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December 10, 1969

MEMORANDUM to
PRINCIPALS, REPRESENTATIVES
AND GUESTS ATTENDING

HEALTH & SAFETY COUNCIL/ACPA
ANNUAL MEETING
NOVEMBER 21, 1969

Gentlemen:

I enclose minutes of the first annual meeting of the Health & Safety Council/ACPA held at the offices of Johns-Manville on November 21, 1969. Because of the importance of their remarks, the report of the Chairman, Jim Main, is reproduced in full and the addresses given by Herbert Morton Ball and Dr. P. V. Pelnar are extensively summarized.

You may wish to make these minutes available to others in your company who are interested in the work of the Council but were unable to attend the annual meeting.

Yours sincerely,

Handwritten signature

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J. H. FAY

MINUTES OF THE
FIRST ANNUAL MEETING OF THE
HEALTH & SAFETY COUNCIL/ACPA
November 21, 1969

A meeting of members and guests of the Health & Safety Council of the Asbestos Cement Products Association was held pursuant to notice in the Corporate Meeting Room of Johns-Manville Corporation at 22 East 40th Street, New York, New York, at 9:30 A.M. on November 21, 1969. The following persons were present:

J. H. Davies	Atlantic Asphalt & Asbestos, Inc.
S. D. Weaver	Cement Asbestos Products Company
S. E. Monoky	Certain-teed Products Company
W. J. Berg	The Flintkote Company
W. H. Knorr	The Flintkote Company
F. K. Sweeney	GAF Corporation
H. R. Mesler, Jr.	GAF Corporation
C. F. Bien	GAF Corporation
Barry Beller, Esq.	GAF Corporation
H. M. Ball, Esq.	Johns-Manville Corp.
Porter Dix	Johns-Manville Corp.
E. C. Cerny, Jr.	Johns-Manville Corp.
J. North, Jr.	Johns-Manville Corp.
J. V. Magee	Johns-Manville Corp.
M. M. Swetonic	Johns-Manville Corp.
F. W. Ingham	Johns-Manville Corp.
R. R. Standel, Esq.	Johns-Manville Corp.
<u>A. H. Fay</u>	<u>National Gypsum Company</u>
<u>L. P. Crowell</u>	<u>National Gypsum Company</u>
<u>E. H. Zimmerman</u>	<u>National Gypsum Company</u>
J. Steiner	Supradur Manufacturing Corporation
K. F. Netter	Supradur Manufacturing Corporation
K. Schwarz	Supradur Manufacturing Corporation
C. P. Kipp	United States Gypsum Company
F. O. Sanderson	United States Gypsum Company
J. A. Main	Health & Safety Council/ACPA
P. V. Pelnar, M.D.	Institute of Occupational & Environmental Health
B. Walls, Esq.	Burns & Van Kirk

1. Introduction

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The meeting was called to order by the Chairman, Mr. James A. Main. In brief prefatory remarks, Mr. Main reminded the meeting of the importance of the problem of airborne contaminants not only to the industry, but to the public at large. He cited in particular the schedule of Threshold Limit Values of Airborne Contaminants adopted by the American

Conference of Governmental Industrial Hygienists. Copies of the TLV schedules were distributed among the attendants. Mr. Main introduced Mr. Fay, the President of the ACPA, for introductory remarks. After calling the roll of those in attendance, Mr. Fay identified the committees appointed by the Council to date. Mr. Fay also announced that Atlantic Asphalt & Asbestos, Inc. was terminating manufacture of asbestos cement products and that he therefore accepted with great reluctance the resignation of that Company as a member in this Council.

2. Annual Report By The Chairman

Mr. Main delivered a progress report to the meeting which, at the request of members present, is reproduced in full and attached to these minutes.

3. Product Liability

Herbert Morton Ball, Vice President and General Counsel of Johns-Manville Corporation, delivered an address on product liability. Mr. Ball discussed potential problems of common law liability facing manufacturers of products that contain asbestos fiber as an ingredient. His remarks did not touch upon "in house" problems, which are generally covered by Workmen's Compensation insurance. He limited his subject to third party common law product liability. He identified third parties as persons who are not employees of asbestos cement manufacturers.

Mr. Ball further restricted his remarks to damage claims arising from asbestosis. He specifically excluded coverage of bronchogenic cancer and mesothelioma. He stated that there are essentially four classes of potential asbestosis plaintiffs. The first class encompasses people who normally work day to day with products made from asbestos cement and who, because of their handling, sawing, nailing and so forth, of these products are exposed to asbestos fibers unavoidably liberated into the atmosphere. Such exposure, if proper safety and housekeeping procedures are not followed, is a more or less continuing one.

The second class of potential plaintiffs was identified as being composed of so-called "neighborhood plaintiffs". These are people who live near a plant or mining facility that emits asbestos fibers into the air on a more or less continuous basis for a lengthy period of time. Mr. Ball stressed that recognition should be given to the possibility of such a class of plaintiffs actively litigating in the foreseeable future.

The third class of potential plaintiffs he identified as those who use asbestos cement products from time to time without being employed as full-time applicators or installers.

For example, he cited a farmer who occasionally purchases asbestos cement shingles directly from a dealer and installs them himself. It was Mr. Ball's opinion that on the basis of present medical knowledge, there is no asbestosis risk to such persons. The fourth class of potential plaintiffs comprises all persons who are not employees involved in the mining, milling and fabricating processes and who do not fall into the first three classes. This class is made up of the general public. It is the largest class, but the risk of exposure appears to be the least. Based on the present understanding of asbestosis and its causation, it is believed that there is no asbestosis risk to the general public.

Mr. Ball noted that theories have been expounded as to the relationship between asbestos and other diseases such as bronchogenic cancer and mesothelioma. He noted that one theory maintains that the inhalation and retention in the body of one single fiber of asbestos may cause mesothelioma thirty years later. If this theory were ever substantiated, there would be great exposure to third-party claims from all of the four classes of potential plaintiffs cited.

Mr. Ball briefly outlined the history of the common law as opposed to statutory law. At common law, he advised there are two principal concepts recognized as being of importance for his subject. These concepts are warranty (express and implied) and negligence. He noted also that there is an emerging concept in common law of strict liability in tort of manufacturers for defects in their products. He also cautioned the possible development of a concept of absolute liability.

Mr. Ball noted that the law of warranties is an aspect of the law of contract, whereas the concepts of negligence and strict liability are aspects of the law known as tort. In cases involving warranties and negligence, the courts have broadened their approaches over the years so that anyone, even a bystander, not a contemplated user of a product, has the standing to sue the manufacturer of the product for injuries sustained as a result of the manufacturer's negligence in the production of the product. He stated that production includes the packaging and the failure to warn of hazards which were known or should have been known to the manufacturer. He stated that our present laws are on the verge of going even further to the point of imposing strict manufacturers' liability without regard to negligence for the benefit of all parties who could reasonably be contemplated by the manufacturer as potential end users of its products. Some advocate extending this approach to include unforeseen victims -- those persons not contemplated as users by the manufacturer.

Addressing himself to the law of warranty, Mr. Ball explained that this law is founded upon contract law, much of which is now codified in the Uniform Commercial Code. One warranty that the law implies is that a manufacturer or merchant

who sells his product makes a warranty that his products are merchantable unless he clearly expresses otherwise. Merchantable means that the products are not defective. Non-defective products are, among other things, safe and non-harmful.

Mr. Ball explained that the protection of warranties such as merchantability is being extended to parties beyond the immediate purchasers of the products. Thus, persons who never purchased the products but who worked for parties who bought the products from the manufacturers or from other persons in the chain of distribution will increasingly be afforded the protection of these warranties.

By way of illustration, Mr. Ball described recent third-party common law actions brought against manufacturers of industrial insulation products. He noted that in these recent cases, the plaintiff was one who worked from day to day continuously with industrial insulation products. Mr. Ball stated that risks peculiar to insulation applicators may not at all approach the risks to which users of asbestos cement products are exposed. The medical and scientific facts establishing the degree of difference of risk are not precisely known. Be that as it may, the legal problems involved in a third-party common law suit brought by a user of asbestos cement products would be the same as one brought by the user of industrial insulation products.

In one case involving industrial insulation, ten industrial insulation manufacturers were sued for a half million dollars general damages and exemplary damages of a half million dollars. The plaintiff had worked as an insulation worker for 27 years. His complaint alleged:

1. The defendants knew or in the exercise of reasonable or ordinary care, ought to have known that the products that they manufactured were dangerous to his health and defendants negligently failed to take any reasonable precautions or exercise reasonable care to warn the plaintiff of the damage and harm to which he was exposed to handling the defendants' respective products.
2. Defendants failed to warn the plaintiff as to what would be safe and sufficient wearing apparel and proper protective equipment and appliances to protect him from being poisoned and disabled.
3. Defendants failed to place any warnings on the containers of the insulation.
4. Defendants knew or should have known that plaintiff would not know the dangerous characteristics of these products.

5. Defendants knew or should have known that their products were not suitable for the purpose for which they were intended.
6. Defendants should have tested their products.
7. That the products were warranted, either expressly or impliedly to be merchantable.

In asking for one half million dollars exemplary damages the plaintiff claimed that the defendants were consciously indifferent and had utter disregard for plaintiff's welfare and, therefore, should be punished by the awarding of exemplary damages. Mr. Ball stated that this is the type of complaint which relies upon both negligence and breach of warranty. Manufacturers can expect such suits if it turns out that people who normally work with asbestos cement products can contract asbestosis as a result of working with such products.

Mr. Ball recommended that to minimize these risks to manufacturers, the following things should be done. First, a warning should be placed upon the packaging of all products that are presently suspect. The warning should state that there may be a health hazard and that proper precautionary procedures such as the wearing of respirators should be followed. The warning should be limited to the dangers inherent in the day-to-day handling and installing of the products. Such warning should negate any implication that the products in themselves once installed are dangerous in this regard.

Mr. Ball stated that carefully worded pamphlets should be prepared describing the safest operating and housekeeping procedures known. These pamphlets should be distributed to contractors and to the unions for distribution to the workers. Although such pamphlets may create certain practical problems, it is Mr. Ball's opinion that the long term protection to be realized from distributing such pamphlets is worth the short term cost. Mr. Ball felt that these two suggestions concern the people in the first category of potential plaintiffs. With respect to the second class of potential plaintiffs, the neighborhood plaintiffs, the important thing is to devise control methods that will stop the emitting of asbestos dust and fibers into the atmosphere if, in fact, they are so emitted.

Mr. Ball also recommended that adequate money be advanced for the appropriate research to determine what the true risks are and to eliminate these risks.

Mr. Ball concluded by stating "We must all recognize that if we are going to remain in business, there is no easy way out, legally or otherwise. A fully coordinated and concerted maximum effort on the part of all is necessary."

4. Health and Safety

Dr. P. V. Pelnar, Scientific Secretary of the Institute of Occupational and Environmental Health located in Montreal, addressed the meeting on the work and studies being conducted by the Institute. Dr. Pelnar defined in detail the differences between asbestosis, bronchogenic cancer and mesothelioma. He explained how the human body reacts to the inhalation of particulate matter. He noted that if foreign bodies in the lungs are not expelled by coughing, they are usually attacked by scavenger cells (phagocytes) which surround such particles and try to break them down by their enzymes. Inorganic matter like silica or asbestos fibers of less than five microns in diameter, can become lodged in the tiny air sacs (alveoli) in the lungs where the action of the scavenger cells fails to break these particles down. Extensive damage can be caused ultimately resulting in a thickening of the alveolar walls, in production of excess connective tissue which obliterates and replaces the air sacs and the terminal air passages, i.e. condition called asbestosis, (pulmonary fibrosis). Fibers remain in the pulmonary tissue either unchanged or surrounded by a sheath containing protein and iron thus forming what is called an "asbestos body" or better, a "ferruginous body". The excess of connective tissue also appears on the pleura and causes its thickening. Sometimes, it is irregular and is called pleural plaques. Asbestosis has been known over sixty years. Later (in the 1930's) it was found that bronchogenic pulmonary cancer was more frequent in people with asbestosis than in population at large and there are indices that it is also more frequent in people who had a severe asbestos exposure but do not have asbestosis. New studies have shown that additional factors acting with asbestos are important in development of bronchogenic cancer, such as trace-metals, benzopyrene adsorbed on the fiber or smoking cigarettes. Asbestos appears to be a co-carcinogen, possibly only a carrier for other carcinogens.

Mesothelioma is a rare malignant tumor of the linings of body cavities such as pleura and peritoneum. Unusual accumulation of cases of this tumor was discovered in the area of crocidolite mines in North Cape Province in South Africa around 1955 and more cases are being found since in Britain, U.S.A. and elsewhere, and are being linked also with exposure to other kinds of asbestos. Again some yet unknown additional factor acting with asbestos is necessary to explain the fact that there have been no cases of mesothelioma in identical exposures in crocidolite mines in Transvaal or in anthophyllite mines in Finland and that there are only very few cases in asbestos industry in France or in chrysotile mines in Canada.

Since both the bronchogenic cancer and mesothelioma develop over a very long period of time (up to 40 years!) the tumors occurring presently are being attributed to exposures

existing many years ago. Since production and consumption of asbestos rapidly increased over the last decades, voices are heard that an epidemic of tumors is bound to occur in the future. This fear is usually supported by evidence that in many cities the ferruginous bodies were found at autopsy in most examined lungs of people who had no known occupational contact with asbestos in their lives. This is interpreted as showing that public at large inhale asbestos and therefore, are at risk of malignant tumors.

But is it asbestos that is found in the lungs? Forty different kinds of fibers, organic and non-organic, were found to be airborne in city atmosphere and a number of various fibrous materials were shown to produce ferruginous bodies in experimental animals.

If it is asbestos, is its inhalation connected with industrial use of asbestos? Cosmetic talc was shown to contain on the average 20% fibers in the U.S.A. The consumption of talc exceeded consumption of asbestos in the U.S.A. in 1968. Some suspected sources of airborne asbestos in cities were shown to be negligible, e.g. wearing of brake linings, but it seems likely that some fibers are being inhaled.

Prevention of damage to health much depends on whether in the case of asbestos there is the dose-response relationship. If there is no such relationship and one single fiber in the lung can trigger development of asbestosis or cancer, then prevention would be virtually impossible.

In asbestosis it has been firmly established that the higher the exposure, the more cases, and the more severe cases, occur and the lower the exposure the less cases are found. A level of exposure must exist under which no cases develop because many exposed workers remain free of the disease for their lives. Exactly establishing this level is difficult because the level of exposure measured today may cause the disease 15-20 years later and for the present disease levels of exposure are responsible which existed 15-20 years ago and often are not well documented. Tentatively a Threshold Limit Value was used derived from the asbestos textile industry and a modified TLV is being suggested now in the U.S.A. But more well controlled studies are necessary to better establish safe limits in other uses of asbestos and one such extensive study in mining chrysotile is under way in Canada and another has just begun in asbestos-cement manufacturing in New Orleans. Kogan in U.S.S.R. believes that a less strict limit may apply to asbestos-cement dust because its biological activity is lower than in asbestos alone mainly because surface properties of the asbestos crystals are changed by adsorbed cement.

Some safe limit also exists from the point of view of development of bronchogenic cancer: it was shown in England and again in Quebec that excess in incidence of this cancer was only seen in people with high exposure. The exact level which is still safe is very difficult to establish because of the long period of time over which cancer develops.

Establishing a safe limit from the point of view of mesothelioma is yet more difficult because this tumor is very rare for statistical evaluation and its development is yet much longer than in bronchogenic cancer. But also here there are reasons to believe that only more severe exposures lead to this tumor. A majority (up to 80%) of cases sufficiently investigated showed an occupational exposure which might have been substantial, mainly but not exclusively to crocidolite.

Experience in industrial conditions indicates that tolerance to low exposure exists. Much lower exposures still, as indicated by only few ferruginous bodies in the lung, found in city dwellers not occupationally exposed to asbestos, do not warrant any panic. Yet links between asbestos and mesothelioma are not clearly understood and it is appropriate to be concerned about it.

In summary protection against asbestotic pulmonary fibrosis appears to be possible by technical means of suppression of dustiness under the TLV. This task seems to be less difficult in asbestos-cement industry than in other asbestos exposures. The connection of bronchogenic cancer and of mesothelioma with exposure to asbestos is much less clear and the kind of asbestos and undetermined additional factors play a role. But whatever the final cause, low asbestos exposures clearly can be tolerated without development of tumors. How low the exposure must be to be safe and what factors also must be removed, changed or present, is yet to be investigated.

More studies are necessary but the outlook of protection of both the asbestos workers and the public at large is hopeful.

Following a period of general questions and discussion, the meeting was adjourned at 12:40 P.M.

Respectfully submitted,

Bradley Walls
Bradley Walls

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November 21, 1969
ANNUAL REPORT by James A. Main
HEALTH & SAFETY COUNCIL/ACPA

The asbestos cement industry is the largest single user of asbestos fiber, using about 25 percent of all asbestos fiber consumed in the United States each year. On a quantitative basis, this represents a considerable potential health exposure, if, in fact, there is a relationship between asbestos fiber use and health. At the outset, it can be said that there is no evidence of a public health hazard to the users of asbestos cement products. It cannot be as readily said of the workers manufacturing the product, or the handlers, fabricators, or installers of the product if the work is carried on in an environment of high concentration of asbestos dust. The industry has long known, and has taken steps to protect the worker from asbestosis, a fibrosis of the lungs that develops in some workers exposed to excessive doses of asbestos dust over long periods of time. Recently industry has been made aware that lung cancer and mesothelioma may be related to exposure to asbestos. Until more complete knowledge is available as to the extent of the relationship, industry is charged with a moral and legal responsibility to become aware of the problem and take appropriate action. To this end, your industry formed the Health & Safety Council with the following stated purpose:

The Council shall initiate, develop, and direct studies and public relations programs designed lawfully to promote and foster health and safety policies and programs for the asbestos cement industry as will tend,

- (a) To appraise and resolve any health and safety programs peculiar to the asbestos cement industry for manufacturers of asbestos cement products; and
- (b) To assist fabricators and users of asbestos cement products in any health and safety programs; and
- (c) To cooperate with other groups, governmental or private, studying and reporting on all health and safety problems to the asbestos cement industry.

The Council comprises all manufacturers of asbestos cement products in the United States. It has been in existence one year. It has held four quarterly meetings.

In light of all the recent publicity of facts and fancies on the effects of asbestos on health, the Council felt its first duty was to tell its customers - the purchasers, users, handlers, fabricators and applicators, what is known to date about the safe handling of the product. If this were done in the right way, it would be a recognition of industry's moral responsibility. If it were not done, it might adversely affect the industry's legal position in the event of suit by any one claiming to be injured by his association with asbestos cement products. The industry in Great Britain has recognized this responsibility, and has published recommended codes of practice for the safe use of its products. The National Insulation Manufacturers Association has published recommended health and safety practices in its field.

Your Council appointed a committee to draft recommended practices for the asbestos cement industry, and to advise the Council on the distribution of the booklet. Cliff Sheckler, the Chairman of this committee, and his fellow members, Frank Zimmerman, Harry Mesler and Burt Alpine, have done a very thoughtful and thorough job of preparing this booklet and deserve our special appreciation for the results to date. The committee is presently struggling with the problem of whether one booklet can be all inclusive cautioning such diverse groups as fabricators, machining asbestos cement products in confined unventilated spaces and applicators of shingle units on the outside of a building without arousing unnecessary fears. When Cliff returns from his European trip, he is planning a meeting of his committee early next month to finalize recommendations for presentation to the next Council meeting.

Recognizing that large quantities of asbestos fiber are being processed every day through asbestos cement plants, the "In Plant" working environment is of extreme interest to the Council. Although industry has long been conscious of its responsibility in this area, it was felt an up-to-date exchange of experience as related to asbestos dust problems would be a desirable Council undertaking. An environmental control committee was set up under the capable chairmanship of Frank Zimmerman. It was the intention to have each company represented on this committee. If you have not designated a member or if you have any changes to make in your representation on this committee, will you please notify Frank Zimmerman. During the past year, this committee spent a day at the Johns-Manville Research Center and manufacturing plants at Manville, New Jersey. The visit included a trip through the textile plant, the asbestos cement pipe plant and the asbestos cement shingle and board plant. The meeting included a review of the basic research and engineering of the environment by Ed Fenner and Sid Spiel and was followed by a detailed inspection of safety steps taken, and engineered in the plants. There was also a discussion with medical men.

During the year, a third committee was appointed and charged with exchanging information and keeping the Council informed on legislation and litigation that might affect the industry. This committee is liability insurance oriented. Paul Kipp is the Chairman. He has taken steps to assure the gathering of current information on the liability aspects of the asbestos problem. I am sure we will hear a lot more from this committee in the forthcoming year.

During the past year, the following information was disseminated to the members by the Council:

- (a) Dust sampling and counting methods - as employed by the Dust Engineer of the Q.A.M.A.
- (b) Insulating hygiene progress reports - from Insulation Industry Research Program at Mt. Sinai School of Medicine.
- (c) Four recommended codes of practice, as published by the Asbestos Research Council.
- (d) Measurement of airborne dust by the membrane filter method.
- (e) Amendment to the Walsh-Healey Act; setting safety and health standards adopted by the Department of Labor and applying to all firms having Government procurement contracts of \$10,000 in value. The Threshold Limit Value (TLV) for asbestos is set at two million particles per cubic foot or twelve fibers of over five microns in length per milliliter.

Also during the year, your Council went on record in opposition to H.R. 2503, a Bill introduced in January to promote the safety of workers engaged in making asbestos products for shipment in commerce. The many deficiencies and inconsistencies of the Bill were pointed out to the Department of Commerce. So far, it appears the Bill will die in Committee.

Dr. Paul Gross and others at Industrial Hygiene Foundation in Pittsburgh, have done extensive work on fibrous dusts, particularly asbestos. To keep abreast of this work, and to obtain their up-to-date knowledge on all research engineering and legislative aspects of the industrial health problem, your Council became an Associate Member of IHF at the nominal cost of \$100 per year, and are now receiving the monthly bulletins and other data. It is planned to hold the next meeting of the Council at the Institute headquarters at Carnegie-Mellon University, Pittsburgh.

From what we have learned to date, we can begin to make certain assumptions for guidance in the future.

- (a) That the use of asbestos cement products, in which the fibers are locked in, exposes the public to no health problem.
- (b) That there may be a health problem where there is long exposure to asbestos cement dust.
- (c) That the health problem is dose related and lends itself to control.
- (d) That some individuals are hypersusceptible to asbestos dust, and should avoid excessive exposure.
- (e) That malignancies directly related to asbestos exposure are rare.
- (f) That smoking and exposure to heavy concentrations of asbestos dust, over long periods compounds the health risk.

Working on these assumptions until they are proved or disproved by further research, how should this Council direct its efforts in the future?

- (1.) Let us first tell the public that they are in no danger and the handlers, applicators and fabricators are in no danger if they follow the recommended practices covered in the Sheckler committee booklet.
- (2.) Let us make sure our own plants are in order by considering: pre-employment examinations, medical histories, smoking habits, chest X-ray, lung function tests, etc. Also, periodic examinations, transfer of hypersusceptible and diseased employees to less exposed areas. Get up-to-date on dust counts and adopt simple methods. Engineer to clean up danger areas such as the unloading of box cars, dumping of bags, machining of finished products, etc. We should be alert to good housekeeping, use of respirators in danger areas. Waste disposal methods should be such as to protect the outside environment from contamination.

- (3.) Let us work in cooperation with the administrative agencies, and their advisers, to assure that TLV standards in any occupational health and safety act are sound and workable. That any such act is properly administered and that there is adequate resort to due process before penalties are invoked.

In concluding my report for the year, I would like to tell you how much I have enjoyed working with you and how deeply I appreciate your support and cooperation. I particularly want to thank Al Fay, the President of ACPA, for his help and encouragement, and the committee chairmen - Cliff Sheckler, Frank Zimmerman and Paul Kipp, without whose help nothing would have been accomplished. We are also indebted to our Treasurer, Ed Cerny, for keeping us solvent, and to Brad Walls for keeping us safe. Thank you.

J. A. Main, Chairman