

than by banning the material. A 1983 ILO survey found 27 countries applying such exposure limits (ILO, 1984, pp. 94-96). In Europe, the European Communities have adopted directives establishing a control limit of 1.0 f/cc for all asbestos except crocidolite, to which a limit of 0.5 f/cc applies, and banning the sale of crocidolite and its products.¹⁴

The regulatory approaches discussed above all embrace the principle that a combination of limits on worker exposure to airborne asbestos fibres and the prohibition on some uses or types of asbestos are adequate to protect worker health. While all of these countries have demonstrated the ability to impose stringent regulations when necessary, they have not found it necessary to ban all types and uses of asbestos in order to achieve acceptable risk levels.

IV. EXISTING REGULATIONS HAVE CONTROLLED ASBESTOS RISKS

A. High-Risk Uses of Asbestos Have Been Prohibited

Most of the incidence of current disease arising from the uncontrolled use of asbestos in the past can be attributed to uses that are now prohibited. The spraying of asbestos insulation in ships and buildings in the past and the application of other friable asbestos materials caused considerable exposures to all three types of asbestos for the insulation workers themselves and for other construction workers. During the 1970's, this spraying ceased in the United States, Canada, and in the U.K. The application of friable asbestos-containing pipe and boiler insulation and other friable material also came to an end during the 1970's in all three countries. The United States, along with most Canadian provinces, the U.K and in fact the European Economic Community now prohibit¹⁵ the application of friable asbestos-containing materials in buildings. The worker exposures associated with the manufacture and installation of these products in the past are vastly greater than current worker exposures to new asbestos products. Indeed, these products formed such a dominant element in the asbestos industry in the past that OSHA believes that the major exposures of asbestos workers during the next 20 to 40 years will arise from products, principally insulation, already in buildings rather than from the manufacture and use of new asbestos products (OSHA, 1986, p. 22641). Thus existing regulations have dramatically reduced the extent of worker exposure

¹⁴. CEC Directive 83/477/EEC, Official Journal of the European Communities L 263/25; CEC Directive 83/448/EEC, Official Journal of the European Communities L 263/33; September 19, 1983.

¹⁵. NESHAPS, Asbestos Regulations, 40 CFR 61.148, 61.150. Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations, Ontario Regulation 654/85, made under the Occupational Health and Safety Act. Health and Safety Commission, News Release, Oct. 18, 1983. CEC directive 83/477/EEC, Article 1, September 19, 1983, Official Journal of the European Communities L 263, 16, September 24, 1983.

to asbestos. Furthermore, the friable asbestos-containing materials that are now banned frequently contain amosite or crocidolite, presenting risks considerably greater than those of exposure to chrysotile alone. The reduction in asbestos-related risks associated with these prohibitions is therefore even greater than the reduction in worker exposures.

B. Occupational Exposures Are Now a Small Fraction of Past Exposures

During the 1950's and 1960's, some workers were exposed to airborne asbestos concentrations as high as 20 f/cc.¹⁶ The permissible exposure limit for asbestos in the United States was set at 5 f/cc in 1971, and reduced to 2 f/cc in 1976.¹⁷ At the time that the 0.2 f/cc PEL was promulgated by OSHA, most workplace exposures were below 1.0 f/cc, and many had achieved exposures in the vicinity of 0.2 f/cc (OSHA, 1986). Thus current exposures are as low as one-twenty-fifth of those allowed up to ten years ago, and as low as one one-hundredth of those experienced two or three decades ago. It follows that the remaining asbestos-exposed workers experience risks that are a small fraction of those faced by their counterparts 20 or 30 years ago. The combination of this twenty-five fold reduction in allowed exposures, the ban on the application of friable asbestos materials in buildings, and the concomitant reduction in the use of amosite and crocidolite has so enormously reduced worker exposures that it cannot be said that an "unreasonable risk" remains. The need for regulation to control asbestos risks has been met by existing regulations in the United States.

V. EPA REGULATIONS SHOULD CONSIDER INTERNATIONAL IMPLICATIONS

While the analysis that forms the background for the proposed rule only considers the effects of the rule within the United States, international effects are also important. The proposed rule is inconsistent with the regulations of most of the developed countries with which the United States has trade and diplomatic relations. The United States has often sought to exercise leadership in creating an international consensus on important environmental issues. The willingness of other countries to follow will depend in part upon the wisdom of the U.S. position and on the extent to which other countries have already formed a consensus. In the case of asbestos, most of the OECD countries have adopted a "controlled use" approach to asbestos, as have most international bodies such as the EEC, the WHO and the ILO. For the United States to run counter to this international community with a regulation whose benefits are as poorly documented as this one is to place at risk future attempts to unify and harmonize the regulations of these countries.

¹⁶. See ORCA (1984, Ch. 5) and EPA (1984) for discussions of historical exposure data.

¹⁷. Occupational Health and Safety, Asbestos Regulations. 29 CFR 1910.1001.

VI. IN THE ABSENCE OF SUPPORTING EVIDENCE, THE PROPOSED RULE SHOULD BE WITHDRAWN

Comments on the background material that EPA has introduced in support of the proposed rule have been highly critical, and have cast serious doubt on the validity of much of the factual base upon which the proposed rule rests. Indeed, the cross-examination hearings in October revealed that the rule is without a factual foundation. On point after point, EPA witnesses admitted that their work was based on assumptions that could not be supported, on data that could not be defended, or on data that was patently irrelevant. Work performed by outside contractors was not fully read or understood by EPA staff. Outright errors pertaining to crucial elements of the risk assessment were admitted. Time after time, EPA staff conceded that the work to date was so flawed that it was being re-done. In fact, new studies have been commissioned by the EPA pertaining to every aspect of its case.

These revelations demonstrate the merits of public participation in the rule-making process. The public comment and the cross-examination of witnesses have exposed the inadequacies in the factual base for the proposed rule.

The proposed rule must flow from such need for the rule as is demonstrated by the supporting evidence. This requires that the rule may not precede the evidence. The EPA's supporting evidence has been shown to be so deficient that it is in effect being withdrawn, to be replaced by new evidence in 1987. With the supporting evidence missing, the rule itself cannot stand. When new evidence is presented, the EPA must decide what rule, if any, is supported by that evidence. That decision, however, cannot be made prior to the completion of the work that EPA has begun, and will not complete for many months.

The collapse of EPA's supporting evidence leads inexorably to one conclusion: the proposed rule must be withdrawn. To do otherwise would put into question the validity of the entire rule-making process, implying that the EPA will impose this rule regardless of the absence of facts to support it. The Government of Canada does not believe that this is the case nor that the EPA would wish it to appear so.