

MEMORANDUM

Dr. K. E. Jones		SUBJECT Medical Examinations for Employees Exposed to Asbestos	
Fred S. Venable <i>FSV</i>		DATE 12-19-78	FILE NO.
BATON ROUGE, LA.		PLAINTIFF'S EXHIBIT EXX 35	

Attached is a copy of the OSHA Directive outlining the minimum airborne fiber concentration for initiating and continuing medical examinations for persons exposed to asbestos.

This Directive, which was sent to us by Headquarters Medical, serves to answer the question of which employees exposed to asbestos are required to be medically examined. The 0.1 fiber/cc exposure level is obviously set well below the current TLV of 2.0 fibers/cc. It will, therefore, require us to consider as "exposed" many more employees working with asbestos than those whose exposure levels are above the TLV.

Also note that Paragraph 4(d) (1) states that failure to provide the required medical examination will constitute a "serious" violation.

I believe that we should proceed with our efforts to achieve compliance with this standard without delay. If we are to manage the medical examination program for "exposed" employees it will doubtless prove necessary to limit these individuals to the lowest practicable number.

FSV:sd

cc: Mr. T. C. Kelly
Mr. J. P. Walsh
Mr. R. D. Phillips

OSHA PROGRAM DIRECTIVE #300-16

29 CFR 1910.1001(j) (2) or (3) or (4)
Minimum Airborne Fiber Concentration for
Initiating and Continuing Asbestos Medical Examinations

1. Purpose

The purpose of this directive is to provide uniform inspection and compliance procedures for the medical examination requirement in the asbestos standard, 29 CFR 1910.1001(j)(2), or (3) or (4).

2. Documentation Affected

This directive supplements and provides reference for the OSHA Industrial Hygiene Field Operations Manual (IHFOM) and the OSHA Field Operations Manual (FOM).

3. Background

In 29 CFR 1910.1001(j)(2), or (3) or (4), Medical examinations, the term "...exposed to airborne concentrations of asbestos fibers..." has been the subject of considerable discussion and debate as to the meaning or interpretation of "airborne concentrations".

4. Action

a. Definition.

In 29 CFR 1910.1001(j)(2), or (3) or (4), Medical examinations, the term "...exposed to airborne concentrations of asbestos fibers..." is administratively interpreted to mean exposed to a minimum of 0.1 asbestos fibers longer than 5 micrometers per cubic centimeter of air, as determined by the sampling method prescribed in section 4.c. of this directive. The phrase "fibers longer than 5 micrometers per cubic centimeter of air" shall hereafter be abbreviated as "fibers/cc".

b. Scope and applicability.

Medical examinations as per 29 CFR 1910.1001(j)(2), or (3) or (4) will be required for any 7- to 8-hour time-weighted average concentration of 0.1 fibers/cc, or for a greater concentration.

c. Sampling information.

(1) Sampling procedures will follow Chapter X of the IHFOM, with the additional guidance of 4.c.(2) and (3) of this directive.

(2) Exposure to asbestos dust with low levels of contamination (e.g., mixed with other minerals).

(a) For exposures to dust that is mostly asbestos and is expected to be below the permissible exposure limit, the same filter should be used for the entire shift, but no longer than 8 hours.

(b) For exposures expected to be at or above the permissible exposure limit, several samples may be required during the shift to avoid overloading the filters.

(3) Exposures to asbestos dust with high levels of contamination.

(a) Several samples may be required during the shift to avoid overloading the filter.

(b) Filters should be changed only after a minimum of one hour of sampling time for exposures expected to be close to 0.1 fibers/cc. Seven or eight 1-hour samples can be collected during the day.

d. Examples of types of violations.

(1) Where an employer does not provide the required medical examinations, and an employee is exposed to 0.1 or more fibers/cc, it would be considered a "serious" violation of 29 CFR 1910.1001(j)(2), or (3) or (4).

(2) For definitions and guidance on "repeated", "willful", or a "failure to correct" violation, see the FOM, Chapter VIII.

5. Effective Date

This directive is effective immediately and will remain in effect until further notice.

RD:ng
12/11/78

ASBESTOS

1. General

Asbestos is a generic term that applies to a number of naturally occurring, hydrated mineral silicates incombustible in air and separable into filaments. The most widely used in industry in the United States is chrysotile ($3\text{MgO} \cdot 2\text{SiO}_2 \cdot 2\text{H}_2\text{O}$), a fibrous form of serpentine. Other types include amosite ($(\text{FeMg})\text{SiO}_3$); crocidolite ($\text{NaFe}(\text{SiO}_3)_2 \cdot \text{FeSiO}_3 \cdot \text{H}_2\text{O}$); tremolite ($\text{Ca}_2\text{Mg}_5\text{Si}_8\text{O}_{22}(\text{OH})_2$); anthophyllite ($(\text{MgFe})_7\text{Si}_8\text{O}_{22} \cdot (\text{OH})_2$); and actinolite ($\text{CaO} \cdot 3(\text{MgFe})\text{O} \cdot 4\text{SiO}_2$).

2. Health Hazard

Long-term inhalation of asbestos dust results in a form of pneumoconiosis known as asbestosis. The primary effect of inhalation of asbestos is an interstitial pulmonary fibrosis. The disease is characterized by asbestos bodies in the lungs and sputum. Chief symptoms of advanced asbestosis are variable cough, dyspnea, substernal chest pains, decreased chest expansion, weakness and emaciation.

Also associated with occupational asbestos exposure are lung cancer, bronchogenic cancer, gastrointestinal cancers, and mesothelioma. Asbestos workers who smoke cigarettes are from 10 to 100 times more likely to develop lung cancer than asbestos workers who do not smoke.

3. Airborne Concentration Standards

The current threshold limit value (TLV) as established by OSHA for asbestos is 2 fibers per cubic centimeter as an eight hour time-weighted-average. In addition to the TLV, there is a ceiling level of 10 fibers per cubic centimeter, which cannot be exceeded at any time. Fibers are defined as being longer than 5 micrometers in length. Specific requirements for sampling and analysis of samples are given in the standard which is attached.

4. Work Practices

Certain work practices are specified in the OSHA standards and include personal protective equipment, engineering and administrative controls, and wet removal of applied asbestos. The wetting of insulation is a very effective method of reducing airborne concentrations of asbestos fibers when stripping insulation containing asbestos.

5. Medical Examinations

The OSHA standards require that specific medical examinations be provided to employees exposed to asbestos. Examinations include a complete history, a chest x-ray, and pulmonary function evaluation on a regular basis.