

out in paragraph (a)(4) of the scope and application section. Although the record indicated that the exposures associated with the installation of new asbestos-containing products are typically much lower than those occurring in asbestos abatement work (Tr. 6/21, p. 5), there is evidence in the record showing that these operations can sometimes cause high employee exposures, particularly if specific work practices and engineering controls are not used.

Paragraph (a)(5) of the revised standard specifically includes asbestos spill and emergency situations within the scope of the standard, because these events clearly have the potential for serious employee and bystander exposures. Asbestos spills might occur during the handling of bags or containers of asbestos-containing materials or during the removal of a drop ceiling situated beneath badly deteriorated asbestos insulation material.

The final group of activities listed in the scope and application paragraph includes the transportation, disposal, storage, or containment of asbestos or asbestos-containing products on the worksites at which construction operations occur. These operations are included because they have considerable potential for excessive employee exposure to asbestos, and, if not closely supervised and properly conducted, may lead to serious bystander exposure as well. The Environmental Protection Agency (EPA) has specific requirements for the disposal of hazardous waste, and the revised standard's provisions for the safe disposal and handling of asbestos-containing wastes (paragraph (g)(1)(i)(F)) and of asbestos-contaminated clothing (paragraph (i)(3)) is consistent with EPA requirements.

OSHA notes that the final standard has been carefully structured by the Agency to relate the stringency of the requirements to the extent and duration of employee exposures. OSHA therefore believes that no compliance burden will be placed on construction employers who either do not use, handle, or remove asbestos-containing products or who maintain asbestos exposures in their workplaces to levels below the action level of 0.1 fiber/cc. The Agency believes that tailoring the revised standard in this manner responds to the concerns of the Advisory Committee for Construction Safety and Health and to the evidence in the record as a whole.

Paragraph (b)—Definitions

Paragraph (b) of the revised asbestos standard for the construction industry defines a number of terms used in the

standard. In some instances, the definitions used are consistent with those of other OSHA standards, e.g., "Director," "Assistant Secretary," and "Authorized person." However, certain other terms require definition because they are used in accordance with their meanings in the construction industry.

"Action level" is defined in the revised standard as an airborne concentration of asbestos of 0.1 f/cc of air, calculated as an 8-hour time-weighted average. Several provisions of the standard, such as initial monitoring, employee training, and recordkeeping, are triggered whenever exposure measurements reach or exceed one-half of the revised permissible exposure limit (0.2 f/cc). If employers are engaged in asbestos work causing worksite levels of asbestos above the action level for 30 or more days per year, they must also institute a medical surveillance program for all employees. In addition, on sites where food and beverages are consumed and the airborne asbestos level exceeds the PEL, the standard requires employers to provide lunch areas that have airborne asbestos levels below the action level.

Past experience with the action level concept in other OSHA standards has demonstrated its usefulness to employers as an objective means of determining a cutoff point for some mandated compliance activities, thus relieving them of some of their compliance obligations in situations where higher exposures do not occur.

Many commenters in the rulemaking record advocated the inclusion of an action level in the revised rule. These commenters generally proposed that the action level be established at one-half the PEL recommended by that particular commenter. (Building and Construction Trades Department, AFL-CIO, Ex. 330; Advisory Committee for Construction Safety and Health, 84-424; United Brotherhood of Carpenters and Joiners of America, Tr. 6/27; International Brotherhood of Teamsters, Tr. 7/3; and the Asbestos Information Association/North America, Ex. 328). Typical of these commenters was the recommendation of the Building and Construction Trades Department, AFL-CIO, which stated:

In accordance with the original action level concept as developed by NIOSH and recommended to OSHA for regulatory purposes, the BCTD recommends that the action level be set at one-half the BCTD-proposed PEL TWA. (Ex. 330.)

Action levels are important because their use permits employers to concentrate their resources on those employees and workplace conditions

with the potential for high asbestos exposures. Thus the action level in the revised standard provides for the most cost-effective means of employee protection.

The final standard's definition of "demolition"—the wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products—is identical to that proposed by the BCTD in its recommended standard and parallels that used by the Environmental Protection Agency in 40 CFR 61.141, the National Emission Standards for Hazardous Air Pollutants (NESHAP). The term, so defined, has been included in the construction standard for asbestos to clarify the distinction made between major asbestos abatement projects and small-scale, short-duration operations.

"Employee exposure" is defined as that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment. This meaning of the term has a precedent in many OSHA standards, including ethylene oxide (29 CFR 1910.1047), and has been incorporated in the asbestos standard because OSHA believes it is essential to determine employee exposure levels without the use of respiratory protection in order to gauge the efficacy of mandated work practice and engineering controls.

In keeping with other OSHA standards that regulate exposure to hazardous substances (e.g., Arsenic, 29 CFR 1910.1018; Vinyl Chloride, 29 CFR 1910.1017), the revised asbestos rule contains a provision requiring the establishment of regulated areas to aid in limiting exposure to asbestos. The definition of "regulated area" in the revised asbestos standard covers two types of regulated areas; the negative-pressure enclosures mandated in paragraph (e)(6) for major asbestos abatement operations, and the restricted access required wherever airborne asbestos concentrations exceed or can reasonably be expected to exceed the PEL. The fact that the revised standard contains requirements for two types of regulated areas reflects both the wide differences in construction worksites and OSHA's approach in this standard to dealing with this wide range in exposure conditions. For example, the restricted access regulated area required in paragraph (e)(3) is an area that is demarcated in any manner that will alert employees to the existence of an area where airborne asbestos levels are likely to exceed the PEL; this provision is included in all OSHA health standards, and was a requirement in