

atmospheres (Ex. 1-54-381), or stated that employees should not use air-purifying respirators, including powered air-purifying respirators, while exposed to IDLH or oxygen-deficient atmospheres (Ex. 1-54-38); these commenters believed that the MUCs (and the APFs on which they are based) would not protect employees under these extremely hazardous exposure conditions.

For employees exposed to IDLH conditions, employers must select a respirator according to the requirements specified by paragraph (d)(2) of OSHA's Respiratory Protection Standard. Paragraph (d)(2) requires employers to select a full facepiece, pressure demand SCBA certified by NIOSH to have a service life of at least 30 minutes, or a combination full facepiece, pressure demand, supplied-air respirator with an auxiliary self-contained air supply, for IDLH exposures. In the preamble to the final Respiratory Protection Standard, the Agency justified selecting these respirators as follows:

In [IDLH] atmospheres there is no tolerance for respirator failure. This record supported OSHA's preamble statement that IDLH atmospheres "require the most protective types of respirators for workers.

(59 FR 58896.) Commenters and respirator authorities, including NIOSH, ANSI, and both labor and management, agree that, for IDLH atmospheres, the most highly protective respirators, with escape capability, should be required (63 FR 1201).

The last proposed MUC provision, paragraph (d)(3)(i)(B)(4), requires that "[w]hen the calculated MUC exceeds another limiting factor such as the IDLH level for a hazardous substance, the lower explosive limit (LEL), or the performance limits of the cartridge or canister, then employers must set the maximum MUC at that lower limit." As with manufacturers' MUCs, these limiting factors would take precedence over the calculated MUC when they result in lower employee exposures to the hazardous substances than the calculated MUC; consequently, employees would receive increased protection against these hazardous substances.

This proposed paragraph cites several performance limits (*i.e.*, the IDLH or LEL for a hazardous substance, or the service life of a cartridge or canister) as examples of limiting factors. In this regard, OSHA is including these limiting factors as examples only; other limiting factors specified in a variety of OSHA standards, or used by employers to meet their obligation to provide a safe and healthful workplace, also would be

applicable to this proposed requirement. In addition, commenters cited in the preamble to the final Respiratory Protection Standard believed that employers should not rely on MUCs determined using the proposed calculation method to estimate the service life of cartridges and canisters (Exs. 1-54-153, 1-54-165A, 1-54-222, 1-54-381).

B. Superseding the Respirator-Selection Provisions of Substance-Specific Standards in Parts 1910, 1915, and 1926

1. Introduction

The substance-specific standards in 29 CFR parts 1910, 1915, and 1926 specify numerous requirements for regulating employee exposure to toxic substances, including APFs for respirator selection. Under this proposed rulemaking, OSHA would revise the provisions in its substance-specific standards that regulate APFs (except the APF requirements for the 1,3-Butadiene Standard at 29 CFR 1910.1051). These proposed revisions would remove the APF tables from these standards, as well as any references to these tables, and would replace them with a reference to the APF and MUC provisions specified in proposed paragraphs (d)(3)(i)(A) and (d)(3)(i)(B) of the Respiratory Protection Standard at 29 CFR 1910.134. The Agency believes that the proposed revisions would simplify compliance for employers by removing many inconsistencies in APF requirements across its substance-specific standards; therefore, the proposed revisions would enhance consolidation and uniformity of these requirements. Accordingly, the purpose of revising the APF provisions of OSHA's substance-specific standards is to conform these standards, to the extent possible, to each other and to general APF and MUC requirements specified by 29 CFR 1910.134.

The proposed revisions would improve the substance-specific standards because the Agency developed these proposed APF requirements after careful review and analysis of the available scientific data and the most recent consensus standards (*i.e.*, the APF provisions in the NIOSH RDL and the ANSI Z88.2-1992 respiratory protection standard). In this regard, the Agency preliminarily finds that the proposed APFs are a significant improvement over the existing NIOSH and ANSI APFs because it developed them based on the latest WPF and SWPF studies, and used advanced statistical methods to identify common and unique variance among respirator classes. Therefore, the

proposed APFs represent the best data and analytic techniques available, thereby lending a high degree of reliability and validity to the results. Accordingly, the proposed APFs will provide employers with confidence that their employees will receive the level of protection from airborne contaminants signified by these APFs. In addition, applying the proposed APFs to the substance-specific standards is consistent with OSHA's goal of bringing uniformity to its respiratory-protection requirements. Moreover, protection for workers is increased since the proposed APFs will provide equivalent or increased protection compared to the ANSI Z88.2-1992 standard, and incorporates the use of APFs into the employer's respiratory protection program. The Agency believes that superseding the APF requirements of its existing substance-specific standards would result in regulatory consistency, which would improve employer compliance with these provisions, reduce the compliance burden on the regulated community, and, consequently, further enhance the protection afforded to employees who use respirators.

In the final rulemaking for its Respiratory Protection Standard, OSHA noted that the revised standard was to "serve as a 'building block' standard with respect to future standards that may contain respiratory protection requirements." (See 63 FR 1265, 1998.) In this regard, the Agency believes that, to the extent possible, future substance-specific standards should refer to provisions of the final Respiratory Protection Standard instead of containing their own respirator requirements, including the generic APF and MUC provisions specified in this proposed rulemaking. However, on occasion a substance-specific standard may have respirator-selection requirements that supplement or supplant the generic APF and MUC provisions (*e.g.*, organic-vapor cartridge and canister procedures, prohibiting use of filtering facepieces or half-mask respirators) that are necessary for ensuring adequate employee protection against the toxic substance regulated by the standard. Accordingly, the Agency is retaining a number of existing respirator-selection provisions that are unique to the substance-specific standards; the following paragraphs describe these provisions, and provide OSHA's rationale for retaining them.