



Department of Environmental Sciences

December 1, 1983

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As you know, on November 4, 1983, OSHA issued an emergency temporary standard (ETS) on asbestos which reduces the current 8-hour permissible exposure limit (PEL) from 2 fibers/cc to 0.5 fibers/cc. A copy of this standard is attached for your information.

All provisions of the current asbestos standard (1910.1001) remain in effect and the ETS requirements are a modification of or addition to these provisions. These new requirements are as follows:

1. A new PEL of 0.5 fibers/cc as an 8-hour time-weighted average exposure. This replaces the current 8-hour limit of 2 fibers/cc. The current ceiling limit of 10 fibers/cc remains in effect. The new PEL can be achieved by a combination of engineering controls, work practices and respiratory protection.
2. Employee training for all employees potentially exposed to asbestos concentrations above the new PEL. This must be accomplished by December 4, 1983. This training must include the following items:
 - a. Asbestos health effects
 - b. Relationship between asbestos and smoking in producing lung cancer.
 - c. What operations result in asbestos exposure and protective steps to reduce exposure such as engineering controls, work practices, respirators, housekeeping and clothing.
 - d. Proper use and fitting of respirators.
 - e. A review of all provisions of the asbestos standard.

Attachment 1 is included for your use in covering items a & b. You will need to cover the information in item c depending on local exposure conditions. Item d should be done in accordance with your existing respirator program. Item e can be addressed by covering the major

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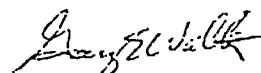
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provisions of the current asbestos standard (1910.1001).
A copy of this standard is in the D.O.E.S.
Environmental Manual.

3. The respirator table permits the use of standard reusable half-mask or disposable respirators for exposure up to 10 x PEL, full facepiece, PAPR's or supplied air respirators are required for exposures greater than 10 x PEL.
4. Warning signs are required for exposures greater than the PEL. See the current standard, section (g) for appropriate wording.

Through a suit brought by the AIA, this standard has been temporarily stayed. In the interim, the above requirements do not have to be met but, you should be making whatever plans might be necessary for compliance when a ruling by the courts is made.

If you need any additional information or assistance in complying with the requirements of the new asbestos standard, please let me know.



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GEW/lb

cc: SGLeyshock (w/attach.)
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ATTACHMENT 1

Asbestos Health Affects

Asbestos is the common name for a group of mineral silicates, including chrysotile, amosite, crocidolite, tremolite, anthophyllite and actinolite. When separated from natural rock formations, the fluffy fibrous material is processed into many useful products. Asbestos is used in building products, such as insulation, floor and ceiling tiles, and reinforced cement sheets and pipes, because of its resistance to heat and acids. It also serves as a friction product in brake and clutch linings for automobiles, railroad cars, and industrial machinery. Other uses include fire-proof clothing, and smothering blankets.

Asbestos can be a health hazard when fibers too fine to be seen by the human eye become airborne during various industrial processes, e.g., demolition or removal of asbestos insulation, sawing or grinding asbestos boards, and are inhaled or swallowed. These small sharp fibers can work their way into body tissues and remain imbedded.

Asbestos-related diseases develop over a long period of time; symptoms may first appear 5-30 years after exposure.

Asbestosis is a lung disease, caused by asbestos dust irritating the lining of the lungs so that the lung wall becomes scarred and thickened. Breathing becomes difficult, causing a strain on the heart.

Cancer of the lungs and digestive tract has been shown to be associated with asbestos exposure (cancer of the respiratory tract is five times as common in asbestos workers as in a control group with no asbestos exposure).

Mesothelioma is a cancer of the chest or abdominal lining. It is a rare and incurable form of cancer, usually fatal within one year of the first symptoms.

Although these diseases are known to be associated with exposure to asbestos, researchers are not in agreement as to how much exposure may actually cause the disease.

Smoking greatly increases the chances of developing lung cancer in asbestos workers (OSHA indicates that asbestos workers who smoke have almost 55 times greater risk of cancer than a non-smoking control group).

respirators, and to assure that all such employees participate in the program and are informed of specified categories of information. OSHA considers this provision to be "necessary" within the meaning of section 6(c) of the Act, to reduce the grave danger faced by asbestos exposed employees. The absence of a training program requirement in the asbestos standard has been pointed out as one of the serious deficiencies of the current standard. OSHA believes that participation in an adequate training program is essential for the protection of employees because most protective provisions enlist the employee as an active participant. For example, many employees handling asbestos depend on effective work practices. Without training in applying these work practices, employee protection would be inadequate. Where the employee plays a more passive role in his protection such as where engineering controls are relied on, training is also essential, because the employee must know the sources of workplace asbestos contamination, and the health hazards of asbestos exposure, in order to assess his own exposure situation and to help recognize when engineering controls are not operating properly. Certainly where housekeeping plays an important role in control, instruction about housekeeping methods, for example, frequent vacuuming, is essential. Perhaps most importantly, where employee protection depends upon respirator use, OSHA's experience shows that training employees in the use, fitting and limitations of respirators is critical to the effectiveness of respirator protection. Accordingly this requirement applies where airborne concentrations are reasonably expected to exceed 0.5 f/cc, even if employees use respirators to reduce breathing zone concentrations and thereby comply with the ETS.

As set forth in paragraph (k)(4) the employer must inform the employee of the health effects of asbestos exposure; the relationship between asbestos and smoking in producing lung cancer; the operations exposing employees to asbestos fibers and necessary protective steps to minimize exposure; the purpose, proper use, fitting instructions and limitations of respirators, and the contents of all the provisions of the Asbestos Standard at 1910.1001.

5. Paragraph (k)(5) Respiratory protection during the ETS. The ETS adds a new paragraph (k)(5) which includes a table which ties respirator selection to the 0.5 f/cc PEL. Under the ETS, the concentration cut-offs for various kinds of respirators are

multiples of the reduced PEL of 0.5 f/cc, rather than multiples of the previous 2 f/cc permissible limit. For example, approved air purifying respirators may be used only where asbestos concentrations are not expected to exceed 5 f/cc (10 x the PEL). Before the ETS, because the PEL was 2 f/cc, such respirators could be used where asbestos concentrations would not have exceeded 20 f/cc (10 x the PEL of 2 f/cc).

Similarly, powered air purifying respirators may be used where asbestos concentrations do not exceed 100 times the PEL, which at the new level of 0.5 f/cc is 50 f/cc. Previously, employers could have used such respirators at concentrations up to 200 f/cc.

It is likely that the main impact of the reduced PEL on respirator choice will be in operations and industries where exposure levels are between 5 f/cc and 20 f/cc. Formerly, employees exposed in this range could use half-mask air purifying respirators; now they must be protected by a powered air purifying respirator or a full facepiece respirator, or they may use a supplied air respirator.

6. Paragraph (k)(6). Warning signs during the ETS. The ETS requires that legible signs warning of the health hazards of asbestos be displayed at locations where airborne concentrations of asbestos fibers exceed the reduced exposure limit of 0.5 f/cc. No specific legend is required; signs for newly posted during the ETS. OSHA wishes to make as practicable as possible the rapid posting of signs, especially in workplaces where there has been previous non-compliance and in areas where asbestos concentrations were formerly below the 2.0 f/cc PEL.

XI. Public Participation

Interested persons are invited to submit written data, views and arguments with respect to the revisions to the asbestos standard made by the ETS. These comments must be postmarked on or before January 3, 1984 and sent to the Docket Officer, Docket No. H-033C, Occupational Safety & Health Administration, U.S. Department of Labor, 200 Constitution Avenue, NW, Room S-6212, Washington, D.C. 20210.

The data, views and arguments that are submitted will be available for public inspection and copying at the above address. All timely written submissions will be made a part of the record of the proceeding.

List of Subjects in 29 CFR Part 1910

Occupational safety and health, Asbestos, Health, Emergency temporary standard, Cancer.

Authority and Signature

This document was prepared under the direction of Thorne G. Auchter, Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Avenue, NW, Washington, DC 20210. Pursuant to Sections 6(b), 6(c), 8(c) and 8(g) of the Act, 29 CFR 1910.1001 is amended by adding a new paragraph (k) as set forth below.

(Secs. 6(b), 6(c), 8(c) and 8(g). Pub. L. 91-596, 84 Stat. 1593, 1596, 1599, 1600; 29 U.S.C. 655, 657; Sec. 107, Pub. L. 91-54, 83 Stat. 95 (40 U.S.C. 333); 29 CFR Part 1911; Secretary of Labor's Order No. 9-63 (48 FR 35736))

Signed at Washington, D.C., this 2nd day of November 1983.

Thorne G. Auchter,
Assistant Secretary of Labor.

PART 1910—[AMENDED]

Section 1910.1001 of Part 1910 of Title 29 of the Code of Federal Regulations is hereby amended by adding a new paragraph (k) reading as follows:

§ 1910.1001 Asbestos.

(k) *Emergency temporary standard effective November 4, 1983.*—(1) *Scope.* This emergency temporary standard is issued pursuant to section 6(c) of the Act and applies to all workplaces where employees may be exposed to asbestos in all industries covered by the Act, including, general industry, construction and maritime. Except to the extent modified by this emergency temporary standard all provisions of § 1910.1001 remain in effect.

(2) *Permissible levels of exposure.* The 8-hour time-weighted average airborne concentration of asbestos fibers to which any employee may be exposed shall not exceed one-half (0.5) fiber, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(3) *Methods of compliance with the emergency temporary standard.* Notwithstanding any other requirements of this section, compliance with the reduced exposure limit of 0.5 f/cc shall be achieved by any feasible combination of engineering controls, work practices, and personal protective equipment and devices.

(4) *Employee information and training.*—(i) As soon as possible, but not later than thirty (30) days from the effective date of this emergency temporary standard, the employer shall institute a training program for all employees exposed to airborne concentrations of asbestos in excess of

0.5 f/cc, without regard to the use of respirators and shall assure their participation in the program during the effective period of this emergency temporary standard.

(ii) The employer shall assure that each such employee is informed of the following:

(A) The health effects associated with asbestos exposure;

(B) The relationship between asbestos and smoking in producing lung cancer;

(C) The nature of operations which could result in exposure to asbestos and necessary protective steps to minimize exposure including, as applicable, engineering controls, work practices, respirators, housekeeping and protective clothing;

(D) The purpose, proper use, fitting instructions and limitations of respirators permitted by the standard; and

(E) A review of all the provisions contained in 1910.1001.

(5) *Respiratory protection during the ETS.* Notwithstanding any other requirement of this section, where respirators are used to achieve the permissible exposure limit of 0.5 f/cc they shall be selected according to Table 1.

(6) *Warning signs during the ETS.* In addition to the requirements of

paragraph (g)(1) of this section, legible signs warning of the health hazards of asbestos shall be provided and

displayed at each location where airborne concentrations of asbestos fibers may exceed 0.5 f/cc.

TABLE 1

Respiratory Protection

For Airborne Concentrations of Asbestos

Airborne Concentration of Asbestos (TWA)	Required Respirator ¹
Not in excess of 5 f/cc (10 X PEL)	Reusable or single use air purifying respirator
Not in excess of 50 f/cc (100 X PEL)	Full facepiece air purifying respirator, or a powered air purifying respirator.
Greater than 50 f/cc	A type "C" continuous flow or pressure demand, supplied air respirator.

¹ Respirators specified for high concentrations may be used at lower concentrations of asbestos.

(Secs. 6(b), 6(c), 8(c) and 8(g), Pub. L. 91-596, 84 Stat. 1593, 1596, 1599, 1600; 29 U.S.C. 655, 657; Sec. 107, Pub. L. 91-534, 83 Stat. 96 (40

U.S.C. 333); 29 CFR Part 1911, Secretary of Labor's Order No. 9-83 (48 FR 35736))

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