

§ 1910.139 provides the skeletal requirements for such a program, but does not elaborate on what would be required in each element. The revised respiratory protection rule provides employers with additional guidance on what constitutes an appropriate and effective program, giving employers a better road map to follow when relying on respiratory protection in the workplace. It is the Agency's view, supported by the Respiratory Protection rulemaking record, that an effective program requires a systematic approach to evaluating workplace conditions, selecting the appropriate respirator, ensuring the respirator fits, and maintaining the respirator properly. The revised standard specifies how this systematic approach is to be implemented in the workplace.

Similarly, § 1910.139 requires medical evaluation, but does not set forth the components of the evaluation, or how it is to be accomplished. The medical evaluation provisions of the revised § 1910.134 set forth the minimum requirements employers must implement to determine if employees are medically qualified to wear respirators in their places of work. The employer must provide a medical evaluation for each covered employee, performed by either a physician or another licensed health care professional. Information from the medical evaluation is to be used to determine the employee's eligibility to wear the respirator proposed for the employee. The employer must base the determination on the recommendation of the health care professional. Administration of the medical questionnaire in § 1910.134, Appendix C, is a further requirement.

The medical evaluation provisions of revised § 1910.134 are significantly better than the original standard. They ensure that the health care professional, the employee, and the employer are aware of the factors that must be considered in evaluating an employee's respiratory protection needs, and provide the tools to ensure appropriate decisions are made.

With regard to employee training, § 1910.139 states only that employees must be "instructed and trained in the proper use of respirators and their limitations," with no provision for annual retraining. Revised § 1910.134 requires employers to provide effective training to employees who are required to use respirators. The training must be comprehensive, understandable and recur at least annually. Employers must provide the training before their employees are required to use the respirator. Topics to be covered include

why the respirator is necessary, what the limitations of the equipment are, how to use the respirator in emergencies, how to use and care for the equipment, and how to recognize the medical signs and symptoms that may limit or prevent the use of respirators. OSHA has determined that these more detailed requirements regarding employee training will help to ensure that the training provided is appropriate and effective, thus leading to a more effective workplace respiratory protection program.

Section 1910.134 requires more recordkeeping than § 1910.139. Section 1910.134 consolidates recordkeeping requirements with respect to medical evaluations, fit testing and the respirator program into one section of the standard. Commenters agreed that such consolidation of requirements would improve understanding of the standard's recordkeeping obligations (Exs. 54–267; 54–286).

Both § 1910.139 and § 1910.134 recognize that fit testing is an important component of an effective respiratory protection program. Fit testing is necessary because a respirator that does not fit properly provides only the illusion of protection. While it has long been known that fit can affect respiratory protection significantly, particularly for these types of respirators that depend on filtering the contaminant (rather than providing a separate source of uncontaminated air), specific protocols for fit testing are a more recent development. The revised § 1910.134 reflects this newer technology, and provides specific guidance on appropriate fit testing procedures. OSHA believes that following these types of procedures is necessary to ensure that respirators are really providing the protection needed.

The frequency of fit testing was an issue in both the respiratory Protection and TB rulemakings, and it generated significant comment in both records. There was little dispute that some additional fit testing beyond the initial test is necessary because respirator fit can be affected by a number of factors, including the size and shape of a person's face, dental changes, changes in the types of movements required to perform work when wearing the respirator, and the presence of facial hair. As OSHA explained when it promulgated the annual retesting requirement in 29 CFR 1910.134, waiting more than a year between fit tests allows a substantial fraction of workers to lose the protection respirators provide (63 FR 1224). This is no less true when respirators are used for TB protection than it is when they

are used for protection against other hazards.

Consistent with current practice, CDC guidelines and NIOSH recommendations, and the selection criteria in § 1910.134, OSHA anticipates that half-mask N95 air-purifying filtering facepiece respirators will be the primary type of respirator used for TB protection. This type of respirator has a securely-fitting facepiece that filters the air, preventing inhalation of contaminants. Effective protection requires a good face-to-facepiece seal in order to ensure that there are no gaps through which contaminated air can enter the facepiece and be breathed in by the worker. Thus in order to provide protection, the respirator must fit the employee well enough to prevent leakage from occurring. This is particularly important for a hazard such as TB that does not have any warning properties that would allow an employee to detect that it is being inhaled, e.g., there is no odor that might indicate a breakthrough.

The proposed TB standard acknowledged these issues by proposing that fit testing be performed as follows. Each employee who would have been required to wear a tight-fitting respirator would have had to pass a fit test at the time of initial fitting of the respirator; whenever changes occurred in the employee's facial characteristics that affected the fit of the respirator; and whenever a different size or make of respirator was assigned for use by that employee. At a minimum, the proposal would have required fit tests to be conducted annually unless an annual medical evaluation (also required by the proposal) indicated that a fit test was not necessary. The revised respiratory protection standard imposes the same requirements, except that it does not require annual medical evaluations, and annual fit tests are required for all respirator users.

Several commenters supported the proposed provision allowing a licensed health care professional to determine the need for an annual fit test during a face-to-face evaluation. (*See, e.g.*, Exs. 17–671; 17–454; 17–932.) However, others argued compellingly that there are no objective data demonstrating that it is possible to determine whether a respirator fits by examining a person's face. (*See, e.g.*, Exs. 17–271; 17–697; 18–60A; 17–455; 17–768; 17–920).

A number of commenters argued that repeat fit testing should only be done when the respirator changes, or when there is a significant change in the employee's physical condition that may interfere with the facepiece seal (*see, e.g.*, Exs. 150–56; 150–69; 150–125).