

LANL: Los Alamos National Laboratory.
 LLNL: Lawrence Livermore National Laboratory.
 MSHA: Mine Safety and Health Administration.
 MUC: Maximum Use Concentration (*see* definition in proposed regulatory text).
 NIOSH: National Institute for Occupational Safety and Health.
 NRC: Nuclear Regulatory Commission.
 OSHA: Occupational Health and Safety Administration.
 PAPR: Powered air-purifying respirator (*see* definition below).
 PEL: Permissible Exposure Limit (an occupational exposure level specified by OSHA).
 PPF: Program Protection Factor (*see* definition below under "Protection factor study").
 QLFT: Qualitative fit test (*see* definition below).
 QNFT: Quantitative fit test (*see* definition below).
 RDL: Respirator Decision Logic (respirator selection guidance developed by NIOSH that contains a set of respirator protection factors).
 REL: Recommended Exposure Limit (an occupational exposure level recommended by NIOSH).
 SAR: Supplied-air respirator (*see* definition below).
 SCBA: Self-contained breathing apparatus (*see* definition below).
 WPF: Workplace Protection Factor (*see* definition below under "Protection factor study").
 TLV: Threshold Limit Value (an occupational exposure level recommended by ACGIH).
 SWPF: Simulated Workplace Protection Factor (*see* definition below under "Protection factor study").

B. Definitions

Terms followed by an asterisk (*) refer to definitions that can be found in paragraph (b) ("Definitions") of OSHA's Respiratory Protection Standard (29 CFR 1910.134).

Air-purifying respirator*: A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

Atmosphere-supplying respirator*: A respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes SARs and SCBA units.

Canister or cartridge*: A container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

Continuous flow respirator: An atmosphere-supplying respirator that

provides a continuous flow of breathable air to the respirator facepiece.

Demand respirator*: An atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation.

Filter or air-purifying element*: A component used in respirators to remove solid or liquid aerosols from the inspired air.

Filtering facepiece (or dust mask)*: A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

Fit factor*: A quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

Fit test*: The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.

Helmet*: A rigid respiratory inlet covering that also provides head protection against impact and penetration.

High-efficiency particulate air filter*: A filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

Hood*: A respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

Immediately dangerous to life or health*: An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

Loose-fitting facepiece*: A respiratory inlet covering that is designed to form a partial seal with the face.

Negative pressure respirator (tight-fitting)*: A respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

Positive pressure respirator*: A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

Powered air-purifying respirator*: An air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

Pressure demand respirator*: A positive pressure atmosphere-supplying

respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

Protection factor study: A study that determines the protection provided by a respirator during use. This determination is generally accomplished by measuring the ratio of the concentration of an agent (*e.g.*, hazardous substance) outside the respirator (C_o) to the agent's concentration inside the respirator (C_i) (*i.e.*, C_o/C_i). Therefore, as the ratio between C_o and C_i increases, the protection factor increases, indicating an increase in the level of protection provided to employees by the respirator. Four types of protection factor studies are:

Effective Protection Factor (EPF) study—a study, conducted in the workplace, that measures the protection provided by a properly selected, fit-tested, and functioning respirator when used intermittently for only some fraction of the total workplace exposure time (*i.e.*, sampling is conducted during periods when respirators are worn and not worn). EPFs are not directly comparable to WPF values because the determinations include both the time spent in contaminated atmospheres with and without respiratory protection; therefore, EPFs tend to understate the protection that would be obtained if the respirator were being worn at all times.

Program Protection Factor (PPF) study—a study that estimates the protection provided by a respirator within a specific respirator program. Like the EPF, it is focused not only on the respirator's performance, but also the effectiveness of the complete respirator program. PPFs are affected by all factors of the program, including respirator selection and maintenance, user training and motivation, work activities, and program administration.

Workplace Protection Factor (WPF) study—a study, conducted under actual conditions of use in the workplace, that measures the protection provided by a properly selected, fit-tested, and functioning respirator, when the respirator is correctly worn and used as part of a comprehensive respirator program. Measurements of C_o and C_i are obtained only while the respirator is being worn during performance of normal work tasks (*i.e.*, samples are not collected when the respirator is not being worn). As the degree of protection afforded by the respirator increases, the WPF increases.

Simulated Workplace Protection Factor (SWPF) study—a study, conducted in a controlled laboratory setting and in which C_o and C_i