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with Internal Report and Cover Letter

NORTH AMERICAN ASBESTOS CORPORATION

April 25, 1967

Mr. H. P. Hoopes, Product Manager
Fibreboard Corporation
Foot of 64th Street
Emeryville, California

Dear Harry,

Referring to our telephone conversation on Friday, I am enclosing herewith various items relating to the asbestos problem.

The article that appeared in Chemical Week in September 1966, entitled "Asbestos-Awaiting Trial", was very damaging. The Asbestos Textile Institute sent a delegation to McGraw-Hill, the publishers, who subsequently admitted that it was a rather thoughtless article written by an experienced reporter who evidently interviewed Dr. Selikof. The rebuttal to this article, submitted by Mr. Roger Hackney, a Senior Vice President of Johns-Manville, is I think a very reasoned and sensible response to this type of publicity.

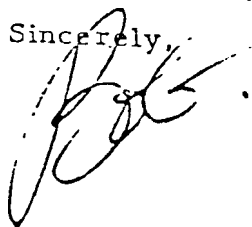
Also enclosed is a memorandum produced by the Sales Director of Cape/London for general guidance of those involved in the sale of Caposite Insulation in the U. K.

Finally, you will find a memorandum from the Asbestosis Research Council in England on precautions to be taken in the insulation contracting industry. I believe this has been widely circulated in England.

As other information comes to my attention from time to time I will make a point of seeing that you get copies. Meanwhile, I gather you will be meeting with Dr. Lewis Challey, and I believe you will find his approach to the problem very reasonable.

With very best regards.

Sincerely,



RECryor/jc
encl.

Distribution - See Below

28th August 1966.

CONFIDENTIAL

I wrote in May setting out some points for the general guidance of managers who are faced with questions on the possible dangers to health involved in the use of asbestos based materials. Changes in the situation which have taken place since then make it necessary now to amplify my instructions.

Although Asbestosis has been recognised as an industrial hazard for many years and safety regulations have been in force since the 1930s. the latest concern seems to be caused more by the discovery of an industrial cancer called mesothelioma than by any increase in the incidence of Asbestosis. In view of this I think it is important that you should know the following facts.

1. The form of lung cancer known as mesothelioma is an extremely rare condition and careful research of records throughout the World (covering the last 40 to 50 years), stimulated by the International Union Against Cancer, has so far revealed a total of approximately 500 cases. This should be contrasted with the incidence of lung cancer in England alone, which, during one year (1965) totalled 21,000 cases.
2. The asbestos content of our Caposite and Caposil moulded insulation materials which are now our principal asbestos based products, is entirely amosite asbestos. The same careful research, to which I have referred, has so far revealed not one case of mesothelioma associated with exposure to amosite asbestos.

Although the instructions contained in my memorandum of the 23rd May, about representatives avoiding discussions on medical aspects of asbestos and health must still be observed and wherever possible questions of this kind should be referred back to Head Office, the facts stated above may be pointed out to anyone who raises the question of the danger to health involved in the use of either our Caposite or Caposil moulded products.

JLC/CAL


Sales Director

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Two chemical process companies have plans to lower diversifying interests. Oceanographic Instruments Inc. (La Jolla, Calif.) and two paper companies with combined sales of nearly \$1 billion/year reached a tentative agreement to merge.

(1) **Benet Corp.** (Detroit) expanded its oceanic activities by acquiring for an undisclosed amount of stock **Marine Advisers** (La Jolla, Calif.), producer of oceanographic instruments for petroleum and utility companies, state and federal agencies, and firms engaged in scientific programs.

(2) **Fluor Corp.** (Los Angeles) and **B. L. McFarland and Associates** (Fort Worth and Midland, Tex.), a group of five companies involved in offshore and onshore drilling operations, have agreed to merge, subject to stockholders' approval. The McFarland group operates five offshore drilling rigs in the Gulf of Mexico.

(3) A tentative agreement to merge has been reached by **U.S. Plywood Corp.** (New York) and **Champion Papers, Inc.** (Baltimore). The merger is subject to both directors' and stockholders' approval. The corporate identities of both companies will be preserved.

Reducing Gas Rates

The Federal Power Commission has ordered **El Paso Natural Gas Co.** and **Transwestern Pipeline Co.** to reduce by \$17 million/year the price of natural gas in the southern California market.

The rate cut stems from the July 26 decision in which FPC turned down the application of **Gulf Pacific Pipeline Co.** (a Transwestern subsidiary) to supply gas to the Los Angeles area (*ENR*, Aug. 6, p. 20). **Gulf Pacific** last week filed for a rehearing.

El Paso and **Transwestern** were told they would have to lower their rates to reflect the lower costs resulting from the expanded system. At the same time, FPC said it would conduct a cost-of-service proceeding.

The companies should get a decision on the expanded system by late September. They are expected to file a protest with the Federal Energy Regulatory Commission (FERC) if the decision is not in their favor.

The companies are expected to file a protest with the Federal Energy Regulatory Commission (FERC) if the decision is not in their favor.

Asbestos fibers found in central air-conditioning units.

Asbestos dust and insulation in home central heating plants.

Motor vehicle brake linings and clutch plates.

Auto undercoatings.

Asbestos ceiling and floor tiles.

Asbestos shingles and siding.

Construction and demolition.

Filtering, cutting, and removing asbestos-filled wallboards and floor piping and insulation.

Incineration of asbestos-filled scrap.

Improperly filtered effluent from asbestos processing plants.

Asbestos: Awaiting 'Trial'

The asbestos industry—whose end products are valued at more than \$500 million/year—may be in for a shake-up. It could come in the form of federal legislation limiting the use of asbestos, because asbestos has been accused—though not yet “convicted”—as a significant health hazard. Probable contender for asbestos markets: plastics.

Recent studies have convinced U.S. Public Health Service specialists and other medical authorities that about 40% of all Americans have mild, chronic cases of asbestosis, even though most of them never worked directly with asbestos.

Unlike other airborne dust particles, asbestos fibers have the ability—almost as much as activated carbon—to absorb polycyclic hydrocarbons and arsenicals. Furthermore, says USPHS, in the past 30 years the asbestos-related cancer rate has increased sixfold.

The Inference: While the average asbestos worker is well protected, the man on the street is not. The 3-5 micron asbestos fibers in his lungs can come from a variety of sources (table, above).

And medical experts say there's no way to assess hydrocarbon content in these lung deposits.

American Cancer Society researchers feel certain there is a synergistic relationship among airborne asbestos, smoking and lung cancer. They reason that the nondegradable, hydrocarbon-soaked fibers may well be a constant source of lung irritation.

PHS officials think it may take them up to five years to establish asbestos' true role as an air pollutant. However, Congress may act before the research is finished. Says Representative Robert Watkins (R., Pa.): “We've seen enough evidence already. Asbestos will never get a clean bill of health. With just a little more data we'll move for controls and strict ones.”

Some form of asbestos control is in the offing, public health officials are certain, if only part of a larger clean-ambient-air program. However, there is the danger that Congress may enact rigorous controls on the quantity of asbestos that could be used.

In that case both Canada and U.S. asbestos products manufacturers would be hard hit. Of the five forms of asbestos mined today, chrysotile asbestos holds the predominant market position because of its insulating and processing qualities. Canada produces more than 80% of the chrysotile asbestos used in the U.S. In both countries, a number of serious dislocations would occur.

At present, there is no known material that could fill all of asbestos' strategic roles. On the other hand, should federal controls merely call for higher standards for binders and shavings, that would spark a rise of new products, with plastics taking the lead.

Reason, say industry spokesmen, present polymer technology could easily turn up products to replace asbestos in most end-uses.

Asbestos Safety Reaffirmed

To the Editor: The article "Asbestos: Awaiting Trial" (Sept. 10, p. 32) contains many inaccuracies which have led to erroneous assumptions and false conclusions. Briefly, the facts are these:

(1) Asbestos is a uniquely useful product serving the needs of modern man and society, and it is not likely to be replaced by economically feasible synthetic polymers, or anything else, in the foreseeable future.

(2) No published reports, even the most speculative, support the generalized statements in your article regarding health effects of possible exposure to asbestos.

(3) There is no basis for the suggestion that Congress "may act" regarding asbestos use, for no such proposals are being considered by Congress. We are informed that the congressman quoted as predicting action disclaims any knowledge of health evidence relating to asbestos or of proposals to control its use.

(4) No evidence exists to show that asbestos poses health risks for the general public or to show that even 1% of Americans have "mild chronic asbestosis," much less the 40% figure you give in your article.

(5) Regarding your list of "sources of airborne asbestos," there are no data to support the contention in your article that the "man on the street" is exposed to asbestos from these sources, or indeed that these sources contribute asbestos to the ambient air.

(6) We know of no data to support your claim of a sixfold increase in so-called "asbestos-related cancer."

As you doubtless realize, the proper conduct of our business requires us to keep abreast of scientific developments regarding asbestos, both medical and technical. It is our opinion that synthetic polymers are not likely in the

foreseeable future to completely replace asbestos in the many applications for which it is now used. Any synthetic product would have to prove superior to natural asbestos and be economically competitive.

As to health aspects, in June of this year the U.S. Surgeon General appeared before the Senate Public Works Subcommittee on Air and Water Pollution, with Senator Edmund Muskie of Maine as chairman, to discuss various problems relating to air-pollution abatement. Surgeon General William Stewart enumerated a number of substances in common use, including plastics and asbestos, about which he said: "The public health hazards that may arise from these aspects of environmental contamination have not been adequately documented. In each instance further investigation is needed to determine whether health is indeed threatened and what control measures may be necessary."

In these days when all substances in our air and water and even the food we eat are constantly under scrutiny, as to their effects on the public, the fact that asbestos is among the subjects of investigation is not surprising. In fact, we have always supported and will continue to support investigations by the U.S. Public Health Service and other research scientists.

ROGER HACKNEY
Vice-President

Johns-Manville Corp.
New York

TO THE EDITOR: In reference to your article, "Asbestos: Awaiting Trial" (Sept. 10, p. 32), we know of no scientific evidence supporting the statement that "40% of all Americans have mild, chronic cases of asbestosis."

Even in the asbestos industry, where more is known about exposure levels than among the general population, there is imprecise knowledge about the health effects of exposure to asbestos.

With the cooperation of labor and industry, the Division of Occupational Health has under way a long-range, in-depth study to answer this question, as well as to develop better criteria for the safe handling and manufacture

of asbestos. In the meantime, however, the division will continue to improve the application of known safety methods so that the workers will be kept as healthy as possible.

MURRAY C. BROWN, M.D.

Chief
Division of Occupational Health
Department of Health, Education
& Welfare
Public Health Service
Washington, D.C.

CW is pleased to set the record straight. Some of those interviewed apparently drew unwarranted conclusions from insufficient and dubious data.—Ed.

MEETINGS

Assn. of Official Analytical Chemists, annual meeting, Twin Bridges Marriott Motor Hotel, Washington, D.C., Oct. 10-13.

Technicon International Symposium on automation in analytical chemistry, Statler-Hilton Hotel, New York, Oct. 17-19.

Drug, Chemical & Allied Trades Assn., annual meeting, Hollywood Beach Hotel, Hollywood, Fla., Oct. 20-22.

Commercial Chemical Development Assn., discussion of packaging, Drake Hotel, Chicago, Oct. 26-28.

National Assn. of Purchasing Agents, Chemical Group, annual fall conference, Continental Plaza Hotel, Chicago, Oct. 27.

Society of Engineering Science, fourth technical meeting, North Carolina State University, Raleigh, Oct. 31-Nov. 2.

American Society for Metals, national metal congress and exposition, McCormick Place, Chicago, Oct. 31-Nov. 3.

Parental Drug Assn., annual convention, Statler-Hilton Hotel, New York, Nov. 1-4.

Fertilizer Industry round-table conference, Mayflower Hotel, Washington, D.C., Nov. 2-4.

The Society of the Plastics Industry, 11th plastics film, sheeting and coated fabrics conference, Waldorf-Astoria Hotel, New York, Nov. 9-19; conference on cellular plastics in transportation, Edgewater Beach Hotel, Chicago, Nov. 15-17.

The Franklin Institute Research Laboratories, fourth annual symposium on the organic-solid state, Philadelphia, Nov. 14.

General Atomic Division of General Dynamics Corp., and Air Force Office of Scientific Research, fundamentals of gas-surface interactions, San Diego, Calif., Dec. 14-16.

CW welcomes expressions of opinion from readers. The only requirements: that they be pertinent, as brief as possible.

Address all correspondence to: H. C. F. Johnson, Chemical Week, 330 West 42nd St., New York, N.Y. 10036.

ASBESTOSIS RESEARCH COUNCIL

REPORT OF THE SUB-COMMITTEE ON HEALTH PRECAUTIONS IN THE INSULATION
CONTRACTING INDUSTRY

SECTION I - PRECAUTIONS TO BE TAKEN

Prevention of Asbestosis involves taking all practical steps to minimise the inhalation of asbestos dust. Precautions necessary vary considerably according to job specification and conditions in the area of application. In certain conditions, e.g., where the mixing of dry powder containing asbestos, or asbestos spraying takes place in confined spaces, arrangements must be made for the adequate protection of other workers in the area if these are present.

Certain firms in the industry are already taking precautions, although the standards of dust levels which will allow safe working conditions have not yet been established in spite of considerable research. Until such standards are established the Code of Practice recommended hereunder is suggested.

RECOMMENDED CODE OF PRACTICE

Where asbestos products are used the following procedures should be adopted:-

- (1) Wherever possible preformed material rather than site mixed material should be used.
- (2) Working with loose lagging material should be done in the wet state wherever practicable, rather than in the dry. Methods of transporting pre-mixed wet compounds from segregated mixing areas should be used wherever possible.
- (3) When dry mixing is being done respirators should be worn unless a machine with a properly designed ventilation system is available. Portable exhaust ventilation systems are already in use in certain shipyards. This procedure should be extended.
- (4) Where the cutting of material containing asbestos takes place it should be done whenever possible in a segregated area where there is a free circulation of air. If continuous cutting of insulation materials is being carried out a portable hopper should be used for the collection of fall-out waste. Machines are available for ensuring dust exhaust at a cutting bench.
- (5) In the case of spraying asbestos, the practice to be adopted will depend on the type of equipment used. The various types are defined in Appendix I. In all cases the Asbestos fibre must not be removed from the dust-proof sacks in which it is supplied until it is fed into the machines in the prescribed manner. Care should be exercised in handling the sacks in order not to damage them.
 - (a) The use of effective pre-treatment reduces the concentration of dust to the level obtainable by an efficient exhaust ventilation system. Where pre-treated fibre is used, spraying with any type of machine may proceed without limitations save that the operators must, during

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EXISTING CONDITIONS AND FOR A 300' PERIOD THEREAFTER, WEAR APPROVED MASKS.

(b)

Self-ventilating machines without pre-treatment equipment may be used in spaces where the volume per gun is not less than 25,000 cu. ft. provided the operators wear approved masks during spraying and for 30 minutes thereafter. Other trades not supplied with masks may not enter the room until 30 minutes after spraying has ceased. Normal ventilation by open windows is permitted.

Where rooms are below 25,000 cu. ft. volume per gun mechanical ventilation must be provided to give two air changes per hour, and operators must wear approved masks during spraying and for at least 30 minutes thereafter. Other trades must not enter whilst spraying is in progress and for one hour thereafter.

(c)

Non-ventilated machines without pre-treatment equipment should only be used in spaces exceeding 50,000 cu. ft. volume per gun; operators and other workers approaching within 50 ft. of the machine and/or the gun must wear approved masks during spraying and for 15 minutes afterwards. Normal ventilation by open windows is permitted.

(6) Stripping of Materials Containing Asbestos.

The area in which stripping takes place should be classified as a segregated location and operatives engaged on such work should wear approved type respirators.

(a)

Where site location permits, protective sheeting (dust sheets/polythene shrouding etc.,) should be used to localize or isolate the working area.

(b)

Wherever conditions permit i.e. on inside work - power stations, ships' engine rooms piping and ducting inside buildings, portable industrial vacuum cleaners should be used during stripping operations and for cleaning-up purposes in the working area.

(c)

Where the lagging is receptive to such treatment, wetting prior to and during the removal of the material should be carried out.

- (7) Where operations covering mixing, cutting and spraying are carried out and wherever dust can be inhaled, approved respirators should be used and maintained as set out below.

USE AND CARE OF RESPIRATORS.

Respirators should be worn by all employees at all times when:

- (1) Spraying asbestos and feeding hoppers on sprayed asbestos work. Respirators should be worn by both operator and attendant during the full period that work is being carried out and by any employee remaining in the dusty atmosphere for a limited period after spraying operations have terminated.

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The packing and unloading of sacks or other containers which contain asbestos or an admixture of asbestos.

Where the above operations are being carried out in confined spaces adequate arrangements must be made for ventilation.

(3) Carrying out the following operations:-

(a)

The cutting of all insulation materials containing asbestos or an admixture of asbestos by hand in confined spaces.

(b)

The cutting of materials containing asbestos or an admixture of asbestos by portable or other power-driven saws or similar tools.

(c)

The breaking down for removal of lagging containing asbestos or an admixture of asbestos.

The approved respirator should be carefully maintained and adequate servicing arrangements should be made to ensure that this is done and that employees are not without respirators during maintenance.

MEDICAL SUPERVISION OF WORKERS.

- (1) All employees should be examined clinically and radiologically before employment or as soon as possible afterwards, certainly within three months, to avoid the employment of men who may be particularly susceptible to the hazard.
- (2) Periodic examinations should be made thereafter, annually if possible.
- (3) Notes on the Medical Examination of Workers in the Asbestos Industry - (Appendix II of the full report) are available as a guide to doctors concerned.
- (4) New employees should be advised of the precautions necessary in the industry.
- (5) A system of recording the employment history of workers entering the Thermal Insulation Industry or who have been employed in the insulation contracting industry would be beneficial.

October, 1965.

1. - GENERAL CONSIDERATIONS
The equipment described in this report is designed to produce a controlled spray of asbestos fibres in the atmosphere during spraying to a wall or ceiling. It is believed to be a modern asbestos texture design.

Pre-treatment should be carried out in a separate area and the operator wearing an approved mask.

The equipment may consist of a closed rotating drum which throws a measured quantity of fibre across a finely atomised water spray which is projected along the axis of the drum. The action, which is improved by the addition of a wetting agent to the water, takes place over a period of time sufficient to produce a uniform dampening of the asbestos fibres to which the finer particles of asbestos adhere, even when passed through the spray machine and ejected from the gun. Spraying is carried out immediately after the dampening cycle is completed.

(b) Self-ventilating Machine.

One in which the fan providing the air stream in which the fibre is conveyed through the hose to the gun draws its air supply via a path from the fibre hopper charging aperture, the charging of the hopper being carried out only whilst the spray machine fan is operating.

(c) Non-ventilated Machine.

A machine in which the air stream for conveying the fibre is induced from a source outside the machine and which provides no air movement away from the operator's face when the machine is being charged with fibre.