

TABLE 10.—ESTIMATED NUMBER OF WORKERS EXPOSED AND ASBESTOS EXPOSURE LEVELS IN THE CONSTRUCTION INDUSTRY—Continued

Sector	Estimated No. of workers exposed	Mean 8-hour TWA exposure levels (f/cc)
Routine maintenance in commercial and residential buildings	217,745	0.29
Routine maintenance in general industry	259,643	0.51
Total	746,228	

Sources: RTI (Exhibit 473); Building Owners Survey (Ex. 64-474); Consol Phase 1 Report (Ex. 64-474); and 1982 Census of Construction.

Technological Feasibility

Introduction

This analysis determines the extent to which it is currently feasible to reach a permissible exposure limit (PEL) of 0.2 fibers per cubic centimeter during affected work operations without the use of respirators. The information in the public record provides the basis for OSHA's determination that a PEL of 0.2 f/cc for an 8 hour time-weighted average (TWA) can be achieved, with a few exceptions, across the asbestos-products manufacturing industry. Exposure data indicate that some of the plants in this industry have combined engineering controls and prudent work practices to reach exposure levels below 0.2 f/cc. OSHA recognizes that some data show the current difficulties of reaching a 0.2 f/cc TWA, but OSHA believes compliance with the new PEL will become increasingly feasible in these operations. In the construction industry, the data show the capability of meeting the PEL in most operations by the conscientious application of engineering and work practice controls.

Based on this analysis, OSHA has determined that compliance with the 0.2 f/cc PEL is feasible in most industries most of the time through the use of wet methods, engineering controls, and good housekeeping practices. There are some operations, however, for which compliance through the use of engineering controls and work practices alone does not appear feasible at this time. These situations are usually due to the inability of the operation to use wet methods (e.g., textiles, nuclear rip-out, building repair, etc.), and the volume of dust generated (e.g., cutting operations for A/C pipe and sanding A/C sheet). During these operations, therefore, respiratory protection must also be used until employers apply current technology more effectively or apply new technology to the control of asbestos dust.

General Considerations

As stated above, OSHA based its conclusion about the technological feasibility of the 0.2 f/cc level on the record evidence and data summarized later in this section. The following discussion sets out the legal and policy framework for making these determinations.

Section 6(b)(5) of the Occupational Safety and Health (OSH) Act provides that OSHA may promulgate standards to the extent that they are economically and technologically feasible. In meeting its statutory mandate to set "feasible" standards, OSHA is guided by judicial review of 14 years of Agency standards setting.

According to the Supreme Court, requirements may be imposed up to the limits of what is "technologically achievable." [*American Textile Mfgs. Institute et al.*, 452 U.S., fn. 34, 1981 OSHA sec. 25.457.] Accordingly, OSHA may promulgate standards which can be met most of the time by the technologically advanced plants in an industry. [See e.g., *American Iron and Steel Inst. vs. OSHA*, 577 F. 2d 825, 932-35 (3d Cir. 1978).] [*Ibid*, 571 F. 2d at 835.] Current exposure levels in such technologically advanced plants may meet the PEL only one some measured days, yet that level may be considered feasible [*Ibid*, 577 F. 2d. at 835]. In addition, in cases where data show the current industry exposure levels are in excess of the new PEL, the new PEL is, nevertheless, determined to be technologically feasible if substantial evidence exists to show that companies acting in good faith can develop the necessary technology to reach the new PEL [*United Steelworkers*, 647 F. 2d at 1269, 1272].

The D.C. Circuit has explained that the purpose served by OSHA's industry-wide feasibility determination is to create "a general presumption of feasibility for an industry . . . [is] that industry can meet the PEL without relying on respirators" [647 F. 2d at 1296]. In the case of asbestos, OSHA has determined based on this rulemaking record and guided by this body of decisions that most industry sectors in most operations most of the time will be able to meet a time weighted average PEL of 0.2 f/cc primarily through the application of currently available engineering and work practice controls. Supplemental respirator use will be needed only occasionally. [Later, in this section OSHA discusses on an industry sector basis more detailed reasons and evidence supporting these feasibility determinations.]

Claims about technological feasibility made by participants in the rulemaking supported all exposure levels considered in the proposal, from 0.1 f/cc to 0.5 f/cc. Participants advanced policy arguments and evidence in support of their positions. For example, the AFL-CIO stated that the evidence showed that 0.1 f/cc was feasible for general industry to achieve primarily through engineering and work practice controls [see, for example, Exhibits 143 and 335]. However, as detailed in the specific industry sector discussions, the evidence indicates that the 0.1 f/cc level is not currently feasible in most dry operations in manufacturing and secondary processing of asbestos products. In the construction activities of renovation and major abatement, a proponent of a 0.1 f/cc level for construction agrees with OSHA that supplemental respirator use will be necessary to meet that lower level [see Exhibit 330]. Therefore, OSHA has determined that a 0.1 f/cc may not be achievable in most operations without routine respirator use.

In contrast, other participants contended that a 0.2 f/cc level was technologically infeasible in most manufacturing industries and, therefore, that a 0.5 f/cc should be designated as the PEL. Proponents of a 0.5 f/cc PEL did not dispute reports of the levels of exposure currently being achieved in such industries. In fact, the major proponent of the 0.5 f/cc level, the Asbestos Information Association of North America (AIA/NA) agreed that "OSHA's proposed PEL of 0.2 f/cc is close to the center of the best achievable exposure range for most manufacturing workplaces [see Exhibit 312 A]. Additionally, AIA projects that the incentive effect of a new reduced PEL will result in "long term average exposures to typical asbestos product manufacturing workers . . . in the neighborhood of 0.1 f/cc or below." AIA further projects that "[e]ven employees in the most difficult to control industry workplaces would not experience average exposure levels above 0.2 f/cc" [Exhibit 312 A].

AIA objected to finding the 0.2 f/cc level technologically feasible for two reasons. First, AIA defined a "feasible" exposure level as one in which an employer will have a 95 percent level of confidence that exposures on any day will not exceed the PEL. Therefore, according to AIA, because airborne asbestos exposure levels fluctuate from day to day, setting a 0.5 f/cc PEL would be necessary to assure that employers will not be subject to citation on unrepresentative "high" days. The