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**GAF CORPORATION
COMMENTS RELATING TO THE
DEPARTMENT OF LABOR'S PROPOSED ASBESTOS REGULATIONS
TO BE PRESENTED AT THE PUBLIC HEARINGS
TO BE HELD ON MARCH 14, 1972**

GAF Corporation has reviewed the Department of Labor's Proposed Asbestos Regulations (Proposals), the National Institute for Occupational Safety & Health Report (NIOSH), and the Recommendations of the Advisory Committee (Recommendations). This has been accomplished with the assistance of GAF's Engineering, Safety, Environmental Engineering, Research and Legal Departments, as well as Product and Production Managers and other members of line management. Due to the brief period of time since the Regulations were proposed and the date of this hearing, we have not been able to carry out a full study as to the validity, cost and feasibility of the Standards. Additional time is needed for a more complete investigation.

However, we have made a preliminary conclusion that the Proposed Standard is workable except for the comments and suggestions made herein.

GAF presently produces the following asbestos-containing products:
(1) vinyl asbestos floor tile and sheet vinyl flooring; (2) asbestos cement products consisting of siding, flat sheet, canal bulkheading and decorative



brick; (3) asbestos felt and millboard; (4) asphalt paints and plastics; and (5) asbestos fiber.

For purposes of this discussion, our comments will be addressed primarily to the Sub-Sections in the Proposals.

(a) Asbestos Dust.

GAF manufactures a number of diverse asbestos-containing products.

GAF believes that it can comply with the five (5) fiber Standard within approximately two years, but only at great cost.

While our testing program is far from complete due to lack of time, it has been estimated that it would require an investment of more than one million dollars to reduce to the five (5) fiber Standard the asbestos dust levels under all conditions in the asbestos cement plants, more than \$600,000 at the floor tile and sheet vinyl flooring plants, more than \$200,000 at the asphalt paints and plastic plants and \$400,000 in the asbestos felt and millboard plants. These estimated costs include testing, designing, purchasing and installing control equipment.

The NIOSH Report and the Recommendations propose a two (2) fiber Standard. In our opinion, an incalculable and unsupportable cost would be required to reduce emissions to the two (2) fiber level. To assure meeting this level at all times, would require that we design for under one (1) fiber

to account for environmental, production and human factors that would affect meeting the Standard. In any case, it would take considerably more than two years to attain such levels if in fact, they could be reached at all. A two (2) fiber Standard would require that GAF reconsider the economic feasibility of continued operation of the above plants. These plants provide the livelihood for more than 4,000 employees. There is little, if any, medical evidence to support a two (2) fiber Standard while the ACGIH and others indicate that the five (5) fiber Standard is reasonable.

[GAF operates an asbestos mine in Vermont. We have been working closely with the Bureau of Mines in an asbestos reduction program at that mine. However, there is no economically feasible known method to reduce exposure at the mine to the five (5) fiber Standard. The mine is an integral part of the GAF operation and supplies asbestos to a number of GAF asbestos felt and asbestos cement plants and other customers.]

In summary, while the five (5) fiber Standard can be met at GAF facilities (except for the asbestos mine) within a period of at least two (2) years by the expenditure of approximately \$2.2 million, the two (2) fiber Standard would appear to impose an unsupportable economic burden on GAF and the asbestos industry. The Office of Assistant Secretary of Defense,

Health and Environment states a position with which we agree in its letter to NIOSH dated 13 January 1972 when it advised that the two (2) fiber Standard "is too stringent for us to meet."

We recommend that the following five (5) fiber Standard become effective within two years from the date the final Regulations are enacted in accordance with the tentative 1971 ACGIH threshold limit and the Recommendations as follows:

"(a) Exposure to airborne asbestos for an employee shall not exceed five asbestos fibers, greater than five microns in length, per cubic centimeter of air calculated as a time-weighted average exposure over the entire working day; and during the workday no concentration of asbestos to which workers are exposed shall exceed 10.0 fibers per cubic centimeter. The above Standard shall become effective two years after its promulgation."

(b) Methods of Compliance, Engineering and Other Methods.

This Section is adequate under present technology. We recommend the addition of certain proposals found in the Recommendations to maintain concentration of asbestos fibers below exposure limits, such as the "Application of water and wetting agents", and the specifications dealing with an exhaust system.

(c) Allowable Respirators.

To allow flexibility in the choice and availability of various types of respirators and at the same time insure employees' safety, the following wording is suggested for this Section. You will note that some of the phraseology is borrowed from present OSHA Regulations, Sub-Part I -- Section 1910.134 (b):

"(1) Where engineering methods are not feasible, or do not reduce the concentrations to or below the limits prescribed in Paragraph (a) of this Section, approved respiratory protective devices (respirators) shall be used and shall be suitable for the purpose intended.

(2) No employee shall be assigned to tasks requiring use of respirators if based upon his most recent examination, the examining physician finds that said employee will be unable to function wearing a respirator, or his health will be impaired thereby.

(3) If an employee is found to be unable to perform his regular assigned duties without further impairment to his health, he shall be restricted from working in an atmosphere above the prescribed limit."

Protective Clothing.

Work clothing is only necessary in extremely dusty areas, and should be used only when absolutely necessary.

The proposed work clothing requirements, set forth in NIOSH, would be extremely costly to implement if such should become necessary. In addition to the need for the work clothing and cleaning thereof, employees would require wash up time as well as additional locker rooms and shower facilities. Construction of these facilities in a single plant could cost \$125,000.

We recommend the adoption of the Advisory Committee recommendation that the employer will provide employees with protective work clothing when they are required to work in an area that contains asbestos dust in concentrations greater than 10 times the permitted limit of Paragraph (a).

(d) Particular Operations and Products.

As to Section (2), the application of local exhaust ventilation for hand tools is not practical.

In Section (3), the requirement for air supplied respirators is also impractical. See Section "c" as it is reworded herein.

In this regard, it is suggested: "Where asbestos dust is produced above the specified limits and exhaust ventilation is not feasible, appropriate approved respirators shall be utilized."

(4) Mixing.

The covering or closing of the mixing process of the materials

mentioned in the Proposals should only be necessary if substantial amount of asbestos is emitted therefrom. This is not the case in regard to GAF asbestos products.

For example, our asbestos cement is made on a four-cylinder Hatchek Machine similar to a paper machine. Asbestos is combined with water and binding materials and held in suspension in the mix from the moment it is poured into the machine. The same type of conditions exist for asphalt paints and plastics.

For the reasons stated, the Sub-Section should be amended as follows:

"Asbestos cement, mortar, coatings, grout and plastic shall be mixed in closed bags or other closed containers only when the mixing causes emissions of asbestos in excess of the permitted limits prescribed in Paragraph (a). Where mixing in closed containers is not feasible, approved respirators shall be used where emissions are above the specified limit."

(5) Waste and Scrap.

There is a substantial amount of material that might be considered waste and scrap in the manufacture of asbestos products. Most, if not all,

consists of "locked in" asbestos (i. e. asbestos which is bound and encapsulated in binder material), such as the trim from asbestos paper and millboard, asbestos cement products, roofing, flat sheets and floor tile. This trim is generally stored outside the operating areas for future recycling or disposal.

There are substantial quantities of this material at most operations consisting of from 6,000 tons from one plant to over a million tons of tailing rock a year at our Vermont mine.

If GAF were required to bag or containerize this so-called waste, it would serve no health and safety function, yet cost several million dollars a year due to the significant amount of this material emanating from the manufacturing process. For example, extra tile or sheet vinyl would be stored in containers that cost \$150.00 each and thus require an investment of \$1,100,000 alone for these tile containers.

There is no doubt that our Industrial Products customers would have the same financial difficulties in complying with this broad waste requirement. The users of asbestos felt and millboard and asbestos fiber are represented by the industries described in Exhibit "A" herein.

In light of the above, a definition of waste is in order. The following is suggested:

"Waste means discarded or non re-cycled asbestos-containing material which emits asbestos fiber that presents an exposure to employees in excess of the permitted limits of Paragraph (a)."

(8) Vacuum Cleaning.

The use of vacuum cleaners is not always possible in carrying out plant housekeeping. For example, there are large pieces of scrap that are trimmed from the finished products that cannot be vacuumed. In such case, sweeping and shovelling are the only feasible method of disposal. In asbestos cement plants, cement dries on machines and can only be removed by scrapers.

The following rewording of this paragraph would eliminate the outlined problems:

"Where feasible, accumulation of asbestos dust shall be removed by vacuum cleaners. If dry sweeping is carried out, suitable respirators shall be utilized in accordance with Paragraph (c) hereof when the exposure to employees exceeds the limits in Paragraph (a)."

(e) Warning Signs.

GAF does not take issue with the Proposal that warning signs be

located at certain areas of a plant where there is a sufficient quantity of dust to constitute a potential hazard. We submit, however, the Proposal is too long and detailed as to the exact wording of such a sign, and the specific requirement to place signs 50' in each direction at 100' intervals along the edge of the hazard is totally impractical.

A sign should be posted at the entrance to the site where respirators are required. When the specific area exceeds the prescribed dust limit, the following sign shall be placed nearby in accordance with present OSHA Standards; Section 1910.145 as to specifications, design, application and use:

CAUTION

ASBESTOS DUST AREA

**Breathing of the Asbestos Dust May be Hazardous
to your Health - Use Approved Respirator.**

Warning Labels.

The labels prescribed in the NIOSH Report and the Recommendations are not needed for most asbestos-containing products since the asbestos fibers are "locked in" and cannot be released into the air. This is true for floor tile, sheet vinyl flooring, asbestos cement products, asphalt roofing products, as well as paints and plastics.

The "locked in" nature of these products was recognized by NIOSH when it was stated in the Report, "The Asbestos is 'locked in' in such products as floor tile, asbestos cement and roofing felts and shingles." (Page III - 1, Paragraph 3).

More specifically, roofing felts are saturated and coated with asphalt that permanently binds asbestos to the product. Siding and other similar products are dried into a monolithic rock-like shingle.

Vinyl asbestos floor tile is a solid product in which the asbestos is firmly bound by vinyl resin and does not emit any free asbestos. Sheet vinyl flooring has a base of latex polymer bound asbestos felt which is covered by several layers of vinyl and foam, and asbestos is not exposed to the outer surface. Roof coatings and cements contain asbestos in asphalt solution or an emulsion and form a plastic cement matrix with bound asbestos.

In the preparation of these products for application, they are usually cut with a knife or sharp edged instrument which does not cause any abrasion that releases asbestos dust.

The major component in many of these products is not asbestos. Paints and plastics contain less than 17% asbestos by weight, asbestos cement products less than 25% and vinyl asbestos floor tile approximately 17%.

One must also keep in mind that certain of the above products are consumer orientated, such as flooring and siding. A warning label would be a substantial and unnecessary deterrent to the sale of these products. Since these products are not hazardous under any conditions, they should not be labeled as such. Their demise could mean the abolition of thousands of jobs at the manufacturing, distribution, contractor and retailer levels. For example, GAF employs approximately 4,000 employees in its asbestos plants and sells to over 35,000 retailers and contractors. We operate 15 Building and Industrial Product plants and one asbestos mine. All would be affected, as well as several hundred suppliers to these plants furnishing over 30 million dollars of component materials.

GAF favors labeling when it serves a legitimate purpose. GAF has a Labeling Committee, whose function is to review and provide labels for products wherever appropriate. We use as our Guide Manual L-1 of the Manufacturing Chemists Association, "Guide to Precautionary Labeling of Hazardous Chemicals". We have, for example, a label on bags of asbestos fibers which states:

CAUTION: Contains asbestos fiber. Inhalation
in excessive quantities over long periods of time
may be harmful.

(g) Medical Exams.

We agree in principle with the Recommendations of the Advisory Committee regarding the above. However, the requirement that an examination be conducted more frequently than every two years for those working less than 10 years based on some arbitrary standards, is too rigid. The frequency of examinations should be left to the discretion of the examining physician, who is the best judge of the employees' physical condition and capabilities.

The following is recommended:

"A comprehensive history and physical examination shall be performed on workers and applicants. This shall include a chest roentgenogram (posterior-anterior 14 X 17 inches) and baseline pulmonary function including forced vital capacity (FVC) and forced expiratory volume at one second (FEV 1.0).

Periodic medical evaluation is required annually on workers with 10 or more years exposure to asbestos above the permitted limits of Paragraph (a) and every two years on other workers and those with less than 10 years exposure, unless the examining plant physician recommends otherwise.

A comprehensive termination medical examination shall include physical examination, chest roentgenogram, FVC and FEV 1.0, and questionnaire for respiratory symptoms.

The termination medical evaluations shall not be required, if a similar comprehensive medical evaluation has been performed within a 12 month period for an employee exposed more than 10 years or within 24 months for an employee exposed for less than 10 years."

(h) Records.

GAF proposes the following recordkeeping regulations, due to the confidential nature of these medical records.

"Medical records shall be maintained by physicians charged with the implementation of the medical program. Only those physicians designated and authorized in writing by the employees, shall have access to the medical record. Records shall be maintained for 10 years."

In conclusion, GAF expresses general agreement with the intent of Proposals of the Department of Labor, except as noted herein and respectfully request that careful consideration be given to all GAF suggestions and recommendations to make the final Standard more practical and economically and technically feasible.

EXHIBIT "A"

INDUSTRIAL PRODUCT USERS

Prefabricated Wooden Buildings and Structural Members
Metal Office Furniture
Paper Mills, Except Building Paper Mills
Envelopes
Coated Paper and Paperboard Products, Not Elsewhere Classified
Set-Up Paperboard Boxes
Corrugated and Solid Fiber Boxes
Industrial Inorganic Chemical, Not Elsewhere Classified
Biological Products
Medicinal Chemical and Botanical Products
Asphalt Felts and Coatings
Fabricated Rubber Products, Not Elsewhere Classified
Asbestos Products
Gaskets, Packing, and Asbestos Insulations
Mineral Wool
Steel Pipe and Tubes
Gray Iron Foundries
Steel Foundries
Heating Equipment, Except Electric
Sheet Metal Work
Miscellaneous Metal Work
Metal Stampings
Farm Machinery and Equipment
Construction Machinery
Machine Tools, Metal Forming Types
Ball and Roller Bearings
General Industrial Machinery and Equipment, Not Elsewhere Classified
Air Conditioning Equipment and Commercial and Industrial Refrigeration
Machinery and Equipment
Motor and Generators
Electric Housewares and Fans
Household Appliances, Not Elsewhere Classified
Electrical Machinery, Equipment and Supplies, Not Elsewhere Classified
Motor Vehicles
Mechanical Measuring and Controlling Instruments, Except Automatic
Temperature Controls
Orthopedic, Prosthetic and Surgical Appliances and Supplies
Hardware