

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
ENVIRONMENTAL PROTECTION AGENCY

Presentation on these agencies' requirements for the asbestos industry to Johns-Manville Asbestos Fiber Division Customers

Presented By

E. M. FENNER

Director, Technical Relations
Environmental Affairs Department
Johns-Manville Corporation

December 3 and 4, 1973

(Slide 1)

FIRST - OSHA asbestos standards - the standards for occupational exposures to asbestos.

SECOND - EPA emission standards for asbestos.

Both of these are of vital importance to Johns-Manville as a miner and miller of asbestos fiber and a manufacturer of asbestos-containing products, and to you, our customers, who also manufacture products with asbestos.

In discussing the OSHA standards, I will briefly review the five sections that I consider most important insofar as your operations are concerned, and recommend what changes I think industry should strive for when these standards are officially reopened by the Department of Labor. It presently appears that the Department of Labor will not form an Advisory Committee. Instead, within the next few months, they will publish in the Federal Register their proposed new asbestos standard, and request comment from all interested parties. This probably will be followed by a Public Hearing and the promulgation of the final revised standards.

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The five sections I'll discuss are:

(1) Standards - The standards for airborne asbestos fiber in the workplace.

(2) Monitoring - The method of determining whether or not you meet the fiber standards.

(3) Methods of Compliance - The specified procedures.

(4) Medical.

(5) Labeling.

Let's look at the fiber standards first.

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Here they are. Presently, they call for a maximum of 5 fibers greater than 5 micrometers in length per cubic centimeter - 8 hour time-weighted average concentration and 10 fibers greater than 5 micrometers in length per cubic centimeter - ceiling concentration. Effective July 1, 1976, the time-weighted average concentration standard becomes 2 fibers greater than 5 micrometers in length per cubic centimeter. In all cases the standard is referring to all fibers greater than 5 micrometers in length that can be seen in the collected sample by phase contrast light microscopy at approximately 430X magnification.

These and similar standards are frequently referred to as Threshold Limit Values or TLV's.

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This is the definition of a TLV.

> Threshold Limit Values refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed, day after day, without adverse effect.

What stand should industry take concerning the fiber standards during the review of the asbestos regulations? We should take the position that Bill Reitze just expressed that the level of 5 fibers per cubic centimeter is low enough to protect exposed employees against the biological effects of asbestos and that since 2 fibers per cubic centimeter will provide an added margin of safety, there is no need for a standard below 2.

Now, how do you determine whether or not your workplaces meet the required standard?

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By monitoring. You perform what is generally referred to as an Industrial Hygiene Survey.

The asbestos standards require that

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Within 6 months of publication of the regulations, every employer shall cause every place of employment where asbestos fibers are released to be monitored in such a way as to determine where every employee's exposure to asbestos fibers is below the prescribed limits.

Monitoring is done by the membrane filter/personal air sampler technique. It requires that the employee wear an air sampler.

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Here is one of our employees wearing the sampling device. A plastic holder containing a membrane filter is fastened to his collar in his breathing zone, open end down, so it samples the same air his nose breathes. Clipped to his belt is a battery powered vacuum pump connected to the filter holder with a rubber hose. The pump draws workplace air through the filter which collects the particulate and fibrous dust present in the air.

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This is a close-up view of the equipment showing the pump, the filter holder and connecting hose.

Here in my hand is this sampling device. If you wish, it is available for a closer look later.

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After the sample has been taken a portion of the filter paper is placed in a microscope on a microscope slide. Fibers present on the filter are counted. After the count is complete, fiber concentrations, expressed as fibers per cubic centimeter, are calculated by a formula.

Now, looking ahead to the reopening of the asbestos standards - what change will industry propose in the monitoring regulations -

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Here again is the wording of the standard for monitoring.

The phrase "where asbestos fibers are released" should be clarified in the revised regulations. I believe that when a workman is using or installing a non-labeled asbestos containing product, a product where the fibers are locked in, monitoring is not needed because fibers will not be released in any significant quantity from a health standpoint.

I am thinking specifically of such operations as cutting asbestos roofing felt, shearing vinyl asbestos floor tile, and applying asbestos filled coatings. Why am I concerned

with this -- because I think the present standard could be interpreted as requiring the monitoring of such operations.

The standards should be modified to eliminate the requirement that the use of non-labeled fiber locked-in products be monitored.

Next,

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Methods of compliance.

The asbestos standard very clearly defines these methods. I'll discuss only one -- engineering controls.

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Engineering standards such as, but not limited to, isolation, enclosure, exhaust ventilation and dust collection shall be used. This is a very sound and very logical requirement that should be followed with any dust generating process or material, regardless of whether or not it contains fiber. Why? Because any dust in sufficient quantities is potentially hazardous.

If you are looking for help in designing dust control systems there are two very good publications:

The one mentioned on the slide, which is prepared by the

American National Standards Institute - ANSI Z9.2-1971

and

this book

INDUSTRIAL VENTILATION by the American Conference of Governmental Industrial Hygienists

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It's OSHA's intention to greatly expand the methods of compliance section in the revised standards. Why, because they have encountered difficulty with monitoring. Apparently they don't intend to eliminate monitoring, but instead place it in a subordinate role to be used as a check upon the effectiveness of the application of their written methods of compliance which they now refer to as "Standards of Performance".

I understand that OSHA presently plans to write these standards of performance for all facets of the asbestos using industry. That will be a tremendous job.

Next subject.

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Medical.

The standard requires that

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> "The employer shall provide initial and annual comprehensive medical examinations to each of his employees engaged in occupations exposed to airborne concentrations of asbestos fiber."

There is no doubt that medical examinations are a necessity for employees exposed to significant quantities of asbestos fiber. However, during the standards review, our industry should recommend a modification.

The phrase "exposed to airborne concentrations of asbestos fibers" is the key to this medical requirement.

NIOSH - National Institute for Occupational Safety and Health -- recommended in their criteria for occupational exposure to asbestos that for the purpose of medical surveillance --

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"The term exposed to asbestos will be interpreted as referring to time-weighted average exposures above 1 F/cc or peak exposures above 5 fibers per cc."

The intent of this NIOSH recommendation was to eliminate the requirement for medical examination when an employee's exposure was below 1/2 the TLV. Inclusion of this thinking into the revised standard would satisfactorily and logically limit the medical surveillance requirements.

Now,

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Labeling.

The standards presently require that:

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"Caution labels shall be affixed to all products containing asbestos fibers, or to their containers, except that no label is required where asbestos fibers have been modified by a bonding agent, coating, binder or other material so that during any reasonably foreseeable use, no airborne concentrations of asbestos fibers in excess of the prescribed exposure limits will be released."

The required wording of the label is:

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"Caution

contains asbestos fibers

avoid creating dust

Breathing asbestos dust may cause

serious bodily harm"

Now, what is my point concerning labeling? In the forthcoming OSHA review proceedings industry should strongly take the stand that this labeling requirement need not be modified, since in its present form it provides all the protection necessary for the purchaser and user of asbestos containing products. This will prevent labels from being applied to such materials as cans of automobile underbody coating, rolls of asbestos roofing,

cartons of vinyl asbestos tile and the wrappings of flooring roll goods. This also will prevent the label wording from being changed to include such words as "cancer producing".

I believe we have an excellent chance of achieving this goal, since we have much data to support our claim that significant quantities of fiber - from a health standpoint - are <u>not released</u> during "any reasonably foreseeable use" from the non-labeled products in which the fibers are firmly "locked-in".

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Now - EPA.

The Environmental Protection Agency published in the Federal Register of April 6, 1973, National Emission Standards for three hazardous air pollutants -- asbestos, beryllium and mercury. The standards for asbestos are unique because there are no emission standards or numbers -- instead the regulations are written around

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"No visible emissions"

Such emissions are defined as any emissions which are visually detectable without the aid of instruments and which contain particulate asbestos material. An asbestos using manufacturing operation that has no visible emissions is automatically in

compliance. If an asbestos using plant has visible emissions but these emissions do not contain asbestos particulate as determined by microscopic examination of an emission sample, the operations is also in compliance.

If a manufacturing operation does have asbestos containing visible emissions, then control devices must be installed and the standard requires that

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a fabric bag filter be used in all cases except where the character of the emissions would render such a filter unsuitable, in which case

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a high energy wet scrubber must be used.

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There are several notable deliberate exceptions from coverage under these standards. One of the most important is field fabrication. Field fabrication of any asbestos containing product is not subject to these standards. EPA's rationale for this is that if the field fabricating operation conforms to OSHA asbestos standards, potential airborne emissions will be satisfactorily controlled.

I'm sure you have questions on these two subjects. As Jack Solon requested -- please hold them until the end of our formal presentation.

Now, Noel Hendry -- fiber handling systems.

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