

asbestos roofing paper and felts, the removal of asbestos-containing building materials during repair and demolition activities, and the removal of asbestos insulation during abatement projects. OSHA believes that by promulgating a revised PEL of 0.2 f/cc, it has fulfilled its mandate to protect workers from the harmful effects of asbestos exposure within the confines of technological feasibility.

The vast majority of rulemaking participants were in favor of reducing the 2.0 f/cc PEL. Organizations that supported a reduction in the PEL included the Advisory Committee for Construction Safety and Health (Ex. 84-424), the National Institute for Occupational Safety and Health, (Tr. 6/21, pp. 59, 65), the Associated General Contractors of America (Ex. 84-457), the Building and Construction Trades Department, AFL-CIO (Exs. 277; 330; Tr. 6/27, p. 72), the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry (Tr. 6/27, p. 120), the International Association of Bridge, Structural, and Ornamental Iron Works (Tr. 6/27, p. 108), the United Brotherhood of Carpenters and Joiners of America (Tr. 6/26, p. 157), the International Union of Bricklayers and Allied Craftsmen (Tr. 6/26, p. 119), the International Brotherhood of Teamsters (Tr. 7/3, pp. 161-162), the United Steelworkers of America (Tr. 7/3, p. 132), the International Brotherhood of Boilermakers (Tr. 7/3, p. 174), the National Constructors Association (Tr. 7/12, p. 142), Organization Resources Counselors (Ex. 123-A), the Oil, Chemical, and Atomic Workers Union (Tr. 6/26, p. 9), and the Asbestos Information Association of North America (Tr. 7/6, p. 10).

Most of these organizations (Trs. 6/26, p. 9; 6/27, p. 120; 6/27, p. 108; 6/27, p. 157; 6/27, p. 119; 7/3, pp. 161-162; 7/3, p. 132; 7/3, p. 174; 7/3, p. 158) supported the standard recommended by the BCTD (Exs. 227; 330; Tr. 6/27, p. 72) that the 8-hour TWA PEL be reduced to 0.1 f/cc. This recommendation was based on the "... significant risk of death from cancer and other health impairments due to occupational exposures to asbestos ..." in the construction industry (Ex. 330, p. 31). The BCTD argued that OSHA's belief, as expressed in the April notice, that the 0.5 and 0.2 f/cc alternative PEL's were the lowest that could be achieved through the use of engineering controls and work practices "... is no longer valid [since] it is contrary to the weight of evidence contained in the record ..." (Ex. 330, p. 31). As discussed above and in Section VII of this Preamble, OSHA disagrees

with the BCTD's contention that 0.1 f/cc is a feasible 8-hour TWA PEL and has identified a number of operations in construction where such an exposure level cannot be achieved through the use of engineering controls and work practices. By promulgating an 8-hour TWA PEL of 0.2 f/cc, OSHA is also concurring with the recommendation made by the Advisory Committee for Construction Safety and Health (CACOSH) that any reduction made in the asbestos PEL for general industry also applies to the construction industry. Specifically, CACOSH stated this view as follows:

Because all employees deserve equal protection against the effects of a given toxic material, the same exposure limits should be applied to all industries, including construction. (Ex. 84-233, p. 5)

Another issue discussed in the April notice was the need to promulgate different PELs for different types of asbestos fiber. As discussed in Section IV (Health Effects), epidemiologic data suggest that exposure to amphiboles, particularly crocidolite, is associated with a higher risk of mortality from mesothelioma than is exposure to chrysotile. The United Kingdom and the Province of Ontario have both promulgated lower PELs for crocidolite than for other types of asbestos minerals, based on these data (Exs. 84-379, 84-223).

Comments that OSHA received on this issue recommended against the promulgation of different PELs for the different forms of asbestos. For example, NIOSH (Tr. 6/21), ORC (Ex. 123-A), and AIA (Ex. 328) did not believe that the scientific evidence warranted this approach. OSHA agrees with this assessment of the evidence. Although a differential risk by fiber type for mesothelioma is suggested by the human studies, no differential risk is evident for lung cancer. In addition, animal inhalation and injection studies suggest that chrysotile, and not the amphiboles, pose the greatest hazard. As discussed in Section IV, a number of mechanisms have been proposed to explain these human and animal results. OSHA has found that these results and the scientific community's current level of understanding of the mechanisms leading to asbestos-related disease are insufficient to justify the establishment of different PELs for the different asbestos minerals. Accordingly, in the revised rule, the Agency has retained the concept of the existing asbestos standard that one PEL be established for all types of asbestos minerals.

As with the revised standard for general industry, the revised standard

for construction does not establish a ceiling or short-term exposure limit for asbestos. This differs from the existing asbestos standard, which imposes a ceiling limit of 10 f/cc, and from the April proposal, which would have retained this requirement. OSHA's decision not to promulgate a ceiling or short-term limit for either the general industry or construction standard is discussed at length in Section X of this preamble (Summary and Explanation for a Revised Standard for General Industry). To summarize, OSHA is not promulgating a short-term exposure limit for asbestos because toxicological and dose-response evidence fail to show that short-term exposure to asbestos is associated with an independent or greater adverse health effect than is exposure to the corresponding 8-hour TWA level; that is, there is no evidence that exposure to asbestos results in a "dose-rate" effect. This is reflected in OSHA's risk models for lung cancer and mesothelioma, which associate health risk with cumulative dose. The decision not to promulgate a short-term exposure limit for asbestos is consistent with OSHA's recent policy decision described in the Supplemental Statement of Reasons for the Final Rule for Ethylene Oxide (50 FR 64), in which OSHA established that short-term exposure limits for toxic substances are not warranted in the absence of health evidence demonstrating a dose-rate effect.

Paragraph (d)—Communication Among Employers

Paragraph (d) of the revised rule requires that, on multi-employer construction work sites, employers performing asbestos work requiring the establishment of a regulated area inform other employers on the site of the nature of their work with asbestos and of the existence of and requirements pertaining to regulated areas. This provision is new and has been included to minimize the exposure of employees working near the asbestos work area. For example, plumbers, electricians, carpenters, and workers from other construction trades frequently work alongside of employees installing asbestos-containing materials, and paragraph (d) intends that employers engaged in asbestos work notify the employers responsible for the safety and health of these nearby workers of the hazards of asbestos. OSHA has included this provision after reviewing the record evidence on the hazards and health effects associated with the incidental exposure of employees and bystanders who were not themselves