Appendix B

Types of Respiratory Protection

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Type of Respirator	Advantages	Disadvantages
Air Purifying		
Air-Purifying Respirator (including powered sea level) [PAPRs])	Enhanced mobility	Cannot be used in IDLH or oxygen-deficient atmospheres (less than 19.5 percent oxygen at air-purifying respirators
	Lighter in weight than an SCBA; generally weighs 2 pounds or less (except for PAPRs)	Limited duration of protection; may be hard to gauge safe operating time in field conditions
		Only protects against specific chemicals, and up to specific concentrations
		Use requires monitoring of contaminant and oxygen levels
		Can only be used: (1) against gas and vapor contaminants with adequate warning properties; or (2) for specific gases or vapors provided that the service is known and a safety factor is applied, or if the unit has an ESLI (end-of-service-life-indicator)
Atmosphere-Supplying		
Self-Contained Breathing Apparatus (SCBA)	Provides the highest available level of protection against airborne contaminants and oxygen deficiency	Bulky, heavy (up to 35 pounds)
		Finite air supply limits work duration
	Provides the highest available level of protection under strenuous work conditions	May impair movement in confined spaces

Appendix B (continued)

Type of Respirator	Advantages	Disadvantages
Positive Pressure Supplied-Air Respirator (SAR)	Enables longer work periods than an SCBA	Not approved for use in IDLH or oxygen-deficient atmospheres (less 19.5 percent oxygen at sea level) unless equipped with an emergency egress unit, such as an escape-only SCBA, that can provide immediate emergency respiratory protection in case of air line failure
(also called air line respirator)	Less bulky and heavy than an SCBA; SAR equipment weigh less than 5 pounds (or around 15 pounds, if escape SCBA protection is included)	Impairs mobility
	Protects against most airborne contaminants	Mine Safety and Health Administration/ NIOSH certification limits hose length to 300 feet
		As the length of the hose is increased, the minimum approved airflow may not be delivered at the faceplate
		Air line is vulnerable to damage, chemical contamination, and degradation. Decontamination of hoses may be difficult
		Worker must retrace steps to leave work area
		Requires supervision/monitoring of the air supply line