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From: dave@airsystems.com
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To: NIOSH Docket Office (CDC)
Cc: Chen, Jihong (Jane) (CDC/NIOSH/EID) (CTR)
Subject: 083-B - Supplied Air Respirators (SAR) Comments

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Comments

Air Systems International, Inc.(ASI) has been a manufacturer of portable and fixed Grade-D breathing air systems for over 25 years. I would like to address both the Basic Requirements section and the Enhanced Requirements sections with regard to the elements that make up a Grade-D breathing air system.

BASE REQUIREMENTS: All manufacturers should be responsible for certification and verification of their own equipment. ASI does not manufacture a respirator, however, we provide low pressure and high pressure breathing air systems that will provide the maximum flow and pressure for any respirator on the market.

A. COMPRESSORS

1) All low pressure air pumps(max. 15psi output) should be classified as a compressor and adhere to the basic safety requirements for all compressors, e.g., carbon monoxide monitor, unit placed in clean breathing air environment, etc. Each air pump should be rated at its output flow and pressure capability, not the theoretical output cfm.

2) Oilless air pumps deliver warm air and some cooling is available through the use of a holding tank. Some cooling is available through secondary cooling devices and some cooling is available simply through the longer lengths of hose. Restricting the use of air pumps because of higher output temperatures is going to remove a safety tool that many of the low budget end users rely on.

3) No restriction on the size or number of workers should be placed on mobile compressors. The end user has developed his own parameters to meet for the job application. As a manufacturer, it is our job to design the system to meet required flow and pressure for the number of workers.

FILTRATION:

1) All manufacturers of fixed or portable Grade-D filtration systems must design the system to meet the maximum flow required for the respirator used and the number of workers claimed. A small safety factor should be designed into all flow requirements. All performance data should be available to the end user.

2) All Grade-D filtration systems should be tested by the end user for Grade-D air quality from an independent third party laboratory. This is similar to the NFPA requirements for quarterly air testing requirements.

AIR DISTRIBUTION:

1) Clearly define to the end user that the Point-of-Attachment is the point where the quick connect coupling for the respirator is fixed and that this point must contain an adjustable pressure regulator and a safety relief valve. This point can be hundreds of feet from the compressor or compressed air source.

2) Air Distribution systems can be found on low pressure and high pressure systems, e.g., portable air cylinder carts. Again, any regulator used by the manufacturer must be approved and documented to flow the cfm required for the number of workers on the system.

3) If tool fittings are used in the same air distribution systems, it is the user's responsibility to determine the tool's air consumption (cfm) and calculate the total flow for his air distribution system. It is vital to leave this option the end user since so many emergency response workers must wear airline respirators and operate rescue tools simultaneously.

ENHANCED REQUIREMENTS: ASI designs and manufactures Automatic Back-up air systems for use in IDLH environments. Our systems supplement the NIOSH requirement for a 5 minute escape SAR. Our systems use large capacity high pressure cylinders to meet the end users needs. A chemical or nuclear facility may need to supply 30 minutes of reserve air to 40 employees in the event their main compressor system fails. There should be no restriction on the size or use of this type of system. We manufacture both audible and visual alarms to signal the workers of system failure. These systems are essential in work environments where the worker can not physically enter or egress with a standard 5-minute SAR, e.g., working in the wings of aircraft fuel cells.

Please feel free to contact me to clarify any of the above points I have noted.