

DEPARTMENT OF LABOR

Occupational Safety and Health
Administration

29 CFR Part 1910

[Docket No. H-0330]

Occupational Exposure to Asbestos

Agency: Occupational Safety and Health
Administration (OSHA), Labor.

Action: Emergency temporary standard.

SUMMARY: OSHA is issuing an emergency temporary standard (ETS) to reduce the permissible exposure limit (PEL) for asbestos from 2 fibers (longer than 5 micrometers) per cubic centimeter (2 f/cc) as an eight-hour time-weighted average, to 0.5 f/cc. During the period of the emergency standard, employers may use all practicable control methods, such as engineering controls, work practices and personal protective equipment to meet the new limit of 0.5 fibers per cubic centimeter (0.5 f/cc). Training programs are also required to be instituted within 30 days.

The basis for this ETS is OSHA's determination that continued employee exposure to asbestos under current conditions that exceed 0.5 f/cc presents a grave danger of developing asbestos-induced cancer and asbestosis to exposed employees, and that an emergency standard is necessary to protect them. The ETS serves also as a proposal to revise the current asbestos standard pursuant to section 6(b) and 6(c) of the Act.

This notice also requests comments on the appropriateness of including the provisions of the ETS as permanent revisions to the asbestos standard. In addition, OSHA will soon publish a separate notice of proposed rulemaking that further explains the issues under consideration for the permanent standard and which raises some additional issues regarding the application of certain provisions of the asbestos standard to the construction industry. That notice will invite public comments and will schedule a rulemaking hearing pursuant to Section 6(b) of the Act concerning the proposed permanent revision to the asbestos standard.

DATE: The effective date for this ETS is November 4, 1983. Comments and evidence concerning the proposed revisions to the permanent standard made by the ETS must be received on or before January 3, 1984. As noted, OSHA will publish a notice of proposed rulemaking shortly that will set due dates for submissions to the asbestos docket for the issues raised therein.

ADDRESSES: Written comments should be submitted to the Docket Officer, Docket No. H-0330, Room S-8212, U.S. Department of Labor, Third Street and Constitution Avenue, N.W., Washington, D.C. 20210.

FOR FURTHER INFORMATION CONTACT: James F. Foster, Director, Office of Information and Consumer Affairs, OSHA, U.S. Department of Labor, Room N-3637, 200 Constitution Avenue, NW, Washington, DC 20210. Telephone (202) 523-8151.

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I. Introduction

This is an emergency temporary standard (ETS) issued pursuant to section 6(c) of the Occupational Safety and Health Act of 1970 (the Act) (84 Stat. 1558; 29 U.S.C. 655), the Construction Safety Act (Pub. L. 97-65; 40 U.S.C. 333), the Longshoremen's and Harbor Workers Compensation Act (33 U.S.C. 941), the Secretary of Labor's Order No. 9-83 (43 FR 35738), and 29 CFR Part 1911. This emergency standard consists of revisions to the existing standard covering occupational exposure to asbestos, 29 CFR 1910.1001, in order to protect employees from a grave danger from continued exposure to asbestos at current exposure levels.

OSHA has determined that workers exposed to asbestos under exposure conditions existing under the current standard face a grave danger of developing incurable cancer and asbestosis. Further, OSHA has found that an immediate reduction in exposure levels to 0.5 f/cc or below is necessary to protect such employees from this grave danger. Therefore OSHA is issuing this ETS to compel reduced exposures to respond to this emergency situation.

OSHA's determination that a grave danger currently exists is predicated upon quantitative risk estimates in this record which point to a large number of excess deaths from cancer (and

asbestosis) among currently exposed workers which are attributable to continued exposures under present working conditions. OSHA estimated the number of cancer deaths avoided through lowering of the exposure to 0.5 f/cc, based on 6 months, 1-year, 20-year and 45-year periods of exposures at current levels.* The predicted cancer deaths avoided that result from these periods of exposure are respectively 210, 425, 5725 and 7815. A more detailed discussion of these estimates is found in the sections. Quantitative Risk Analysis (Section V), Grave Danger (Section III A), and Need for an ETS (Section III B). Risks of this magnitude at permitted and actual exposure levels defined a situation which demanded immediate regulatory action. Evaluation of the relevant scientific data, policy considerations and exposure patterns of workers has convinced OSHA that continued exposure at the current PEL, and under actual workplace conditions constitutes a "grave danger" to employees, and that an ETS is needed to protect them.

The ETS requires that employees may not be exposed to concentrations of asbestos exceeding 0.5 f/cc on an 8-hour time-weighted average basis, and permits the employer to choose among engineering controls, work practices and respirators to reduce exposure to the new PEL. However, the requirement in § 1910.1001(c) to utilize feasible engineering controls and work practices to reduce exposure levels to 2 f/cc remains in effect under this temporary standard. The ETS also requires employers to institute a training program within thirty days of the effective date of this emergency standard. The training program will include instruction on respirator fitting and use, handling of asbestos, medical information, the relationship between smoking and lung cancer, and a review of the asbestos standard. The ETS applies to all industries covered by the Act, including "general industry", construction and maritime industries.

* OSHA is aware, of course, that Section 6(c) of the Act limits the effective time of an ETS to 6 months and OSHA concludes that a grave danger exists and an ETS is necessary even if OSHA focuses exclusively on this six month period. However, the Agency believes it is appropriate to calculate benefits deriving from an ETS using lifetime risks (from 20 and 45 years of exposure to the PEL of 2.5 f/cc established by the ETS. Although the ETS expires within 6 months, Section 6(c) requires that rulemaking on a permanent standard also be completed within 6 months, so that there will be no gap in protection for exposed employees. In OSHA's experience and judgment, complying with this statutory directive and completing rulemaking for a permanent standard within 6 months of an ETS has and can be done.

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) *Respirator 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 20 f/cc PEL.

XL 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-8212, 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 Thomas 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.

(Sec. 6(b), 6(c), 8(c) and 8(g). Pub. L. 94-354, 84 Stat. 1553, 1554, 1555, 1556, 29 U.S.C. 655, 656, 657; Sec. 107, Pub. L. 91-54, 83 Stat. 66 (40 U.S.C. 333); 29 CFR Part 1910; Secretary of Labor's Order No. 9-83 (45 FR 35728))

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

Thomas 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;

(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)

Not in excess of 5 f/cc
(10 % PEL)

Not in excess of 50 f/cc
(100 % PEL)

Greater than 50 f/cc

Required Respirator

Reusable or single use air purifying respirator

Full facepiece air purifying respirator, or a powered air purifying respirator

A type "C" continuous flow or pressure demand supplied air respirator

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. 91-396, 84 Stat. 1563, 1596, 1599, 1600; 29 U.S.C. 653, 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. 9-83 (43 FR 33736))

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