

LEVs are designed to be easily employed with power and hand tools used in cutting asbestos-containing products such as A/C pipe and A/C sheet. LEVs focus a small vacuum directly on the cutting area and thus pump virtually all of the asbestos fibers out of the work environment. (Ex. 330)

OSHA believes that general ventilation systems may also be effective in reducing employee exposure to asbestos fibers. Such systems are useful for reducing the concentration of fibrous materials and removing potentially harmful asbestos fibers from the air through a HEPA filtration system. OSHA cautions employers, however, that the use of general dilution ventilation will tend to spread asbestos contamination unless the return air is passed through a HEPA filter.

Vacuum cleaners that are equipped with HEPA filters are effective controls for cleaning asbestos spills and collecting asbestos debris following an asbestos removal, demolition, or renovation activity. The HEPA-filtered vacuum systems collect asbestos-containing material while capturing asbestos fibers and preventing them from becoming airborne.

Isolation of asbestos-containing materials during construction activities is an effective means of preventing the disturbance of the asbestos materials and preventing potential exposures. Enclosures include building walls around pipes and other surfaces that are covered with asbestos-containing materials or wrapping pipes in metal sheeting to prevent the insulation from being damaged.

Several commenters advocated the use of wet methods and wetting agents as one of the most effective work practices for reducing the release of asbestos fibers and minimizing the resultant employee exposures (Exs. 92-8; 92-11; 92-25; 330; Tr. 7/3, p. 181). The Building and Construction Trades Department, AFL-CIO (Ex. 330), presented an analysis of the information contained in the rulemaking record on the use of wet methods. The data presented show a decrease in fiber counts of up to 90 percent when wet methods and wetting agents are used (Ex. 330). In addition, several of the asbestos removal specifications submitted to the rulemaking record specified wet methods and wetting agents as a mandatory method during asbestos removal (Exs. 92-1; 92-11; 92-25).

The prompt disposal of asbestos materials in leak-tight containers can be an effective work practice because asbestos-containing materials are sealed in disposal containers while they are still wet and less likely to release

potentially hazardous asbestos fibers. Placing asbestos waste in disposal containers promptly will also reduce the risk that large pieces of asbestos will be broken into smaller pieces by activity in the work area and thus be more likely to become airborne.

OSHA believes that the use of the above-described engineering controls and work practices will greatly reduce employee exposure. The controls prescribed in paragraph (g)(1)(i) of the revised standard reflect the information available to OSHA in the rulemaking record regarding the effectiveness of engineering and work practice controls for reducing employee exposures in construction. Paragraph (g)(1)(i)(C) states that controls other than those listed may also be required, provided that the Assistant Secretary can show that they are feasible. When evaluating the feasibility of those controls, the Assistant Secretary will consider their availability in the marketplace.

In paragraph (g)(1)(ii), the revised rule requires, in situations where engineering and work practice controls are not sufficient to reduce employee exposures to or below the PEL, that the employer implement such controls to reduce employee exposure to the lowest feasible level and then supplement them by the use of respiratory protection. This requirement reflects OSHA's traditional policy that engineering and work practice controls should be the primary means by which workers are protected from exposure to harmful substances; personal protective equipment may only be used in emergencies or where other methods are not feasible, are not adequate, or have not yet been installed and tested.

The requirement maintaining the traditional hierarchy of controls in the revised standard represents a change from OSHA's proposed approach for the methods of compliance requirements for construction. In the April notice (49 FR 14124), OSHA proposed to retain the former provision in 1910.1001(c) that required employers to implement feasible engineering and work practice controls to achieve the 2 f/cc exposure limit. Under the proposal, the employer would then have been permitted to select among engineering controls, work practices, and personal protective equipment to achieve the reduced PEL. OSHA proposed this approach specifically for its asbestos rulemaking because of public response to OSHA's ANPRs for § 1910.1000(e) (Air Contaminants) and § 1910.134(a)(1) (Respiratory Protection) that endorsed a more flexible compliance strategy with regard to the use of respirators. In proposing these methods of compliance,

the Agency also requested comments and information "... concerning the extent to which respirators may provide effective protection against asbestos exposure and may be relied upon as a substitute for engineering or work practice controls" (49 FR 4125).

Commenters responding to OSHA's proposed methods of compliance requirement for the asbestos construction standard objected to the Agency's departure from the traditional controls approach (Exs. 123-A; 277; 330; Trs. 6/27, p. 108; 6/27, p. 74; 6/29, p. 17; 7/3, p. 137; 7/3, p. 181; 7/6, p. 5). The BCTD argued that by not prescribing specific compliance methods, OSHA was being inconsistent with the intent of Section 6(b)(5) of the Act, and that "... OSHA cannot rely on a judgment by the employer as to how best to control occupational exposures to toxic substances, but rather must itself both establish the permissible exposure limits for such substances and set forth specific, objective measures to reduce exposures to or below those limits" (Ex. 330, p. 39). At the informal hearing, Robert Cooney of CACOSH read the following statement from Robert Georgine on behalf of the BCTD:

[Using engineering and work practice controls as the primary means of controlling asbestos exposures] must remain the governing principle of an asbestos health standard. OSHA should not allow employers to use personal protective equipment including respirators as a substitute for the former. (Tr. 6/27, p. 74)

Richard F. Boggs, Vice President of Organization Resources Counselors, explained the rationale for retraining the traditional hierarchy of controls:

The rationale behind [the use of engineering and work practice controls before respirators] is based primarily on two principles. One is that protection of the employee is usually most effectively attained by elimination or minimization of the hazard at its source, which work practices and engineering controls are both designed to do. The other is that methods which depend upon human behavior are inherently less reliable than well-maintained mechanical methods. (Ex. 123-A, p. 20)

Mr. Pigg, of the AIA/NA, testified at the hearing that the traditional hierarchy of controls should apply to asbestos standards for both general industry and construction:

AIA/NA fully supports OSHA's efforts to minimize all worker exposures to asbestos to the extent reasonable and feasible, whether such exposures be in the manufacture and installation of new products or in renovation, demolition and other activities where previously-installed products may release fibers.