

**National Personal Protective
Technology Laboratory**

**Supplied-Air Respirator (SAR)
Airsource Systems**

Policy and Standards Development Branch

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Overview of Technical Aspects Specific to Proposed Subpart J Airsource Systems

- All SAR requirements will remain Subpart J
- The present regulations have been in place for decades
- With the proposed changes, many Airline SAR should be able to meet the requirements without change
- Other Airline SAR will require very little change
- Subpart J will contain new **optional** requirements such as

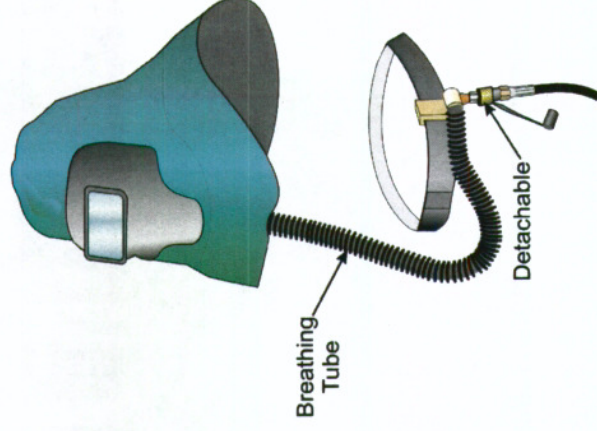
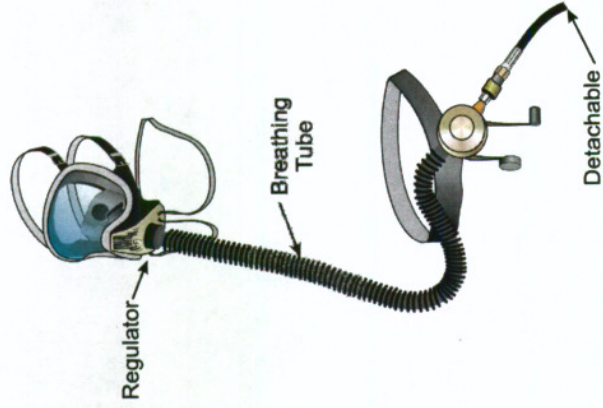
IDLH

CBRN

AIRSOURCE

Subpart J Airline SAR Requirements are Continuing with Updates

- Airline Type**
- Air supply line and respiratory inlet covering with coupling for connection to Grade D or better breathing gas source

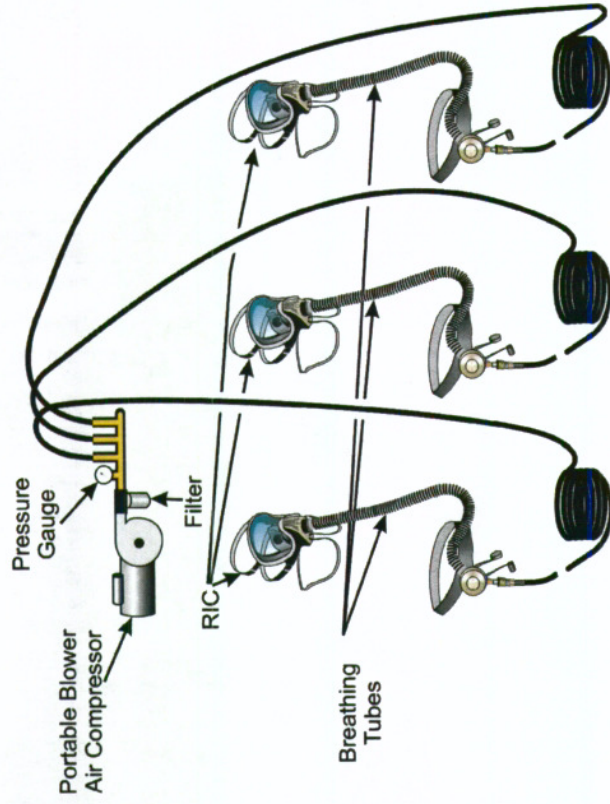


Examples of Tight and Loose Fitting Airline Type SAR

Subpart J Airsource Requirements are Being Added with New Criteria

Airsource Type

- Portable blower/air compressor with air supply line and respiratory inlet covering certified as a complete system



Typical Tight Fitting Airsource Type SAR

Background Information for Adding the Airsource Specifications

- NIOSH (42CFR84) sets requirements from the stationary point of connection of the respirator up to and including the respiratory inlet covering
- OSHA (29CFR1910.134(i)) sets requirements from the stationary compressor to the stationary point of connection of the respirator
- When stationary compressor respirator systems are used, **all** components of the SAR system are evaluated to ensure a safe and adequate supply of breathing air for the user

Background Information for Adding the Airsource Specifications (Cont.)

- Presently there are no standards to evaluate Airsource systems to ensure a safe and adequate supply of breathing air for the user
- Respirator manufacturers obtain a zero-hose length respirator approval intended for stationary work site applications
- Others will combine these respirators with portable compressors or blowers into portable respirator systems
- Users and others selling these products don't realize that **only part** of the system has been evaluated to ensure a safe and adequate supply of breathing air for the user

Background Information for Adding the Airsorce Specifications (Cont.)

- Sales and other publicity reinforces the misunderstanding that the system is approved
- Misinformed sales representatives have been insistent that their systems are indeed NIOSH approved
- NIOSH believes that users of portable systems should be **afforded the same assurance of a safe and adequate air supply** whether they are using a portable Airsource system or a stationary Airline system

Examples of Publicity Pertaining to Airsource Respirators



Unit Shown with full face mask



NIOSH APPROVED

RESPIRATORS

- Misleading or false advertisements
 - Claims of meeting NIOSH performance requirements without certification
 - Misunderstanding or misrepresentation of standards

- These simple yet effective NIOSH approved fresh air breathing systems take the fear out of working with dangerous isocyanates, dusts, mists, and harmful vapors
- All of our products exceed the NIOSH airflow requirements
- ...modified to be OSHA, NIOSH & MSHA Approved

Airsource Respirator Outcomes

- Manufactures will be able to obtain typical SAR Airline approvals with expanded flexibility (CBRN, IDLH, no airline length restrictions)
- Manufacturers will be able to obtain new Airsource approvals (which will also include CBRN, IDLH, no airline length restrictions)
- Manufacturers can have respirators approved both ways (as Airline and/or as Airsource) each with the option of CBRN and/or IDLH)
- Users will be assured that the entire system is approved whether it be stationary (Airline) or portable (Airsource)



Highlights of Proposed Airsource Requirements

Portable

- Readily moved or carried (100 lb maximum) or rolled via a permanently-mounted manually propelled cart (300 lb maximum) not including respiratory inlet coverings, hoses, or other components but including batteries, cords, transformers, etc. as needed to power the respirator system
- May not be attached or mounted in any way to a structure or self propelled vehicle (ex.- ATV)

Performance Evaluation

- 8 hours a day for 15 days in the most demanding configuration

Highlights of Proposed Airsource Requirements (Cont.)

- Noise Level**
- ≤85 dBA at a 3 foot diameter circle around the portable blower/air compressor
- Temperature**
- System components exceeding 60 °C shall be protected against incidental user contact
- Multiple Users**
- Permitted but must perform such that each hose (user) shall receive proper air flow regardless of demand in other hoses
- Pneumatic Takeoff**
- Permitted but must perform such that there is safe and reliable air flow to the respiratory inlet covering(s) under all conditions

Highlights of Proposed Combination SAR/SCBA Airsource Requirements

- Airsource Combination SAR/SCBA requirements are the same as Airline
- Airsource SAR/SCBA will incorporate a 5 or 10 min. duration SCBA escape air cylinder
- With a 15 minute or longer duration SCBA air cylinder - up to 20% capacity may be used for entry
- Automatic switch from supplied air to air cylinder
- Alarm will notify user when the system is on cylinder air
- Requires tight fitting full facepiece

Highlights of Proposed CBRN Airsource Requirements

- Airsource CBRN Same as Airline CBRN
- 15 minute or longer duration escape air cylinder
- No bottled air use for entry
- Automatic switch from supplied air to air cylinder
- Alarm will notify user when the system is on cylinder air
- Criteria which have been established for CBRN SCBA respirators will be applied to combination SAR/SCBA
 - Requires tight fitting full facepiece
 - Durability conditioning
 - Agent testing

Questions and Discussion of Proposed Airsorce Requirements

Input is Encouraged

- All comments, questions and discussions are encouraged during the panel session and public comment period
- Comments and questions should be formally submitted to the docket office

Supplied-Air Respirator (SAR) NIOSH Docket #083B

Stakeholder Input can be submitted by

- Mail: NIOSH Docket Office
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