3 Q At the time you recruited him?

4 A Well, as part of the interviewing process, I
5 did not know him before our first discussions about his
6 joining the company. That was the first time I became
7 acquainted with Frank.

8 Q You knew that he'd worked on sprayed mineral
9 fiber with asbestos during his tenure at National
10 Gypsum?

11 A I learned about that as part of the
12 interviewing process, yes.

13 Q During this time period 1954 to 1959, were
14 there any other manufacturing locations to U.S.M.?

15 A This was the sole manufacturing location for
16 U.S.M. up until 1973.

17 Q At that point in time, you had ceased
18 manufacturing asbestos containing products, is that
19 correct?

20 A Before that time, we had ceased and we then
21 opened a plant in Birmingham, Alabama.

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1 Q So during this time period 1954 to 1970, '72

2 --

3 A Only at Stanhope, New Jersey.

4 Q During that time period, what other products
5 were produced besides the asbestos-containing products?

6 A We made batts and blankets out of mineral
7 wool. We made industrial felts out of mineral wool. We
8 made granulated mineral wool for blowing into homes and
9 for industrial high temperature and cryogenic
10 applications and we made polystyrene foam products.

11 Q Going back to the Cafco line of products, is
12 that the only line of products that ever contained
13 asbestos?

14 A Correct.

15 Q With the excepting of Cominco. Cominco
16 wasn't a Cafco product?

17 A No.

18 Q So was the Cafco product line and Cominco
19 constitute the asbestos-containing product line of the
20 company?

21 A Correct.

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1 Q When you first began the manufacture of Cafco
2 products, had you done any type of market survey to
3 determine number 1: what the market for the product was
4 and, number 2, who the principal competition was?

5 A Perhaps not in the formal sense that you
6 would think of it. I -- as part of the evaluation of
7 Mr. Kempthorn's history and his product acceptance and
8 his market position, I did visit with everyone of his
9 important customers and did get a feel for their opinion
10 as to prospective growth in the spray fireproofing
11 markets. And that was enough knowing the risk we were
12 taking to justify starting out in the business in a
13 small way.

14 Q Do you recall who the other competitors were
15 at that point in time?

16 A In the United States in the spray fiber
17 field, the only two real competitors were Limpet and
18 Asbestos Spray. That's 1954.

19 Q Was Spraycraft in existence then as a
20 product?

21 A As part of that same bankruptcy sale, Smith

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1 and Kanzler acquired the equipment that we did not
2 acquire. And they started up in the business about the
3 same time we did.

4 Q Who's responsible for starting up their
5 business, do you know?

6 A Dr. Morris Lieff.

7 Q So you both entered the field at the same
8 time?

9 A Correct.

10 Q How about the powder named Spray-Kote, were
11 you familiar with that?

12 A That's one I'm not familiar with.

13 Q At that point in time, were there other
14 principal competitors in the fireproofing business?

15 A Well W. R. Grace -- well, prior to W. R.
16 Grace, it was Zonolite Corporation which was a Chicago
17 outfit had clearly the strongest position in the
18 marketplace with a vermiculite plaster product. U. S.
19 Gypsum, the National Gypsum were both major factors in
20 the plaster -- perlite plaster vermiculite wet mix
21 business, the slurry business. Those three companies

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1 dominated that market. Eighty-five percent of the
2 fireproofing market was theirs for those three
3 companies.

4 Q At that time in 1954?

5 A At that time in '54.

6 Q Did that change over the course of the
7 following ten years?

8 A Well, Zonolite somehow squeezed both National
9 Gypsum and U. S. Gypsum out of the business. It was
10 fiercely competitive. Then there were a bunch of
11 regional little companies in the business.

12 Q Was Aerotherm one of those companies?

13 Q They were a Chicago-based, pretty much a
14 regional company.

15 Q And Spray Flake?

16 A Spray Flake, also, in the Midwest and pretty
17 much regional.

18 Q Were those sprayed-fiber products?

19 A Those were sprayed-fiber products.

20 Q Were those also asbestos containing, do you
21 know?

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1 A I'm not sure.

2 Q Now, sir, when you began the manufacture of
3 Cafco product -- let me backtrack. The first product
4 was Cafco spray, is that correct?

5 A Correct.

6 Q And it was used for fireproofing?

7 A It was used for everything. It was multi-
8 purpose product.

9 Q What is this spray going to be put to, sir?

10 A It's used for thermal insulation, used for
11 acoustical treatment or used for fireproofing.

12 Q Had all the required tests --

13 A All the required tests and characteristics to
14 do any one of those or all three simultaneously.

15 Q Now, sir, the principal constituents of that
16 product were mineral oil and asbestos, is that correct?

17 A Correct.

18 Q You manufactured the mineral oil yourself?

19 A Correct.

20 Q Where did you purchase the asbestos from?

21 A Initially, we only bought small quantities.

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1 We had -- we only -- we probably bought from local
2 distributors or from the J. M. distributor locally until
3 we started to buy in carload quantities or truckload
4 quantities. That happened two or three years later, I
5 guess.

6 Q From whom would you purchase the fiber from?

7 A The bulk of our purchases were from J. M. in
8 Canada.

9 Q From what other mining -- asbestos mining
10 operations would you purchase asbestos from?

11 A The J. M. venture, as I recall, was at
12 Thecford mines in Quebec.

13 Q No, sir, I mean what other companies would
14 you purchase asbestos from besides J. M.?

15 A Well, substantially all of our material would
16 have bought from J. M. but we bought intermittent
17 quantities, I think, from Cary of Canada, and it seems
18 to me there was another supplier whose name I just don't
19 recollect? But they --

20 Q How about Lake Asbestos?

21 A Pardon?

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1 Q How about Lake Asbestos? Did you purchase
2 from them?

3 A It's a familiar name and, perhaps, yes, but I
4 can assure you, not much quantity.

5 Q How about the Rubroys Company?

6 A Don't know that we bought -- if we bought
7 anything, they'd be trial quantities. Certainly no
8 substantial -- no truckload quantities.

9 Q What types of asbestos would you purchase?

10 A You mean what grades?

11 Q No, what type?

12 A Essentially, only Canadian chrysotile.

13 Q From time to time, would you use amosite
14 type?

15 A We used trial quantities of amosite in an
16 attempt to make an improved heat shield product. That
17 didn't work out. And the answer is no. Only test
18 quantities of amosites.

19 Q So virtually all of your products that are
20 installed anywhere in the country ought to contain only
21 chrysotile asbestos.

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1 A Correct.

2 Q The great bulk of that was purchased from
3 Johns Manville?

4 A Correct.

5 Q Now, sir, do you still have records at U. S.
6 Mineral reflecting the purchases of your fiber, asbestos
7 fiber?

8 A We searched those records in connection with
9 some other interrogatories and whatever data we have we
10 have. There is some data available on asbestos
11 purchases.

12 Q Do you recall for what time period they
13 reflect purchase of product?

14 A Well, our purchase records are not as
15 complete as our sales records and so I don't remember
16 what years we have that data for. But there is some
17 data available.

18 Q Now, sir, in 1954, how large an operation was
19 this Stanhope plant?

20 A When you say how large it is, by what
21 measure?

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1 Q How many employees?

2 A Twenty-five, thirty.

3 Q What type of volume of business would you be
4 in?

5 A I just happen to remember. I think the year
6 ending March 1952, our sales were less than half a
7 million dollars. They grew to a million dollars, I
8 believe, or went over a million dollars in the year
9 ending March of '54. Total corporate sales for all
10 products.

11 Q Now what's your total corporate sales for all
12 products today?

13 A Twenty--22 million.

14 Q How many employees do you have today?

15 A U.S.M. plant employees, probably 60, and
16 sales and overhead employees, probably almost or about
17 an equal number.

18 Q How many manufacturing plants do you have
19 today?

20 A We're manufacturing in Huntington, Indiana --
21 oh, I'm sorry, you said Stanhope, okay, that's Stanhope.

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1 We have manufacturing operations in Huntington, Indiana,
2 and Birmingham, Alabama.

3 Q The 20 to 22 million dollars --

4 A Includes all of the plants.

5 Q Does that include international operations,
6 too?

7 A That does not. It includes some export sales
8 but doesn't include -- it only the sales manufactured by
9 U.S.M. and exported are included in the 20 to 22
10 million.

11 Q Sir, going back to this period in 1954 to
12 1959, did you begin to enter the sale of mineral fiber
13 in Canada?

14 A We exported to Canada '57, '58 and about that
15 time set up a plant in Montreal.

16 Q Was that a blending operation?

17 A It was a blending operation in Montreal.

18 Q Did you also set up a Canadian subsidiary of
19 your company?

20 A Subsidiary. That we did.

21 Q Who are the principals of that company?

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1 A I don't remember any longer what my role was
2 but that was essentially my responsibility.

3 Q Did you also have offices in Canada other
4 than the manufacturing plant?

5 A There were no Canadian officers in the
6 venture. It was a very modest operation with a
7 manufacturing manager at the plant, and he had no more
8 than two or three or, at most, four employees during a
9 busy time. All of the marketing and sales, I was
10 personally responsible for.

11 Q Was your Canadian affiliate -- I assume this
12 was a wholly owned --

13 A Wholly owned subsidiary.

14 Q Was this subsidiary a member of any trade
15 organizations in Canada?

16 A Oh, no. It was too small an operation to --

17 Q During this period of time, 1954 to 1959, did
18 your company have any contact or affiliation with the
19 Quebec Asbestos Mining Association?

20 A No.

21 Q How about the Asbestos Textile Industry?

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1 A Never.

2 Q How about the National Insulation
3 Manufacturers Association?

4 A National Insulation Manufacturers
5 Association. At the time it had that title -- I think
6 that subsequently became the Thermal Insulation
7 Manufacturers Association. Our involvement with TIMA
8 had nothing to do with mineral fiber. We were in the
9 1960s in the urethane foam business and a part of TIMA
10 was a urethane foam roof insulation sub--, something or
11 other, and we were involved in TIMA only because of
12 urethane foam. And only for a relatively few years.

13 Q Who from your company would have been
14 assigned responsibility for attending meetings and the
15 like?

16 A Oh, if I recall, John O'Rourke and Bob
17 Rosenfield were the people that I think were involved.
18 No, John O'Rourke would not have been. It'd have been
19 Bob Rosenfield who would have been active with TIMA.
20 Because we didn't get into the urethane foam business
21 until John left us.

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1 Q How about the National Mineral Wool
2 Association?

3 A We have been active in that association
4 continuously.

5 Q Since what point in time?

6 A We were a founding member and have been a
7 member continuously since 1934.

8 Q You've also served as a officer in their
9 organization?

10 A Never an officer -- well, I may have held
11 office, yeah, I was the treasurer of that for a number
12 of years and a director for many, many years.

13 Q Were you the person in the company who
14 attended the meetings of the National Mineral Wool
15 Association?

16 A That was my role, yes.

17 Q When did you first begin attending those
18 meetings?

19 A 1950, '49, '50.

20 Q In fact that you kept the records from some
21 of those organization's meeting, is that correct?

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1 A Of Mineral --

2 Q The National Mineral Wool Association.

3 A Well, we have -- I have some records but
4 those records are complete. The Association is active.
5 It's in business. I think they've got all the archives
6 in history that anyone might want.

7 Q Where is that Association headquartered?

8 A Headquartered at Summit, New Jersey.

9 Q Now, sir, by the period of time 1960, do you
10 know what the competition was in fireproofing and what
11 your relative position in that market was?

12 A With any degree of accuracy, based on any
13 statistical data, no. Nor do I think anybody does.

14 Q How about by 1967?

15 A There never has been any accurate statistical
16 data available to help anyone get a feel for the total
17 size of the market or any one individual company's
18 market share.

19 Q Does that include the whole fiber market or
20 simply segments of it like sprayed mineral fiber?

21 A Well, the whole fireproofing market is -- was

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1 then and is today dominated by W. R. Grace, the
2 successor to Zonolite's operation in Chicago. They're
3 still the major factor.

4 Q Does your company from time to time attempt
5 to estimate your share of the market?

6 A I think every progressive company does.

7 Q Do you have any competence at those
8 projections, have any reliable degree of accuracy?

9 A They're estimates. I say, they are
10 estimates.

11 Q They're estimates. Sir, was there every any
12 formal attempt to report on shares of the market of
13 sprayed mineral fiber that you recall?

14 A There was a limited period of years when
15 there was an attempt at using Price-Waterhouse or some
16 independent auditing firm to accumulate and disseminate
17 statistics. I don't remember how it was done. It
18 lasted a short period of time. The problem with those
19 statistics is they weren't complete.

20 Q When you say weren't complete, what do you
21 mean, sir?

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1 A Well, the few members of the Sprayed Mineral
2 Fiber Manufacturers Association all put together that
3 were reporting didn't represent 20 or 25 percent of the
4 total industry. So it just wasn't worthwhile to know
5 what share of what little market segment you had.

6 Q The members of the Sprayed Mineral Fiber
7 Manufacturers Association, what portion of the market of
8 sprayed mineral fiber did they represent?

9 A Of spray mineral fiber?

10 Q As opposed to vermiculite and acrylic based?

11 A It did not include P. B. Madison or Turner-
12 Newell. It did not include Limpet Products. It did not
13 include Sprayed-on. It did not include Firm Acoustic.
14 It did not include any of these regional guys that were
15 still selling regionally a sprayed mineral fiber. So
16 I'd be guessing, and only a guess, I would guess that
17 the members of the Sprayed Mineral Fiber Association
18 represented somewhere between a half and three-quarters
19 of the total market.

20 Q Now, sir, this organization was Sprayed
21 Mineral Fiber Manufacturers Association was an

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1 organization you helped found?

2 A We were one of the founding, charter
3 companies, yes.

4 Q When were the first attempts made to form
5 such an organization?

6 A If I recall, around 1965.

7 Q Were there earlier attempts to do that, sir?

8 A I can't recall any serious attempts. Not
9 where -- there was probably discussion on the subject
10 but I don't recall any serious attempts trying to do
11 that.

12 Q What was the impetus for formation of this
13 association?

14 A Principal impetus was a perception that the
15 cementitious products would eventually squeeze out totally
16 the sprayed fiber products unless the sprayed fiber
17 people had a common interest in marketing and gaining
18 market acceptance for the sprayed fiber end. The
19 cementitious group consisting of U.S.G. and National Gypsum
20 and Zonolite was just overwhelming. As individual
21 companies just unable to successfully compete against

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1 them. Hope was that if we were to join our marketing
2 forces, we might -- might be more successful than as
3 individual companies.

4 Q Sir, let me show you a document entitled
5 "Notice of Meeting," dated December 11, 1961, and ask if
6 you recall the circumstances leading up to that?

7 A I remember the details, but what's your
8 question?

9 Q Do you recall the meeting having taken place?

10 A The meeting took place and I do remember it
11 only because of its location. I've had few reasons to
12 be Newarker Restaurant in Newark Airport terminal and I
13 do recall it. I think that I recall that we had poor
14 attendance.

15 Q Sir, we just happen to have a memorandum of
16 the meeting here which is dated, undated, but it refers
17 to being held on December 11, 1961.

18 A Your question?

19 Q The question is is -- are these the minutes
20 of that meeting, sir?

21 A I don't recall what took place specifically

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1 back in 1961, but I have a general recollection of that
2 attempt that failed.

3 Q Now the people in attendance at this
4 particular meeting were Bert Levine of Asbestos Spray
5 Corporation, is that correct?

6 A Yeah.

7 Q Mr. Levine was the head of the company?

8 A He was the owner of Asbestos Spray.

9 Q Was he a person with whom you'd worked on
10 previous occasions?

11 A When you say worked, I think we sold him
12 mineral wool and he was a customer of ours, but I don't
13 know that we worked with him. I'm saying now prior to
14 1961.

15 Q You never manufactured products for the
16 Asbestospray Corporation?

17 A Not to my knowledge.

18 Q Never blended products for them?

19 A No, sir. They had their own plant.

20 Q And Mr. Parr and Mr. Richardson?

21 A I don't remember them. The name Andy

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1 Richardson's familiar, but I don't recollect them or the
2 meeting or their participation in the meeting. The
3 minutes indicate they were there.

4 Q As representatives of P. B. Madison and
5 Company?

6 A Yeah.

7 Q What product did they --

8 A Lipid.

9 Q Lipid?

10 A Right.

11 Q Mr. Donner and Dr. Lieff were there on behalf
12 of Smith and Kanzler Corporation?

13 A Correct.

14 Q What product did they produce?

15 A They made Spraycraft.

16 Q And Mr. Brader Walls?

17 A Trade association lawyer from Cadwalader.

18 Q Was he a person that had been recommended to
19 you as a trade association lawyer?

20 A He's a person that I was acquainted with
21 because of my involvement with the spray mineral -- or

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1 the Mineral Wool Insulation Manufacturers Association.

2 Q Did he represent that organization, too?

3 A Yes.

4 Q Sir, you mentioned that the serious effort to
5 organize took place in 1965?

6 A As I recall it, it was a fellow Ed Stevens
7 who played the leadership role in bringing that about.

8 Q Who's Ed Stevens?

9 A Ed Stevens was president of Baldwin-Ehret-
10 Hill Corporation. They made a product call Pyrospray.

11 Q Was Pyrospray a competitor of yours?

12 A Absolutely.

13 Q So it was spray-on fireproofing?

14 A Yes.

15 Q Did it have other applications that were in
16 competition with you?

17 A In thermal insulation and acoustical
18 treatment, yes.

19 Q Let me show you a letter dated October 20,
20 1965 from you to Mr. George Reycraft at Cadwalader.

21 A Cadwalader.

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1 Q Cadwalader. Is that the attempt to organize
2 the association that you just referred to?

3 A Right.

4 Q The first meeting was going to take place on
5 October 25, 1965?

6 A Yes, sir.

7 Q What manufacturers were going to be involved?

8 A Asbestospray, Baldwin-Ehret-Hill, Spraycraft
9 and ourselves.

10 Q Sir, this letter here makes a reference to
11 the Spraycraft Division of Victor Packing Company.

12 A Well, what happened was that Smith and
13 Kanzler sold out. Half of their company they sold to
14 Flintkote and the other half they sold to Victor
15 Packing. The spray end went to Victor Packing.

16 Q Did it remain that way to your knowledge?

17 A No, then it went to Dana Corporation, and
18 then it went somewhere else, and then Bert Levine ended
19 up picking it up.

20 Q At what point in time was Smith and Kanzler
21 sold to Victor Packing, do you recall?

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1 A Sometime prior to '65, but not much before
2 that, '63, '64.

3 Q Sir, let me show you a document titled "Spray
4 Mineral Fiber Manufacturers Association, Re: Meeting to
5 Discuss Organization." And ask if you can identify that
6 as the minutes of the first organizational meeting?

7 MR. SHEEHAN: Only might be up to the
8 20th, letter's dated -- No. 1.

9 (Whereupon, at this point in the
10 proceedings, the document was marked as Verhalen Exhibit
11 number 1.)

12 BY MR. SHEEHAN:

13 Q Are those the organizational meeting minutes?

14 A Well, there're a better record than my memory
15 is and I presume them to be accurate.

16 Q Sir, the attendees at this meeting included a
17 Rudolph Toth?

18 A Toth.

19 Q Toth. Who is that, sir?

20 A Rudy Toth was a salesman for Smith and
21 Kanzler in New York metropolitan area.

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1 Q And A. E. Binger?

2 A Oh, Binger was kind of an office manager,
3 administrator fellow and the inside general manager for
4 the spray business for Spraycraft.

5 Q And Mr. Boland?

6 A I don't have any recollection of him except
7 that he again Rudy Toth's counterpart as salesman in the
8 New York metropolitan area.

9 Q And Mr. Stevens was the head of Baldwin-
10 Ehret-Hill?

11 A He was the president of Baldwin-Ehret-Hill.

12 Q And Mr. Witticop?

13 A Witticop was kind of a general top guy in
14 sales and marketing for all their products, all
15 geography.

16 Q Sir, as an outcome of this meeting, you were
17 elected to the office of president of the Association?

18 A Yes.

19 MR. SHEEHAN: Can I have that marked as
20 Number 27

21 (Whereupon, at this point in the

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1 proceedings, the document was marked as Verhalen Exhibit
2 number 2.)

3 BY MR. SHEEHAN:

4 Q Sir, I'm showing you a document dated January
5 11, 1966. They are the "Minutes of the First Annual
6 Meeting of Members" of the Sprayed Mineral Fiber
7 Manufacturers Association. Excuse me, I think I'm
8 giving you the wrong copy.

9 A Question?

10 Q Yes, sir. Did you read the minutes of the
11 first annual meeting?

12 A Well, I didn't sign them, but all the subjects
13 discussed are familiar and I presume it to be an
14 accurate record of that meeting.

15 Q Sir, would you please turn to page 3?
16 There's a reference of a communication in the form of an
17 advertisement from the Albi Manufacturing Company was
18 discussed, including certain fire retardant claims. Do
19 you recall what that was, sir?

20 A Not specifically.

21 Q Do you recall it to have anything to do with

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1 asbestos?

2 A No, if my recollection is right it was kind
3 of a derogatory sort of thing against the products that
4 this group represented. It was a knock against sprayed
5 fiber, as I recall, but I don't know the specifics of
6 it.

7 Q Was it a knock against sprayed fiber that
8 contained asbestos?

9 A No. No, it had nothing to do with asbestos.
10 It had to do with the durability or the hardness and
11 Albi was promoting a product called Durospray. It was
12 in that connotation, as I recall.

13 Q This technical committee was also formed at
14 this first meeting, is that correct?

15 A That's what it says.

16 Q And Mr. Stumpf was elected to its membership?

17 A Yes.

18 Q And Dr. Lief was named the chairman, is that
19 correct?

20 A I think so.

21 (Whereupon, at this point in the

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1 proceedings, a short break was taken.)

2 MR. SHEEHAN: Can we mark the last
3 exhibit as Exhibit three?

4 (Whereupon, at this point in the
5 proceedings, the document was marked as Verhalen Exhibit
6 number 3.)

7 BY MR. SHEEHAN:

8 Q Mr. Verhalen, I'd like to show you a document
9 dated March 4 of 1966 from H. L. Levine directed at the
10 membership of the S.M.F.M.A. I ask you if you recall
11 receiving a copy of that, sir?

12 A I've recollections of the subject matter but
13 not specifically receiving this communication.

14 Q Do you recall whether this was the first
15 communication among the membership of the Sprayed
16 Mineral Fiber Manufacturers Association that related the
17 health hazards associated with exposure to asbestos?

18 A Well, I think it was because it followed the
19 press releases immediately and included the newspaper
20 articles on it. In all probability was.

21 Q Sir, were you aware at this point in time at

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1 Mr. Levine's personal physician was Dr. Selikoff?

2 A Yes.

3 Q For how long have you know that, sir?

4 A Oh, I think Mr. Levine made no secret of that
5 and his close relationship with Dr. Selikoff. I
6 probably knew it before then. Exactly when, I don't
7 know.

8 Q Did you have any prior conversations with Mr.
9 Levine about the discussions he had had with Dr.
10 Selikoff related to asbestos and health hazards?

11 A Well, I do know that Mr. Levine has been in
12 the asbestos business most of his adult life and because
13 of that acquaintanceship with Selikoff was probably more
14 sensitive than most people to the subject.

15 Q Had he ever had any discussions with you
16 about his conversations with Dr. Selikoff that went back
17 to 1960?

18 A Not that I recall.

19 Q 1961?

20 A I don't think that was a subject at the -- at
21 that first meeting you had referenced to. I don't think

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1 that was even a subject of conversation in '61 and don't
2 know that even in '65 that it was considered an
3 important reason for the trade association cooperation.
4 It was more defense, as I said earlier, and a combined
5 marketing effort. So this probably is the first general
6 approach to that problem, perhaps being a basis for
7 cooperative support by all the members.

8 Q My question is much more directed at your
9 communications with Mr. Levine prior to the formation of
10 the Association that may have related to conversations
11 about asbestos and health hazards associated with
12 asbestos exposure.

13 A I don't remember it being a significant
14 subject of conversation. It probably was a topic but
15 not -- not one of great import. Certainly didn't
16 represent a threat to our business. It certainly didn't
17 represent a threat or a hazard to our people. It wasn't
18 in that tone or context.

19 Q Did you know Mr. Ed Cox?

20 A Oh, yes.

21 Q Was he an associate of Mr. Levine's?

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1 A I think Cox was a -- was, in fact, a
2 stockholder in Levine's Asbestospray Corporation.

3 Q Did you know Mr. Cox?

4 A I had met him.

5 Q Do you know when he died?

6 A I don't.

7 Q Were you aware that he was treated by Dr.
8 Selikoff?

9 A Not specifically, no.

10 Q Were you made aware of that through Mr.
11 Levine?

12 A Don't think that subject ever came up.

13 Q Do you recall the first time you and Mr.
14 Levine discussed any conversations he may have had with
15 Dr. Selikoff relative to asbestos and health hazards?

16 A Following this publicity, there was industry
17 discussion on the subject. Whether there was any
18 discussion prior to that it was probably more of a
19 casual nature than anything else.

20 MR. SHEEHAN: Can we have that marked
21 as the next exhibit?

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1 (Whereupon, at this point in the
2 proceedings, the document was marked as Verhalen Exhibit
3 number 4.)

4 BY MR. SHEEHAN:

5 Q Sir, the next document is dated March 8,
6 1966, and is a letter from you to Dr. Morris Lief with
7 copies to members of the Association. Can you identify
8 that, sir, as being yours?

9 A My letter and my initials.

10 Q As a result of this letter, do you recall
11 whether or not a meeting was set up with Dr. Selikoff?

12 A Well, I don't know if it was a result of this
13 letter, but I know as a result of Bert Levine's efforts,
14 he was able to set it up with Dr. Selikoff.

15 Q Did you attend such a meeting?

16 A Oh, I've attended more than one but whether I
17 was at the first one or not, I don't recall.

18 MR. SHEEHAN: Have it marked.

19 (Whereupon, at this point in the
20 proceedings, the document was marked as Verhalen Exhibit
21 number 5.)

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1 BY MR. SHEEHAN:

2 Q The next item here is dated March 9, 1966,
3 and it's to members of the technical committee, "Re:
4 SMFMA - Albi-Clad" from J. B. Do you recognize that
5 letter, sir?

6 A I don't recall the specific letter, but, as I
7 say, the subject matter having to do with the durability
8 of sprayed fiber versus their Durospray product was a
9 kind of an on-going marketing contest.

10 Q Do you recall the principle discussion being
11 that Albi-Clad, quote, won't dust or flake like asbestos-
12 type fireproofing, end quote?

13 A I didn't remember the exact wording. It
14 wasn't the asbestos they were targeting as a hazard. It
15 was the durability of Sprayed Mineral Fiber.

16 MR. SHEEHAN: Will you mark this next
17 exhibit?

18 (Whereupon, at this point in the
19 proceedings, the document was marked as Verhalen Exhibit
20 number 6.)

21 BY MR. SHEEHAN:

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1 Q Sir, the next letter is dated March 11, 1966,
2 again to members of the technical committee, "Re:
3 Publicity on Study of Asbestos Dust" by J. B. I assume
4 that's John Boyer?

5 A I think so.

6 Q Do you recognize this letter, sir?

7 A I don't remember this specific letter or the
8 specific suggestion that they meet with Dr. Cralley.
9 But, as I said earlier, about that time there was a lot
10 of activity on the subject.

11 Q Sir, were you aware that this firm
12 represented other trade associations that included
13 asbestos manufacturers?

14 A Yes.

15 Q Had they ever informed you on any previous
16 occasion that they'd been aware of Dr. Selikoff's
17 activities in this area because of their representation
18 of other such trade associations?

19 A Not that I recall specifically, no.

20 MR. SHEEHAN: Would you mark this as
21 the next exhibit?

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1 (Whereupon, at this point in the
2 proceedings, the document was marked as Verhalen Exhibit
3 number 7.)

4 BY MR. SHEEHAN:

5 Q Sir, the next document is dated March 15,
6 1966, and it's a notice of a meeting. It has your name
7 as president. I ask you if that's a document you're
8 familiar with?

9 A Typical form of notice of meeting.

10 Q The topics of discussion are Albi-Clad and
11 Asbestos Health Hazard?

12 A Well, the first one is joint fire testing.
13 The second one's Albi-Clad. The third one's asbestos
14 health hazard. And fourth is such other business as may
15 come before the meeting.

16 Q At this point in time namely March 15, 1966,
17 was the issue of asbestos health hazard an important
18 issue for your Association?

19 A I don't think it was considered an
20 overwhelming problem and I think consciously one would
21 have set the priorities in the order listed. Bert

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1 Levine probably more sensitive than any other member to
2 it, and sparked the involved of that subject on the
3 agenda. I don't think the other members of the
4 Association had the same sensitivity.

5 MR. SHEEHAN: Can I have that marked?

6 (Whereupon, at this point in the
7 proceedings, the document was marked as Verhalen Exhibit
8 number 8.)

9 BY MR. SHEEHAN:

10 Q Sir, the next document is a letter from
11 Morris Lief as chairman of the technical committee to
12 Albi-Clad Manufacturing Company dated March 28, 1966.
13 Is this a formal letter that was approved at the
14 meeting on March 15, 1966?

15 A The meeting date was the 25th.

16 Q March 25, excuse me.

17 A This letter is after the meeting so
18 undoubtedly it had the approval of the Association.

19 MR. SHEEHAN: Do you have that marked?

20 (Whereupon, at this point in the
21 proceedings, the document was marked as Verhalen Exhibit

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1 number 9.)

2 BY MR. SHEEHAN:

3 Q Sir, the next is a letter dated April 11,
4 1966, from H. L. Levine to certain designated members of
5 the Association. Attached with it is a copy of an
6 article entitled "Asbestos Exposure and Neoplasia," by
7 Irving J. Selikoff and others. Do you recall having
8 received this, sir? Do you recall receiving this, sir?

9 A Not really, not specifically.

10 Q Do you recall reading Dr. Selikoff's article?

11 A No, because even today I don't know what
12 neoplasia is.

13 Q Have you ever seen that article before?

14 A I have no recollection of seeing before, I
15 may have, but I don't recall.

16 (Whereupon, at this point in the
17 proceedings, the document was marked as Verhalen Exhibit
18 number 10.)

19 BY MR. SHEEHAN:

20 Q This is a letter dated May 10, 1966, from H.
21 L. Levine to Mr. J. P. Verhalen among others. Do you

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1 recall receiving that letter, Mr. Verhalen?

2 A The subject matter I recall well. This
3 specific letter I just don't happen to recall.

4 Q Sir, did you consider the dangers of
5 asbestosis a matter of, quote, unquote, grave concern?

6 MR. CLAGUE: To who?

7 A Where are you reading that?

8 BY MR. SHEEHAN:

9 Q In the first paragraph.

10 A I think the point that I made earlier is
11 relevant here. Bert Levine had a greater sensitivity
12 because of his connection with Dr. Selikoff than the
13 other members of the Association. This letter clearly
14 is intended to heighten the awareness of the other
15 members.

16 Q Is this the first occasion you've been made
17 aware of any alleged danger of using fireproofing
18 material containing asbestos?

19 A I don't believe there was then or is now a
20 hazard in the use of that product in that application if
21 it's correctly installed.

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(and) 222. 2222



1 Q Sir, would you read into the record the
2 second paragraph of that letter beginning with the
3 sentence, "During the course"?

4 A "During the course of our conversations,"
5 that is, between Selikoff and Leiff -- Levine, "it was
6 brought to my attention that contact has been made with
7 Dr. Selikoff by an architect in Canada, calling
8 attention to the fact that using sprayed fibre as a
9 fireproofing medium in return air plenums, subjects the
10 people occupying the building to asbestos dust, by
11 virtue of erosion [sic] of that material during the use
12 of the plenum chamber. I pointed out to Dr. Selikoff
13 how erroneous this was, by virtue of the fact that the
14 filtering apparatus in the air conditioning system would
15 catch any dust, and furthermore, we treated the sprayed
16 materials to prevent this erosion [sic] and dusting."

17 The publicity given to erosion and dusting
18 was a competitive, aggressive act on the part of the
19 dominant factor in the industry. It was he, through his
20 salesmanship and promotion, pointing out to specifiers
21 the difference in hardness and durability between the

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1 cementitious products and the sprayed fiber products.

2 MR. SHEEHAN: Would you mark this next
3 exhibit?

4 (Whereupon, at this point in the
5 proceedings, the document was marked as Verhalen Exhibit
6 number 11.)

7 BY MR. SHEEHAN:

8 Q I want to show you a letter dated June 6,
9 1966, from you as Executive Vice President of U. S.
10 Mineral Products Company to Mr. John Boyer. That's the
11 letter. There's another letter to a Mr. Alton Evans,
12 Cleveland, Ohio, signed by John O'Rourke, U.S.M. Is
13 that your signature on the letter to Mr. Boyer?

14 A Those are my initials. That's my letter.

15 Q This letter concerns tradesmen who walked off
16 the job while your product was being sprayed in
17 Cleveland?

18 A That's correct.

19 Q And is accompanied by a letter from Mr.
20 O'Rourke to the project manager in Cleveland?

21 A Correct.

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1 Q Did you review and approve that letter prior
2 to it being sent out?

3 A I don't think I specifically reviewed or
4 approved that letter. But I subscribe to the
5 representation made in the letter.

6 Q Sir, at this point in time, had the
7 Association conducted any dust tests of the application
8 of its products, an air sampling to determine
9 concentrations of dust and asbestos in the air?

10 A Back in '66? No, I think it was sometime
11 later that those tests were conducted.

12 Q Do you recall whether any discussion was had
13 at this point in time as to the need to conduct air
14 sampling to determine the concentration of dust created
15 during application of your and the other Association
16 member's products?

17 A Well, I'm sure that was one of the
18 suggestions discussed at the meeting, and I think it
19 resulted in a testing program a few months later.

20 Q Do you recall any other instances in 1966
21 where other trades refused to work on the same floor

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1 where your products were being applied?

2 A Specifically, no, except that the publicity
3 given to this subject about that time simply continued
4 to increase.

5 MR. SHEEHAN: Do you have that marked?

6 (Whereupon, at this point in the
7 proceedings, the document was marked as Verhalen Exhibit
8 numbers 12a and 12b.)

9 MR. CLAGUE: You got a good place to
10 break or are you --

11 MR. SHEEHAN: Yeah, let's do that.

12 (Whereupon, at 4:27 p.m. the
13 proceedings in the above-entitled matter were
14 adjourned.)

15 (Signature - not waived.)

16 (Filing - waived.)

17 (Exhibits - attached.)

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19

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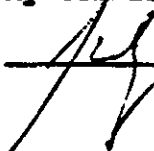
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CERTIFICATE OF NOTARY

I, John Oliver, the officer before whom the foregoing deposition was taken, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was taken by me by magnetic tape and thereafter reduced to typewriting by me or under my direction; that said deposition is a true record of the testimony given by said witness; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and, further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.


Notary Public in and for the
State of Maryland

My Commission Expires:

 5/1986

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02355

October 20, 1965

Mr. George Keycraft
Cadwalader, Wickersham & Taft
14 Wall Street
New York, New York

Dear George:

This will confirm our appointment to meet with you as a group of spray mineral fiber manufacturers on Monday afternoon, October 25th, at 4:30 p.m. at the Engineers Club, 32 West 40th Street, New York City.

The manufacturers involved, in addition to our Company, are Asbestospray Corporation, Baldwin-Ehret-Hill and Spraycraft Division of Victor Packing Company.

The purpose of this meeting is to lay the ground work for the formulation of a trade association. It is suggested that you might wish to be prepared with the questions which require an answer in order for the drafting of the necessary corporate papers, constitution and by-laws. We understand that your fee for all of the formation documents and initial organization will approximate \$1,000 and that your retainer for the first year in addition to the above amount, will be \$2,500.

We contemplate that during this first year, approximately six meetings will be held, all of them probably in New York or certainly nearby. Naturally, such out-of-pocket expenses as you would have for travel, etc., in connection with these meetings would be reimbursed. We look forward to seeing you on Monday.

Very sincerely,

UNITED STATES MINERAL PRODUCTS COMPANY

J. P. Verhalen,
Executive Vice President

JPV/deo

cc: Mr. E. R. Stevens, President
Baldwin-Ehret-Hill, Inc.

Verhalen ex #1
JNO

02345

SPRAY MINERAL FIBER MANUFACTURERS ASSOCIATION

Re: Meeting to Discuss Organization

On October 25, 1965 representatives of four spray mineral fiber manufacturers met at 32 West 40th Street, at the Engineers Club at 4:30 P.M. to consider the steps to be taken to organize a new trade association of the industry and the kinds of activities which the proposed association might undertake to further the interests of the industry.

In attendance were the following:

<u>Name</u>	<u>Firm</u>
Messrs. James B. Verhalen	United States Mineral Products Co.
Rudolph H. Toth	Smith & Kanzler Company
A.E. Binger	Smith & Kanzler Company
Herbert L. Levine	Asbestospray Corporation
John P. O'Rourke	United States Mineral Products Co.
John J. Boland	Baldwin-Khret-Hill, Inc.
E.R. Stevens	Baldwin-Khret-Hill, Inc.
J.H. Witticop	Baldwin-Khret-Hill, Inc.
G.D. Reycraft	Cadwalader, Wickersham & Taft
J. Boyer	Cadwalader, Wickersham & Taft

Mr. Verhalen was asked to chair the meeting and began the discussion with a reading of the minutes of a previous informal

Verhalen ex ^{FF} 2
1/10

meeting of manufacturers held in 1961. The chairman then reviewed certain of the objects that an association could achieve, as well as some of the problems faced by the industry, including the need for an industry voice in the development of standards for spray mineral products by the Government Services Administration, the FHA and others.

Mr. Raycraft outlined the areas of permissible activity that could be carried out by a trade association, as well as the areas prohibited for discussion by competitors.

Consideration was given to the provisions desired for inclusion in a constitution and by-laws relating to the name of the association, eligibility for membership, and assessment of dues.

At approximately 6:00 P.M. Dr. Morris Lief, the technical director of Smith & Kanzler, joined the meeting and outlined the progress with respect to product testing being conducted under the procedures of ASTM.

On motions duly made and seconded the representatives present expressed their preference for the following designees for office:

<u>Name</u>	<u>Office</u>
Mr. James B. Verhalen	President
Mr. A. E. Binger	Vice President
Mr. Herbert L. Levine	Treasurer
Mr. J. H. Witticop	Secretary

Alternates for each of the companies were also designated as follows: United States Mineral Products - Mr. O'Hourke; Smith & Kanzler Company - Mr. Toth; Asbestospray Corporation - Mr. Miller; and Baldwin-Ehret-Hill, Inc. - Mr. Boland.

The next meeting was scheduled for Tuesday, December 7, 1965 at 10:00 A.M. at the offices of Cadwalader, Wickersham & Taft, 14 Wall Street, New York, N. Y. Counsel were asked to circulate a proposed certificate of incorporation and a constitution and by-laws for comments and approval (attached hereto).

J. B.

November 3, 1965

0231

**SPRAYED MINERAL FIBER MANUFACTURERS
ASSOCIATION, INC.**

Minutes of First Annual Meeting of Members

The first Annual Meeting of the members of the corporation was held at the Essex House, Newark, New Jersey, on the 11th day of January, 1966 at 10:30 o'clock A.M.

The following members were present:

<u>Member</u>	<u>Represented By</u>
Asbestospray Corporation	Messrs. Levine
Baldwin-Ehret-Hill, Inc.	Wittkop
Smith & Kanzler Company	Toth
United States Mineral Products Company	Verhalen

being a majority of the members and a quorum. Present by invitation were Messrs. Stumpf, Miller, Boland, Wilson and O'Rourke. There was also present John Boyer of Cadwalader, Wickersham & Taft, counsel.

Mr. Verhalen, President of the Corporation, acted as Chairman of the meeting and Mr. Wittkop, Secretary of the Corporation acted as Secretary of the meeting.

The Chairman, after calling the roll, reviewed the actions taken by the Incorporators and Directors prior to the Annual Meeting and the minutes of the meetings of Incorporators and Directors theretofore distributed to the members.

Verhalen ex #3
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After those present at the meeting had had an opportunity to examine the said minutes, upon motion duly made and seconded, it was unanimously

RESOLVED, that the acts, proceedings, elections and appointments of the Incorporators, the Board of Directors, Officers and Agents of this Corporation since the first meeting of Incorporators held on December 6, 1965, as set forth in the minutes of said meetings, submitted to this meeting, be and the same hereby are adopted, approved, ratified and confirmed.

The Chairman then reported on the submission to the Board of Directors by mail vote of resolutions concerning the election of members, the dues and manner of payment of dues of members and the budget of the corporation, which resolutions had been unanimously approved by the Board of Directors. The mail ballots of the Board of Directors were ordered filed with the minutes of the Corporation.

The Chairman asked for discussion of any communications received by the members. The meeting proceeded to consider an advertisement of the United States Insulation Company setting forth certain performance claims for its product as a fire retardant when sprayed on metal beams for building construction. This communication was referred to the Technical Committee for consideration.

The meeting then considered the question of offering to participate in the current revision of the New York

City Building Code with respect to sections dealing with the thicknesses of sprayed material for fire-proofing, acoustical and other uses.

A communication in the form of an advertisement from the Albi Manufacturing Company was discussed, including the fire retardent performance claims contained in its promotional material.

Other communications considered included the status of GSA specifications for sprayed mineral fiber, the development of an Underwriters Laboratory testing procedure for products of the industry, and the performance claims made by the manufacturer of Mono-Cote. Each of these matters was also referred to the Technical Committee.

The Chairman then called for discussion of new business. The composition and operation of the Technical Committee and the Promotion Committee of the corporation were considered. Upon motion duly made, seconded and unanimously carried, it was

RESOLVED, that the following nominees be, and they hereby are, elected as representatives of their respective companies to serve on the following committees of the corporation, to wit:

Technical Committee

Messrs. Lief
Levine
Stumpf
Wilson

Promotion Committee

Messrs. Boland
Miller
O'Rourke
Toth

The Chairman then stated that a By-Law amendment had been recommended by counsel to provide that Article V, Section 1 of the By-Laws state that the number of directors, within the limitations contained in the Certificate of Incorporation and the By-Laws be determined from time to time by resolution adopted by a majority vote of the entire Board of Directors. Upon motion duly made, seconded and unanimously carried, it was

RESOLVED, that Article V, Section 1 of the By-Laws be, and the same hereby is, amended so that the first sentence thereof shall read as follows:

"The general management and control of the policies, activities, affairs, funds and property of the Association shall be vested in a Board of Directors which shall consist of not less than four and not more than nine persons, the exact number to be determined from time to time by resolution adopted by a majority vote of the entire Board of Directors."

The Chairman then stated that it was in order to receive nominations for officers and directors of the corporation for the ensuing year, each of such officers and directors to hold office subject to the By-Laws, until his successor is elected and shall qualify.

The following persons were duly nominated, seconded and unanimously elected for the ensuing year to the offices set opposite their respective names, to wit:

Officers

James P. Verhalen - President
A. E. Binger - Vice President
Herbert L. Levine - Treasurer
J. H. Wittkop - Secretary

Directors

James P. Verhalen - Director
A. E. Binger - Director
Herbert L. Levine - Director
J. H. Wittkop - Director

The meeting proceeded to a discussion of the proposed letterhead of the corporation and the handling of communications received at the office of the corporation, with the sense of the meeting being that it would be advisable for copies of all communications received or sent by the corporation to be submitted to all members of the corporation, as well as counsel.

Upon motion duly made, seconded and unanimously carried, the meeting was then adjourned until 3:00 o'clock P.M. following the first meetings of the Technical and Promotion Committees.

The Chairman reconvened the adjourned Annual Meeting at 3:00 o'clock P.M. and requested the Vice Chairman of the Technical Committee, Mr. Wilson, and the Chairman of the Promotion Committee, Mr. Boland, to render their reports.

Mr. Wilson outlined the projects considered and the assignments made at the first meeting of the Technical Committee, including the investigation made by Messrs. Levine and O'Rourke of the action by the New York City Engineering Department on the specifications of the 1350 Avenue of the Americas' project; New

York Public Law 76; use of intumescent paint for fire resistant rating of structural steel; and the possibility of developing a test procedure at Underwriters Laboratory.

Mr. Boland reported on the recommendations made by the Promotion Committee to inquire of architects, steel manufacturers and others with respect to their interest in a film depicting the advantages of industry products in fire proofed steel construction and to seek joint sponsorship of such a film. Mr. Boland reported further on plans for a letterhead of the Association and for a press release announcing its organization.

The Chairman commended the committee members for the progress made at their first meetings and stressed the importance of the Association developing specific project assignments and adhering to the schedule set for accomplishing the work assigned.

There being no further business to come before the meeting, upon motion duly made, seconded and unanimously carried, the meeting adjourned at 4:10 o'clock P.M.

APPROVED:

Secretary of the Meeting

Chairman of the Meeting

O/K 11

SPRAYED MINERAL FIBER MANUFACTURERS ASSOCIATION, INC.

SUITE 2200, 14 WALL STREET, NEW YORK, N. Y. 10005

J. P. VERHALEN, PRESIDENT
United States Mineral Products Company
A. E. BINGER, VICE PRESIDENT
Smith & Kanter Company

J. M. WITTEKOP, SECRETARY
Baldwin-Ernest-Hill, Inc.
H. L. LEVINE, TREASURER
Adamsbury Corporation

MARCH 4TH, 1966

BALDWIN-ERNEST-HILL COMPANY
Mr. HARRY WILSON
SMITH & KANTER CORPORATION
Dr. HENRIE LIEFF
U.S. MINERAL PRODUCTS COMPANY
Mr. FRANK STUMPF
U.S. MINERAL PRODUCTS COMPANY
Mr. J. VERHALEN
CANALADON, VICKERSMAN & TAFT
Mr. JOHN BOYER

RE: PUBLICITY CONCERNING ASBESTOS AS HEALTH HAZARD

GENTLEMEN:

I ASSUME THAT MOST OF US HAVE BECOME AWARE OF THE PUBLICITY RELEASED IN THE NEWSPAPERS ON WEDNESDAY, MARCH 2ND, 1966, CONCERNING THE STUDY INTO THE HAZARD OF THE USE OF ASBESTOS AS REGARDS PUBLIC HEALTH. PRESS RELEASES APPEARED IN THE NEW YORK TIMES, THE NEW YORK WORLD TELEGRAM, AND THE NEWARK EVENING NEWS. I AM HEREBY ENCLOSED COPY OF THE INFORMATION FROM THE NEW YORK TIMES AND THE WORLD TELEGRAM.

IT COULD BE THAT THIS SITUATION SHOULD MERIT CONSULTATION BETWEEN OUR COMMITTEE AND THE DOCTORS INVOLVED, SO THAT WE ARE FORCED TO WORK TOGETHER RATHER THAN AGAINST EACH OTHER, IN TRYING TO AVOID EITHER FOR CONTINUING THE USE OF ASBESTOS MATERIALS AND MINIMIZING THE HAZARD. IT SO HAPPENS THAT THE DR. SELINOFF MENTIONED IN ALL OF THESE ARTICLES HAPPENS TO BE MY PERSONAL PHYSICIAN, WITH WHOM I VISIT TWICE A YEAR FOR A COMPLETE PHYSICAL EXAMINATION. ON THE OCCASION OF EACH OF THESE VISITS, A VERY LONG DISCUSSION IS GONE INTO CONCERNING ASBESTOS HAZARDS, ASBESTOSIS, ITS AFFECT ON TRIGGERING CANCER ETC., AND THIS FELLOW IS MOST SYMPATHETIC TO OUR PROBLEMS. AS A MATTER OF FACT, AT THE MOST RECENT MEETING OF THE NATIONAL INSULATION MANUFACTURERS & DISTRIBUTORS ASSOCIATION AT THE WALSBURY ASTORIA IN OCTOBER, DR. SELINOFF WAS THE PRINCIPLE

Verhalen ex #H
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**TECHNICAL COMMITTEE
PAGE TWO
MARCH 6TH, 1966**

SPEAKER, AND VERY FEW FIREWORKS DEVELOPED.

IF IT IS THE OPINION OF THE TECHNICAL COMMITTEE THAT, AS A COMMITTEE, WE SHOULD WORK WITH THESE PEOPLE TO DETERMINE WAYS OF COMBATING THIS SO CALLED HAZARD, I CAN MAKE CONTACT WITH DR. SMITHOFF IMMEDIATELY, AND ARRANGE FOR A MEETING BETWEEN HIM AND HIS PEOPLE AT ROBERT SIEGAL HOSPITAL, WITH THE MEMBERS OF THE TECHNICAL COMMITTEE FOR EVERYBODY'S BENEFIT. HOWEVER, BEFORE I MAKE ANY APPROACH AT ALL, I WOULD LIKE TO HAVE THE OPINION OF THE MEMBERS OF THE COMMITTEE AND COUNSEL AS TO HOW WE SHOULD PROCEED.

VERY TRULY YOURS,

SPRAYED MINERAL FIBER MFRS. ASSN, INC.


H.I. LEVINE

HLL/rs

Enc.

01612

NEW YORK

WEDNESDAY, MARCH 2, 1964

Asbestos Dust Carried a Hazard To at Least One-Fourth of U.S.

By JANE E. BROWN

Asbestos dust, which has attracted workers and their family members, has been connected with the development of fatal cancer in one-half of asbestos workers, may be a potential health hazard for one-quarter of the population or more, it was reported yesterday.

This preliminary finding was described by Dr. Irving J. Selikoff in announcing the establishment of an environmental health laboratory at Mount Sinai Hospital. The laboratory will further investigate the danger to man of asbestos and other environmental contaminants.

Dr. Selikoff said the link between cancer and asbestos led him to suspect that other mineral dusts that contaminate both urban and rural air might create medical hazards for the public.

A new laboratory will be headed by Dr. Selikoff and Dr. Jacob Churg, found asbestos workers' exposure showed six to seven times the normal death rate from lung cancer and three times the normal death rate from cancer of the stomach, colon and rectum.

Other Workers Affected

Dr. Selikoff noted that the dangers of exposure to asbestos dust were not limited to those who work directly with this fibrous insulator and filler material. The danger, he said, extend to workers in "contiguous trades," such as other construction workers and their families.

According to the findings of three recent limited studies, the dangers might extend to the general population. The studies, which involved autopsies on 1,150 persons in three cities, showed that 25 per cent of the people had asbestos lodged in their lungs.

Dr. Selikoff explained that the studies had used a "crude technique" that disclosed only those asbestos fibers that had become coated by an iron-rich material while lodged in the lungs. A more refined technique now shows that many persons have inhaled asbestos fibers as well, he said.

New Study Started

Dr. Selikoff and his colleagues at the new laboratory have started a three-year study in which they will:

- 1. Determine, with the department's faculty's approval, the lung tissue of the from 1,000 to 1,500 persons expected to die in the next two years at Mount Sinai, St. Vincent's Hospital and Veterans Hospital in the Bronx. The doctors will look for asbestos as well as cancerous asbestos fibers in the tissues.
- 2. Look for correlations between the causes of death and the presence of asbestos fibers in lung tissue.
- 3. Determine the occupational history of the deceased and their relatives and other pertinent background information.

Asbestos is a fibrous mineral highly valued for its insulative and long-wearing properties. In addition to its common use as a fireproof material, Dr. Selikoff said, asbestos makes up about 20 per cent of asphalt, tile and is used in dental cement, brake linings, plastic, hair shampoos, gas stoves and paper. Until last year, many schools used asbestos dust instead of sand for children to play in.

N.Y. WORLD-TELEGRAM MDs Study Effects of Asbestos Dust

By EDWARD EDLSON
Of the World-Telegram Staff

Doctors at Mount Sinai Hospital today set up a laboratory to find out whether the dust that has been killing workers in asbestos mines and plants is hurting the rest of us.

The hospital's environmental health laboratory will be headed by Dr. Irving J. Selikoff who, with Dr. Jacob Churg, has conducted investigations that revealed an alarmingly high incidence of lung and other cancers among asbestos workers.

The United States' Public Health Service and the city Health Research Council are giving grants totaling \$304,000 to support the laboratory. It was announced at a press conference in the hospital.

Studied Union Members

The Selikoff-Churg study was conducted among members of the Asbestos Workers Union in the New York area. It found abnormally high incidences of lung, stomach and heart cancer in the group.

Steps are being taken to reduce the workers' exposure to asbestos dust. But the doctors are increasingly concerned about the effect of asbestos dust on the population, at large. Asbestos is used widely in the construction of new buildings.

"Our asbestos workers who developed cancer had at least 31 years exposure," Selikoff said. "Any effect on cancer in the general population—and we don't know what it is—is the result of inhaling exposure from 20 to 40 years ago."

Worldwide production of asbestos has increased from 50,000 tons a year 20 years ago to 3.5 million tons annually now. We're not going to see the results of this until 1980.

Future Problems Seen

Selikoff pointed out that asbestos dust, once created, can never be destroyed.

"What we have now is not simply the production of 3.5 million tons a year, but the accumulation of some four decades of asbestos that has been mined," he said. "Our problem now is one for the future."

The Mount Sinai laboratory will also study the effects of other mineral dusts on humans. A mineralogist will be a member of the laboratory staff.

"We have been filling the air with a number of mineral dusts against which we have no natural defenses," Selikoff said. "Now we must determine the effects of these environmental hazards."

Among the questions to be asked, Selikoff said, is whether there is a critical level below which asbestos exposure is safe.

"We don't know whether a single small exposure has a carcinogenic (cancer-causing) effect," he said.

Will Continue Studies

The researchers will look for asbestos and other mineral dusts in the lungs of rural and city dwellers. Autopsies have shown traces of asbestos fibers in the lungs of one out of four urban residents.

The laboratory will also study the dissemination of asbestos dust in the air. Studies in Finland have shown that the dust can be detected up to 25 miles from asbestos mines.

01613

ASBESTOSPRAY corporation

1060 BROAD STREET
NEWARK, NEW JERSEY 07102
(201) 642-4330

MARCH 7TH, 1966

SMFNA
file

U.S. MINERAL PRODUCTS COMPANY
STANHOPE, N.J.

ATT: Mr. VERHALEN

DEAR JIM:

YOUR LETTER OF MARCH 3RD TO MR. COLTON OF J.M.
INTERNATIONAL CROSSED IN THE MAIL WITH A LETTER
THAT I HAVE SENT TO MEMBERS OF THE TECHNICAL
COMMITTEE, ALONG WITH A COPY TO YOU, CONCERNING
THIS PARTICULAR MATTER. AS I HAD MENTIONED, I CAN
HAVE IMMEDIATE ENTREE TO DOCTOR SELIKOFF AND THINK
THAT SOMETHING SHOULD BE DONE VERY QUICKLY TO COME
UP WITH SOME EQUITABLE SITUATION, BEFORE WE ARE
SERIOUSLY HURT BY VIRTUE OF THESE STATEMENTS.
PLEASE LET ME KNOW WHAT YOU WANT ME TO DO FURTHER
CONCERNING THIS.

WITH KINDEST REGARDS.

VERY TRULY YOURS,

ASBESTOSPRAY CORPORATION


H.L. LEVINE

HLL/7B

ASBESTOSPRAY

01614

SPRAYED MINERAL FIBER MANUFACTURERS ASSOCIATION, INC.

SUITE 2200, 14 WALL STREET, NEW YORK, N. Y. 10005

J. P. VERHALEN, President
United States Mineral Products Company
A. E. SINGER, Vice President
Smith & Kramler Company

J. H. WITTEKOP, Secretary
Sulzberg-Shaw-Wall, Inc.
H. L. LEVINE, Treasurer
Adamsbury Corporation

March 8, 1946

Dr. Maurice Hoff, Chairman
Technical Committee
Smith & Kramler Corporation
14th E. Linden Avenue
Linden, New Jersey

Dear Dr. Hoff:

Pursuant to Dr. Levine's suggestion, dated March 4th, concerning the alleged health hazard of asbestos, I think his suggestion is a good one, particularly in view of his personal relationship that a meeting be called of your committee with Dr. Seilhaft. Perhaps Dr. Hoff can help set this up and I would personally appreciate being notified of the meeting at night the other directors, so that they can plan to attend, if possible.

The critical importance of this matter need hardly be stressed. Your prompt attention will be appreciated.

Sincerely,

SPRAYED MINERAL FIBER MANUFACTURERS ASSOCIATION, INC.

J. P. Verhalen
President

JPV/ten

cc: E. L. Levine, Adamsbury Corporation
Harry Wilson, Sulzberg-Shaw-Wall Company
H. E. Stumpf, E. S. Mineral Products Company
John Roper, Cabot Corporation, Wicksburg & Son

Verhalen ex #5

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01806

March 9, 1966

Members of the Technical Committee

Re: SMFMA - Albi-Clad

Gentlemen:

This is in reply to Mr. Levine's letter enclosing a copy of the Albi-Clad advertisement which claims, among other things, "won't dust or flake like asbestos-type fireproofing."

Where statements such as this are false or deceptive because too broad to be true in all circumstances (or because Albi-Clad would indeed dust or flake if applied or exposed in like circumstances), there are several possible approaches the Association might take.

One relatively innocuous approach is to have the Association write a letter on behalf of the members to the Albi-Clad firm taking exception to their statement about asbestos-type fireproofing. Second would be a complaint to the Federal Trade Commission. Third would be a possibility of litigation by one or more of the members against Albi-Clad. The Association itself would lack standing to litigate the matter, since the damage threatened by misrepresentation is to the members rather than the Association. The decision as to which of these three avenues the Association might wish to consider is probably important enough that it should be discussed at a meeting of the Board of Directors.

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Ave

Members of the Technical Committee -2-

March 9, 1966

In the first instance, it would undoubtedly be helpful for the Technical Committee to arrive at a judgment as to the technical accuracy of the statement made, including its implications that asbestos-type fireproofing will dust and flame under all conditions, and that under similar conditions Albi-Clad will not dust or flame.

We also note that the advertisement states that Albi-Clad has been "Accepted by all leading Building Codes", and that it is "Recommended by Major Fire Insurance Organizations". Since Albi-Clad may not be in a position to substantiate these two statements, we believe that consideration should be given at a meeting of the Board of Directors to possible action on behalf of the Association or one or more of its members to make a formal demand of Albi-Clad that it substantiate the two quoted claims as well as other technical attributes set forth in the advertisement.

We shall of course be glad to discuss this matter further with you at your convenience.

Sincerely yours,

JB:ph

JB

01603

March 11, 1966

Members of the Technical Committee

Re: Publicity on Study of Asbestos Dust

Gentlemen:

We have reviewed Mr. Irvine's letter dated March 4, 1966 to the Technical Committee attaching news reports of the studies being conducted by Dr. Selikoff and his associates on the environmental health aspects of asbestos dust.

We are aware of the publicity given Dr. Selikoff's activities in this field through our representation of other associations. This publicity is clearly a matter of concern to all firms marketing asbestos products. Considerable effort is being devoted by members of the asbestos industry and their associations to an appropriate and responsible approach to such publicity.

We also understand that research is being conducted in this field by the United States Public Health Service, by state health officials and by private firms in an effort to develop sufficient data on which to base conclusions as to the effects of asbestos dust and the safeguards that may be needed to protect workers and others coming in contact with asbestos products.

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CADWALADER, WICKERHAM & L.L.F.

14 WALL STREET, NEW YORK, N. Y. 10005

Members of the Technical Committee

-2-

March 11, 1966

Accordingly, we would suggest that it may be advisable for the Technical Committee, before considering a direct approach to Dr. Selikoff, to assemble some background information on the other work being done in this area. In particular, it may be helpful for the Committee to have the views of Dr. Lewis J. Gralley of the United States Public Health Service, who is particularly well informed and objective with respect to the alleged health hazards of asbestos dust. We would be glad to arrange for Dr. Gralley to meet with the Committee if you believe that would be helpful.

We shall of course be glad to discuss this matter further with you at your convenience.

Sincerely yours,

JB/1c

JB

CO

→ J. P. Verhalen → ~~not~~ file

01810

SPRAYED MINERAL FIBER MANUFACTURERS ASSOCIATION, INC.

SUITE 2200, 14 WALL STREET, NEW YORK, N. Y. 10005

J. P. VERHALEN, PRESIDENT
United States Mineral Products Company
A. E. RINGER, VICE PRESIDENT
Smith & Kanter Company

J. M. WITTEKOP, SECRETARY
Baldwin-Sloan-Hill, Inc.
M. L. LEVINE, TREASURER
Adamskey Corporation

March 15, 1966

NOTICE OF MEETING

A meeting of the Technical Committee will be held at the office of Cadwalader, Wickersham & Taft, 14 Wall Street, New York City, on Friday, March 25, 1966 at 1:30 p.m., following which there will be a General Association meeting at 3:30 p.m.

The following subjects will be covered at this meeting:

- a) Joint Fire Test
- b) Albi-Clad
- c) Asbestos Health Hazard
- d) Such other business as may come before the meeting

Please make every effort to attend.

Sincerely,

JAMES P. VERHALEN,

President

Technical Committee

Dr. Morris Lief, Chairman
Mr. H. Wilson
Mr. F. M. Stumpf

Directors

Mr. A. E. Ringer
Mr. J. M. Witkop
Mr. H. L. Levine

Verhalen #8
PA

JEP → #10
Recd.
mm flb
JP

01803

SPRAYED MINERAL FIBER MANUFACTURERS ASSOCIATION, INC.

SUITE 2200, 14 WALL STREET, NEW YORK, N. Y. 10005

I. P. VERHALEN, President
United States Mineral Products Company

A. E. RINGER, Vice President
Smith & Kessler Company

J. M. WITTEKOP, Secretary
Baldwin-Shea-Hill, Inc.

M. L. LEVINE, Treasurer
Ashtamptown Corporation

Sent

March 28, 1966

Albi-Clad Manufacturing Company, Inc.
98 East Main Street
Rockville, Connecticut

Dear Sirs:

It has come to the attention of the members of the Sprayed Mineral Fiber Manufacturers Association, Inc. that you have stated in your advertising copy that Albi-Clad "won't dust or flake like asbestos-type fire-proofing."

As you may know, it is an unfair trade practice to publish statements that are misleading or deceptive, in whole or in part, in disparaging competing products. Such practices are actionable in the courts. In addition, the Federal Trade Commission has jurisdiction to issue a cease and desist order against unfair trade practices.

We ask that you send us promptly your assurance that you will remove phrases such as the one quoted above from all promotion materials.

Further, we note your claim that Albi-Clad has been "Accepted by all Leading Building Codes", and we request that you substantiate this claim by providing us with a list of the building codes referred to in your claim.

Sincerely yours,

M. L. Lieff

Morris Lieff
Chairman, Technical Committee
Sprayed Mineral Fiber
Manufacturers Association, Inc.

*Verhalen
ex #9*

01600

APRIL 11TH, 1966

BALDWIN-SMITH-HILL COMPANY
MR. HARRY WILSON
SMITH & LAZLER CORPORATION
MR. H. LINFF
U.S. MINERAL PRODUCTS
MR. P. STUNDF

C. F. U.S. MINERAL PRODUCTS
MR. VERHALEN
CADWALADER, WICKERSHAM & TAFT
MR. BOYER

SUBJECT: DATA CONCERNING ASBESTOS EXPOSURE

GENTLEMEN:

AT THE LAST MEETING OF THE S.M.F.H.A. TECHNICAL COMMITTEE,
I ASSUMED THE RESPONSIBILITY OF TRYING TO GET FROM DR.
SELIKOFF ALL OF THE PUBLISHED DATA CONCERNING HIS INVESTI-
GATIONS INTO ASBESTOS EXPOSURE ETC. HIS OFFICE HAS PROMISED
TO SEND ME ALL OF THE ITEMS THAT CURRENTLY HAVE AVAILABLE,
HOWEVER, I HAVE NOT YET RECEIVED THIS.

I DID LOCATE IN ONE OF MY FILES SOMETHING THAT HE PREVIOUSLY
GAVE ME, WHICH IS TITLED "ASBESTOS EXPOSURE AND NEOPLASIA".
I AM HEREWITH ENCLOSEING, FOR YOUR CONSIDERATION, A THERMO-FAX
COPY OF THIS REPORT. AS SOON AS ADDITIONAL INFORMATION IS IN
HAND, OR ADDITIONAL REPRINTS ARE RECEIVED BY ME, I WILL MAKE
THEM AVAILABLE TO ALL THE MEMBERS OF THE COMMITTEE, TO OUR
PRESIDENT, AND TO COUNSEL.

VERY TRULY YOURS,

SPRAYED MINERAL FIBRE MERS. ASSN.

H.L. LEVINE

HLL/rs
Enc.

Verhalen ex
#10

Asbestos Exposure and Neoplasia

Irving J. Selikoff, MD, Jacob Churg, MD, and E. Caylor Hammond, DSc, New York

Building trades insulation workers have relatively light, intermittent, exposure to asbestos. Of 633 insulation workers, who entered the trade before 1943 and were traced through 1962, forty-five died of cancer of the lung or pleura, whereas only 6.6 such deaths were expected. Three of the pleural tumors were mesotheliomas; there was also one peritoneal mesothelioma. Four mesotheliomas in a total of 255 deaths is an exceedingly high incidence for such a rare tumor. In addition, an unexpectedly large number of men died of cancer of the stomach, colon, or rectum (29 compared with 9.4 expected). Other cancers were not increased; 20.5 were expected, 21 occurred. Twelve men died of asbestos.

ALTHOUGH PULMONARY CARCINOMA had been observed in the earliest studies of asbestosis, association between the two conditions was first suggested by Lynch and Smith in 1935.¹ Additional reports of such association followed. Perhaps the most striking data was presented in the annual report of the Chief Inspector of Factories of Great Britain for 1955.² Every death with asbestosis in the files of the Factory Department, from the first recognition of asbestosis as a disease entity, was studied. Altogether 385 such deaths were recorded (1924-1955). Sixty-five or 17.8% were found to be accompanied by cancer of the lung or pleura. Doll,³ after reviewing the problem and adding data of his own, concluded that lung cancer was a specific industrial hazard of heavily exposed asbestos workers.

Nevertheless, some investigators have held that, while these observations might be suggestive, they did not establish an increased incidence of carcinoma of the lung in pulmonary asbestosis, and further, that the association was unproved.

The factor of selection was considered a potential weakness in evaluating reports of autopsy series. It was noted that complicated and unusual cases would be more likely to come to autopsy, thus raising the apparent frequency of associated lung neoplasms.⁴ Further, it was argued that autopsy statistics, which deal with particular groups of those who died, do not reflect total populations of asbestos workers.⁵ Additional reservations were based on the frequent absence of data regarding

exposure, smoking habits, and personal history, on the size of series, and on inadequate histological verification in some cases.

Within the last few years a number of additional problems connected with asbestos exposure have appeared, making clarification and resolution of the foregoing statistical uncertainty a matter of considerable concern. First, there has been greatly increased use of the various types of asbestos (a five-fold increase in world utilization of this group of minerals, from 300,000 tons to 2,500,000 tons per year in the last 30 years), as well as a greatly increased number and variety of industrial applications of asbestos (over 3,000 such uses now recorded). Second, suspicion has been growing that malignancy associated with asbestos exposure may include neoplasms other than carcinoma of the lung. Thus, a significant relationship has been claimed between diffuse mesothelioma of the pleura and peritoneum and asbestos exposure.⁶

This communication is concerned with investigations undertaken to study the following factors: (1) the incidence of deaths due to pulmonary carcinoma among a group of workers exposed to asbestos under United States industrial conditions in the past several decades, (2) whether or not such individuals would also be found to have an increased risk of other neoplasms, and (3) whether such risks would be present in an industry other than the asbestos-producing or asbestos-products industries, with which most reports in the past have been concerned but which would not necessarily represent the most important areas of asbestos exposure at this time. Further, it was hoped that study of an industry with asbestos exposure of limited extent and intensity would throw some light on the potential problems associated with minimal exposure to asbestos.

Materials and Methods

Our investigations have been concerned with 1,323 members of the Asbestos Workers Union in the New York metropolitan area, members of New York Local 12 and Newark, NJ, Local 32 of the International Association of Heat and Frost Insulators and Asbestos Workers. As the full title implies, these men are insulation workers. Although the union is considered one of the building-trades unions, its members do insulation work in a variety of industries, including shipbuilding. Called "luggers" in Great Britain, they are often designated "pipe coverers," "insulators," or "asbestos workers" in this country.

The union is one of the oldest in the country.

From the Division of Thoracic Diseases, Department of Medicine, and the Department of Pathology, Mount Sinai Hospital.

Read before a joint meeting of the sections on radiology and diseases of the chest and the American College of Chest Physicians at the 115th Annual Meeting of the American Medical Association, Atlantic City, NJ, June 21, 1963.

The New York local, as the "Salamander Association of Boiler and Pipe Fitters," was the first union of insulation workers in the United States. It amalgamated with other locals as the current Asbestos Workers Union in 1933. The stability of this union has been reflected in the stability of its membership rolls. "Once a pipefitter, always a pipefitter" has been of epidemiological importance to us and has made this group of men particularly suitable for the study of long-term effects of asbestos inhalation. Unlike unskilled workers exposed to asbestos inhalation in poorly paid industries, there is little labor turnover among insulation workers. Accurate employment records are maintained by the union, which has also been concerned with health problems in the industry.

The trade was badly hit during the depression; some men had to drop out and very few were added during the 1930's. By the end of 1942 the union rolls consisted mainly of men with considerable experience, plus a few who joined in 1940, 1941, and 1942. Between 1946 and 1962 union membership increased substantially.

Source of Data.—From union records, a list was prepared of every individual who was a member of either of the metropolitan locals on Dec 31, 1942, or who joined between that date and Dec 31, 1962. No one was omitted, whatever his subsequent work history. The 1942 list included 632 men; 600 men joined after 1942.

Personal data were obtained from union records, and the work history of each man was detailed, including withdrawal from employment (war service, other employment, retirement, illness). These data gave the baseline for calculation of the onset and duration of exposure. For members who had died, records of the Health and Welfare Fund provided date and place of death. Copies of death certificates were obtained on all but one of them. Autopsy protocols, histological specimens, and hospital records were obtained and reviewed in those deaths, approximately one half, in which the terminal illness had occurred in a hospital.

Statistical Analysis.—Previous studies have suggested that asbestosis associated with asbestosis seldom occurs until 20 years after first exposure to asbestos dust. Therefore, we decided to limit the present analysis to men with such an exposure history. Our complete records cover all members of the union (including active and retired members, both dead and alive) during the 20-year period from Jan 1, 1943, through Dec 31, 1962. However, with few exceptions, the only men with a history of 20 years or longer since first exposure to asbestos were the 632 men on the union rolls as of Jan 1, 1943. (The exceptions were a few men who joined the union after Jan 1, 1943, but who had been employed previously as asbestos workers elsewhere.) Of these 632 men, 255 died before Jan 1, 1963.

Table 1.—Man-Years of Experience of 632 Asbestos Workers Exposed to Asbestos Dust 20 Years or Longer

Age	Years			
	1943-1947	1948-1952	1953-1957	1958-1962
25-29	65.0	125.0	7.0	11.0
30-34	225.0	425.0	205.0	70.0
35-39	225.0	204.0	205.0	214.0
40-44	204.0	204.0	205.0	205.0
45-49	205.0	205.0	204.0	205.0
50-54	271.0	241.0	244.0	205.0
55-59	150.0	109.0	205.0	205.0
60-64	65.0	115.0	137.0	207.0
65-69	21.0	70.0	70.0	70.0
70-74	5.0	10.0	20.0	20.0
75+	2.0	2.0	5.0	12.0
Total	1,912.0	2,478.0	2,336.5	2,011.0

Of these 632 men, 339 had been exposed to asbestos dust prior to 1924. In other words, as of Jan 1, 1943, 20 years or longer had elapsed since these 339 men were first exposed. The remaining 293 men reached the 20-years-since-first-exposure point at some time after Jan 1, 1943, and before the end of 1962. The 339 men who were first exposed prior to 1924 were counted in each of the 20 years (or up to the time of death of those who died). The 293 who were first exposed in 1924 or later were counted only after they reached the 20-years-since-first-exposure point (those who died being dropped at the time of death). When the statistics were completed, we found that we had records covering a total of 8,737.5 man-years of experience of men with a history of 20 years or longer since first exposure to asbestos dust.

Of the 8,737.5 man-years, 1912.0 were in the five-year period 1943-1947; 2,478.0 were in the period 1948-1952; 2,336.5 were in the period 1953-1957; and 2,011.0 were in the period 1958-1962. Table 1 shows the age distribution of the man-years in each of these five-year periods. Table 2 shows (1) the average age-specific death rates of all US white males during each of these periods, and (2) the average age-specific death rates from cancer of the lung, pleura, mediastinum, and trachea among US white males during each period, as reported by the US National Office of Vital Statistics.

The man-years were then multiplied by the corresponding reported US death rates to ascertain the expected number of deaths under the null hypothesis that the death rates of asbestos workers do not differ from death rates of all US white males (both age and date being taken into consideration). The results are summarized in Table 3.

Results

Total Deaths.—During the first five years (1943-1947) only 28 deaths occurred among the asbestos workers, whereas 38.7 deaths would have occurred had their age-specific death rates been the same as for all US white males during those years (Table 3). In other words, at the start of the study, the asbestos workers had below average death rates. This is by no means surprising. Indeed, such

Table 2.—Total Deaths and Deaths From Cancer of the Lung, Bronchus, Pleura, Mesothelioma, and Trachea per 10,000 White Males per Year*

Age	1940-1947		1948-1952		1953-1957		1958-1962	
	Total	Lung Cancer†	Total	Lung Cancer†	Total	Lung Cancer†	Total	Lung Cancer†
25-34	26	1	26	1	26	1	26	1
35-44	66	1	46	1	43	1	46	1
45-54	66	2	76	3	72	3	76	3
55-64	123	4	124	6	116	6	116	7
65-74	196	8	186	6	176	10	176	11
75-84	296	7	291	10	276	14	272	17
85-94	426	7	417	11	416	17	416	21
95-104	624	6	606	11	586	16	567	21
105-114	977	6	919	10	876	14	866	17
115-124	1,463	8	1,363	6	1,346	12	1,346	16
125+	2,422	8	2,162	7	2,017	9	2,146	11

*Death rates as reported annually by the US National Office of Vital Statistics. A five-year average is given here for each period. Average for 1958-1962 is a projection of 1959-1962, since 1961-1962 rates are not yet available.
†Death rates include cancer of the lung, bronchus, pleura, mesothelioma, and trachea, assigned to international list code No. 474 prior to 1959 and to No. 160-164 thereafter.

is almost always found in the first few years of a prospective epidemiological study of this type. The explanation is almost certainly as follows: The 632 men in this analysis were actively employed as asbestos workers in 1942. Since disability from illness or other causes precludes employment in a trade of this type, those men were presumably well (or at least not disabled) at the start of the study period. Almost any group so selected as to exclude the ill and disabled has a lower death rate during the ensuing few years than does the general population, since ill and disabled persons have extremely high death rates. A selective effect of this type gradually wears off with time and largely disappears within five to ten years from the time of initial selection.

During the second five-year period (1948-1952), the death rate of the asbestos workers was slightly higher than the death rate of all US white males, ie, 54 observed deaths compared with 50.8 expected deaths. In later periods, the death rate of the asbestos workers was proportionately higher. For the period 1953-1957, there were 85 observed deaths compared with 39.6 expected deaths, and for the period 1958-1962, there were 88 observed deaths compared with only 54.4 expected deaths.

Table 3.—Observed and Expected Number of Deaths Among 632 Asbestos Workers Exposed to Asbestos Dust 20 Years or Longer

Cause of Death	Years				Total
	1943-1947	1948-1952	1953-1957	1958-1962	
Total, all causes	26	66	66	66	224
Observed (asbestos workers)	26.7	66.6	66.6	64.4	262.3
Expected (US white males)	26	66	66	66	264
Total cancer, all sites	13	17	26	29	85
Observed (asbestos workers)	13.7	21.1	33.0	37	103.8
Expected (US white males)	13	17	26	29	85
Cancer of lung and pleura	6	8	13	18	45
Observed (asbestos workers)	6.8	14	20	24	64.8
Expected (US white males)	6	8	13	18	45
Cancer of stomach, colon, and rectum	4	4	7	14	29
Observed (asbestos workers)	2.8	2.6	2.6	2.3	10.3
Expected (US white males)	4	4	7	14	29
Cancer of all other sites combined	3	9	6	7	25
Observed (asbestos workers)	2.9	4.9	6.4	6.6	20.8
Expected (US white males)	3	9	6	7	25
Asbestosis	0	1	4	7	12
Observed (asbestos workers)	0	1	4	7	12
Expected (US white males)	0	1	4	7	12

Cancer of the Lung, Pleura, and Trachea.—In each of the four five-year periods, far more deaths from cancer of the lung and pleura occurred among the asbestos workers than would have occurred had their death rates from these diseases been the same as for all US white males (Table 3). Altogether 45 of the 632 asbestos workers died of cancer of these sites, whereas only 6.6 such deaths would be expected from general US experience. Of these 45 deaths, 42 were recorded as due to bronchogenic carcinoma and 3 to neoplasms of the pleura. The pleural neoplasms were all recorded as mesotheliomas.

Thus it was found that the death rate from cancer of the bronchus and pleura was 6.8 times as high among these asbestos workers as in the general US white male population (both age and date being taken into consideration).

It may be asked whether the high rate of lung cancer among these asbestos workers could possibly be attributed to an unusually large proportion of cigarette smokers among them. We cannot answer this question directly, since we have not yet been able to ascertain the smoking habits of the men who died. However, the following pieces of evidence indicate that unusual smoking habits cannot account for the high death rate from lung cancer among these workers:

We have interviewed 330 of the 377 surviving members of the 1942 group. Table 4 gives a summary of the smoking habits in this group compared with a sample of men drawn from the general population of 1,121 counties in 25 states. The union sample is somewhat inadequate since it does not include the men who died and does not include all of the present living members of the union. Nevertheless, it shows that a substantial proportion of asbestos workers never smoked cigarettes regularly. Certainly the 632 men in our analysis of death rates were not all heavy cigarette smokers.

In the general male population, lung-cancer death rates are about ten times as high among cigarette smokers as among nonsmokers; and the

Table 4.—Smoking Habits of 235 Asbestos Workers Exposed to Asbestos Dust 25 Years or Longer Compared With Sample of Men From the General Population*

	Heavy Cigarette Smoking		Smoking Pipe, Cigar, Heavy Cigarettes		History of Cigarette Smoking	
	Asbestos Workers	General Population	Asbestos Workers	General Population	Asbestos Workers	General Population
Age						
25-34	12	10	12	10	12	10
35-44	15	12	15	12	15	12
45-54	18	15	18	15	18	15
55-64	22	18	22	18	22	18
65-74	25	20	25	20	25	20
75+	30	25	30	25	30	25

*Sample of men from general population as reported by Hammond and Garfinkel.

death rate from lung cancer increases greatly with the amount of cigarette smoking.⁹ However, a large proportion of all men in the United States have a history of regular cigarette smoking. From data in a prospective study on smoking,⁹ it may be estimated that if all men smoked a pack or more of cigarettes a day (i.e., if all the nonsmokers, cigar smokers, pipe smokers, and light cigarette smokers had, instead, been heavy cigarette smokers) the lung-cancer death rate would be approximately 3.4 times as high as it is at this time.

From this we may conclude that even if all our asbestos workers had smoked a pack or more of cigarettes a day (and, indeed, from our sample we know they did not), and if exposure to asbestos were of no significance, then their lung cancer death rate would have been about 3.4 times as high as the rate in the general US male population. Clearly, the smoking habits of the asbestos workers cannot account for the fact that their lung-cancer death rate was 8.8 times as high as that of white males in the general population.

Gastrointestinal Cancer.—Rather to our surprise, the death rate from cancer of the stomach and the death rate from cancer of the colon and rectum were higher among the asbestos workers than would be expected from the rates reported for the US white male population, calculated in the same way as for lung cancer. Twelve deaths from gastric cancer occurred among the asbestos workers, as compared with only 4.3 expected. Seventeen deaths from cancer of the colon and rectum occurred among the asbestos workers, as compared with 5.2 expected.

Cancer of All Other Sites.—The combined death rate from cancer of all sites other than lung and pleura, and stomach, colon, and rectum was not increased. Twenty-one such deaths occurred among asbestos workers, as compared with 20.5 expected.

Asbestosis.—Of the 285 deaths, 12 were due to asbestosis (pulmonary insufficiency, or pulmonary). The lapsed time from first asbestos exposure to death from asbestosis averaged 45.5 years, with a range of 32 to 59 years.

Comment

Carcinoma of the Lung.—The results with regard to carcinoma of the lung are clear. Industrial ex-

posure to asbestos by insulation workers, as studied here, results in a marked increase in the incidence of cancer of the lung, approximately six to seven times the expected incidence. Altogether, 45 (17.9%) of 235 men with more than 25 years elapsed since the onset of exposure died of cancer of the lung or pleura.

These data do not give the "incidence of cancer of the lung in asbestosis." They relate to the specific conditions of our investigation: to a group of men with only intermittent exposure to materials containing limited amounts (often 2% to 20%) of asbestos under working conditions varying from very dusty, as in extracting old insulation in closed quarters, to those with little dust exposure, as in building construction in open air. Moreover, they relate to the relatively recent past, in a trade with the shorter work week of the strong building trades unions, in an era when industry has been aware of potential asbestos hazard and the working population has had some consciousness of potential risk associated with dust exposure. These data would not necessarily apply to asbestos exposure in other industries, such as the factory production of asbestos products, the asbestos textile industry, etc., where conditions of employment might be quite different. Our results do not contradict the even higher incidence of lung cancer suggested in other studies¹⁰; they are merely a shade less striking.

Diffuse Pleural and Peritoneal Malignancy—Mesothelioma.—Determining the incidence of diffuse pleural mesothelioma is complicated by the insecurity of its histological verification. While some pathologists will so categorize a high proportion of diffuse pleural tumors, in the experience of others it is a very rare tumor and may be mistaken by anaplastic peripheral carcinoma of the lung and diffuse fibrosarcoma of the pleura. It is difficult to evaluate completely the published reports of diffuse pleural mesothelioma in asbestosis in the absence of complete details of each case.

To the present time, there has been no information concerning the incidence of diffuse pleural mesothelioma in asbestosis, since the published cases are reported without reference to a total population in which they occur. Nevertheless, the

growing number of reports of individual cases suggests that these tumors are perhaps becoming relatively frequent complications of asbestos exposure.

Our observations in this series are similarly suggestive. In three of the 233 deaths among the men who had worked for 20 years or more, the examining pathologist considered the death due to diffuse pleural mesothelioma, and in the two cases in which we have been able to review the histological material, the histological appearance was that of tumor so categorized, and asbestos bodies were present. This incidence of more than 1% of deaths from pleural mesothelioma is strikingly high for a tumor which is generally considered to be extremely rare. In one case in our series pathological examination suggested diffuse peritoneal mesothelioma. This single experience is too fragmentary for evaluation.

Gastrointestinal Carcinoma.—Isolated instances of gastrointestinal carcinoma in the presence of asbestosis have been known, but there have been no data to indicate that these were more than coincidental findings. Among the asbestos workers studied here, cancer of the stomach, colon, and rectum was three times as frequent as expected. These data suggest that there may perhaps be an etiological relationship between industrial asbestos exposure and carcinoma of the gastrointestinal tract.

Environmental Asbestos Exposure.—The recent demonstration, by South African⁶ and British⁷ investigators of pleural and peritoneal neoplasms among individuals who had chance environmental exposure to asbestos many years before raises the very important question of possible widespread carcinogenic air pollution. The possibility of environmental exposure has long been known. Soon after the initial clarification of asbestosis as a clinic entity, Haddow⁸ demonstrated asbestos bodies in a man not employed in the industry but living next

door to an asbestos factory. This finding was later mirrored in the finding of chronic beryllium disease among residents of a community near a beryllium factory.⁹ What is new, however, is an appreciation of the potential extent of the problem. Thomson and associates¹⁰ have reported the frequent findings of asbestos bodies in the lungs of urban dwellers. Among 6,313 individuals x-rayed in an area about an asbestos mine in Finland, Kivikanto¹¹ found 199 cases of pleural calcification of the type characteristically seen among asbestos workers, without obvious cause. In a comparable area without any asbestos mine, no cases were found among 7,101 persons x-rayed. It should be noted that these were not people who worked in the mine—none did—but, rather, were farmers, housewives, and others who lived in the general location. In one subject who came to autopsy, polarized-light microscopy demonstrated asbestos fibers in the lung. Similarly, the lung of a cow grazing near the mine also showed the presence of asbestos.

A particular variety of environmental exposure may be of even greater concern. Asbestos exposure in industry will not be limited to the particular craft that utilizes the material. The floating fibers do not respect job classifications. Thus, for example, insulation workers undoubtedly share their exposure with their workmates in other trades; intimate contact with asbestos is possible for electricians, plumbers, sheet-metal workers, steamfitters, laborers, carpenters, boiler makers, and foremen; perhaps even the supervising architect should be included.

1 E 100th St, New York 10029 (Dr. Selikoff).

This study was supported by the Health Research Council of the City of New York.

Cooperating in this investigation were the executive officers of the International Association of Heat and Frost Insulators and Asbestos Workers, Washington, DC, and the officers and membership of the New York and Newark, NJ, locals of this Union.

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SPRAYED MINERAL FIBER MANUFACTURERS ASSOCIATION, INC.

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MAY 10TH, 1966

MR. J.P. VERHALEN
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BALDWIN-EHRET-HILL CORP.
MR. A.E. BINGER
SMITH & KANZLER CORP.
MR. BOYER
CADWALADER, WICKERSHAM & TAFT

GENTLEMEN:

WE ARE ALL AWARE OF THE ADVERSE PUBLICITY WHICH HAS BEEN IN THE NEWS-PAPERS FOR SOME MONTHS NOW, GENERATED BY DR. I. SELIKOFF CONCERNING THE DANGERS OF ASBESTOSIS. AS WE HAD DISCUSSED AT SOME OF OUR PREVIOUS MEETINGS, THIS SHOULD BE A MATTER OF GRAVE CONCERN TO US AND MIGHT HAVE VIOLENT REPERCUSSIONS WHICH COULD AFFECT OUR VARIOUS BUSINESSES.

DR. SELIKOFF HAPPENS TO BE MY PERSONAL PHYSICIAN, AND I VISITED WITH HIM ON TUESDAY, MAY 10TH TO HAVE MY ANNUAL PHYSICAL. DURING THE COURSE OF OUR CONVERSATIONS, IT WAS BROUGHT TO MY ATTENTION THAT CONTACT HAS BEEN MADE WITH DR. SELIKOFF BY AN ARCHITECT IN CANADA, CALLING ATTENTION TO THE FACT THAT USING SPRAYED FIBRE AS A FIREPROOFING MEDIUM IN RETURN AIR PLENUMS, SUBJECTS THE PEOPLE OCCUPYING THE BUILDING TO ASBESTOS DUST, BY VIRTUE OF EROSION OF THAT MATERIAL DURING THE USE OF THE PLENUM CHAMBER. I POINTED OUT TO DR. SELIKOFF HOW ERRONEOUS THIS WAS, BY VIRTUE OF THE FACT THAT THE FILTERING APPARATUS IN THE AIR CONDITIONING SYSTEM WOULD CATCH ANY DUST, AND FURTHERMORE, WE TREATED THE SPRAYED MATERIALS TO PREVENT THIS EROSION AND DUSTING.

I THINK IT OF VITAL IMPORTANCE THAT AT THE NEXT BOARD MEETING, WHICH SHOULD BE VERY SOON, THIS MATTER SHOULD BE PUT ON THE AGENDA FOR DISCUSSION AND DETERMINATION AS TO A COURSE OF ACTION TO BE TAKEN.

Verhalen ex
11

I HAD A VERY BRIEF DISCUSSION WITH JIM VERHALEN BY TELEPHONE TODAY CONCERNING THIS MATTER, WHICH HAS GENERATED THIS ROUND ROBIN LETTER. WE HAVE SOME THOUGHTS ON THE SUBJECT WHICH SHOULD BE DISCUSSED RATHER EXHAUSTIVELY AT OUR NEXT BOARD MEETING, AND I JUST WANTED TO ADVISE YOU THAT THIS SHOULD BE ON THE AGENDA AT THAT MEETING, AND WE SHOULD ARRIVE AT SOME COURSE OF ACTION.

VERY TRULY YOURS,

SPRAYED MINERAL FIBRE MFRS. ASSN. INC.

A handwritten signature in dark ink, appearing to read "H.L. Levine". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

H.L. LEVINE

HLL/RB

01543

June 6, 1966

Mr. John Beyer
Cushman, Wickham & Taft
1 Wall Street
New York, New York 10005

Subject: Asbestos Health Hazard Publicity

Dear John:

Attached is a copy of the letter I discussed with you by phone last Friday, which is the first instance where we have learned that other trades have refused to work on the same floor where our products were being applied.

I believe it is imperative that Sprayed Mineral Fiber Manufacturers Association, Inc. develop a standard official statement of policy which may be used by any of the members should such a condition arise on work they are doing, and I would urge you to have a draft of such statement prepared so that it might serve as a basis of discussion at our Association meeting on June 17th.

Very sincerely,

UNITED STATES MINERAL PRODUCTS COMPANY

J. F. Verhulan,
Executive Vice President

JFV/enc
Enc.

cc: Mr. E. L. Levine - - Asbestosgrey Corporation

Mr. J. E. Witting - Baldwin-Brost-Mill, Inc.

Mr. A. E. Minger - - Smith & Kansler Company

J. F. O'Rourke -- F. M. Stumpf

Verhulan et F 2a



UNITED STATES MINERAL PRODUCTS COMPANY

Circle 100

General Office and Plant
STANHOPE, NEW JERSEY 07874

Tel. 347-1200 Area Code 201
Cable: CAPCO/INSUL New York

01544

June 3, 1966

Mr. Alton Evans, Project Manager
Heber, Hunt & Nichols - Frank Briscoe Company, Joint Venture
Cleveland Federal Office Building
East 9th and Lakeside
Cleveland, Ohio

Dear Mr. Evans:

In reply to the telephone request of Mr. William Weimer, we are pleased to comment on the questions raised concerning the possibility of a health hazard thought by some persons to result from exposure to the spraying of the mineral fiber now being applied for fireproofing at the Cleveland Federal Office Building.

There has been some publicity recently with respect to the possible effects of long exposure to high concentrations of asbestos dust. Although the studies have been under way for years, no final reports or findings have been released. Apparently, the probability of a health hazard exists only in those situations where there is exposure to asbestos dust over long periods, probably many years, and in places where there is a high dust concentration and ventilation is lacking. None of these studies are related specifically to spray mineral fiber products, nor to our CAPCO BLAZE-SHIELD Type D being used on this job.

Our CAPCO materials are specially treated during processing with dust control agents. Dust concentration is further minimized by the introduction of atomized water sprays as the fiber leaves the hose. The likelihood of any serious concentration of dust particles would be only in the immediate vicinity of the spray gun. For that reason we caution applicators to wear suitable dust masks, since they may be working under these conditions over extended periods of time.

We doubt seriously that any hazard exists for other workmen on the same site who are not actually spraying fiber. We have no knowledge of any sprayer or workman using CAPCO material or of any person exposed to it ever having been afflicted with a respiratory ailment caused by our fiber or process. We have been informed by the other members of the Sprayed Mineral Fiber Manufacturers Association, Inc. that, similarly, they have no knowledge of any case of respiratory illness being caused by the use of their spray mineral fiber products.

Of course, if a particular workman is unduly sensitive to dust, he should also wear a suitable protective mask. Such allergic tendencies would be exhibited in the presence of most any dust, such as fiber spraying, concrete hammering, plaster mixing, floor sweeping, and the like.

We believe this answers the questions raised, and we will be pleased to furnish such other information as may be required.

Yours very truly,

UNITED STATES MINERAL PRODUCTS COMPANY

John F. O'Rourke
John F. O'Rourke,
Vice President - Sales

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CERTIFICATE OF DEPONENT

I hereby certify that I have read and examined the foregoing transcript and with corrections made by me, if any, the same is a true record of the testimony given by me.

JAMES P. VERHALEN

Subscribed and sworn to me before this 13th
day of May, 1986.

Henriette S. Smith
Notary Public

NOTARY PUBLIC OF NEW JERSEY
My Commission Expires May 27, 1988

My Commission Expires:

May 27, 1986

Hunt Reporting Company

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Pawman Park, Maryland 21146



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19	46	13, ETC.	SPRAY-DON
20	50	8-9	Limpet
21	108	1	manuals to our contr....
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April 17, 1986

William Clague, Esquire
4701 Sangamore Road
Bethesda, Maryland 20816

RE: State of Maryland v. Keene Corporation
Deposition of James P. Verhalen

Dear Mr. Clague:

Enclosed please find a copy of the above referenced matter.
Please make arrangements with Mr. Verhalen to read and sign
his deposition. Please send back to us the original Certificate
of Deponent and errata sheets.

Thank you for your cooperation in this matter.

Yours truly,

HUNT REPORTING COMPANY


LOUISE WADDELL
Secretary

/slw
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