

not believe that demarcation of the area is necessary and therefore, is not required.

3. Exposure Assessments and Monitoring

Paragraph (f) Construction and Shipyard Employment Standards.

In response to the concerns of participants, OSHA is clarifying, but not further amending (f)(2)(iii). Some parties have expressed the view that the distinction between the use of historical data and objective data needs additional clarification. In the 1994 final rule, the definition of objective data was changed from that of the 1986 standard to include activities, as well as products, for which a demonstration is made that operations involving the products and/or activities will not result in fiber levels in excess of the PELs. For example, in a facility such as a refinery, gasket removal is a frequent operation due to the large number of pipe joints. If the employer has monitored these jobs in the past and has collected sufficient data to conclude that this activity will not result in fiber levels in excess of the PELs even when improper work practices and lesser trained personnel are used, it may be concluded that the objective data criteria have been met, in which case, further monitoring is not required.

These data must include situations performed under those work conditions having the greatest potential for releasing asbestos fibers, such as in the example above, where the gasket is difficult to remove fully or where the crew is inexperienced. OSHA believes that "objective data" determinations require basic statistical analysis. At the least, the prior data depended on cannot be the result of chance. Data reflecting the results of many jobs and/or employees are likely to provide adequate data on which to base "objective data" determinations. Certainly, when many different employer's employees have performed a particular task, and levels consistently fall below the PEL, it is likely that future jobs will also fall below the PEL.

In requiring objective data determinations to include the worst-case situation, OSHA does not intend to render this an impossible requirement to meet. Rather, as described earlier, the monitoring results from the situations which the employer has encountered in the activity must be included in the information used by the competent person in evaluation of the job. Therefore, using the earlier example, even if a gasket removal was performed in the past using improper work practices which resulted in elevated

fiber levels, and the current job is to be performed correctly in compliance with the standard, this job can still meet the objective data criteria if additional data clearly supports its low exposure potential. The employer is not expected to contrive unlikely scenarios, monitor them and conclude that an objective data exemption cannot be claimed. The judgment of a trained, experienced competent person is essential to making this determination. OSHA anticipates wider use of this exemption in situations where it is warranted.

The extent to which objective data documents the effectiveness of controls will vary depending upon the potential for fiber release. A job with very low exposures, for examples, less than 0.01 f/cc, with simple work practices and little potential for control failure, will need minimal data. However, due to the high potential for fiber release from thermal system insulation and surfacing ACM, OSHA has found that the objective data exemption from monitoring of Class I operations may not be relied on, regardless of the control method used (59 FR p. 40983). For example, in the case of glovebag removals of Class I materials, only historic data may be used in the exposure assessment by the competent person. OSHA continues to believe that annual monitoring is needed to assure the continued effectiveness of control of fiber levels in jobs involving removal of significant amounts of thermal system ACM and surfacing ACM.

OSHA has not specified the number of personal monitoring data points required to make these determinations. Rather, it relies on the training and experience of the competent person to use good judgment in assessing each operation to determine the ability of the data to predict potential exposure of workers in that specific job.

4. Methods of Compliance

Paragraph (g) Construction and Shipyard Employment standards.

OSHA is clarifying the language in paragraph (g)(4)(ii) to reflect the Agency's intention that outdoor Class I work performed in areas where no employees are working in the adjacent area a need not utilize critical barriers, nor is perimeter monitoring required during such work when control methods in (g)(5) are properly used. Several participants submitted data indicating low levels of fibers were measured during outdoor activities (e.g., Ex. 7-39 and Ex. 127).

OSHA is clarifying paragraph (g)(5)(ii) of the construction and shipyards standards to explain when glovebag use is allowed. OSHA allowed glovebags to

be used in Class I operations or removal of TSI from "straight runs of piping". OSHA was concerned that the seal of the bags would be stressed if bags were used to remove TSI from structures whose configurations made attachment difficult and unreliable. Therefore, the provision limited glove bag use to "straight runs" of piping, clearly a configuration which bags were manufactured to fit. The Agency did not intend that glove bags could not be used to remove TSI from connecting members, joints, elbows and valves which connect and attach to asbestos-covered pipes, if they too, are manufactured and designed to be used for that purpose. These corrections change the regulatory text in paragraph (g)(5)(ii) of the construction and shipyard standards to add that glovebags may be used on connecting configurations so long as they are designed for that purpose, used as designed, and not modified.

In response to concerns expressed by participants, OSHA wishes to clarify (g)(6)(iii) in which a licensed engineer or certified industrial hygienist is required to consider worst-case conditions in determining the adequacy of an alternate method to control asbestos exposure in Class I operations. "Worst-case conditions" do not include every imaginable scenario, but the worst case is one which can reasonably be expected to be encountered in use of the method. For example, in the case of a power failure, would the control method remain capable of containing the fibers and continue to control exposure? What would be expected if all workers using the method were newly trained? These considerations should include circumstances reasonably expected to occur. The certifying hygienist or engineer is not required to make the determination with absolute and unreasonable certainty. OSHA intends that allowing the use of alternate effective control methods will promote the development of new technologies.

Roofing: After the standard was issued, the National Roofing Contractors Association (NRCA) filed a petition with OSHA asking that a number of provisions of the standard be reconsidered or clarified insofar as they applied to roofing operations. Upon examining NRCA's petition in light of the rulemaking record, OSHA has determined that certain corrections and clarifications to the standard would ease compliance burdens on roofing contractors and avoid creating safety hazards without significantly increasing the amount of asbestos to which roofing workers are exposed. OSHA also