Title: Incompatible MSA Self-Contained Breathing Apparatus (SCBA) Masks and Regulators

Identifier: INEEL-97090

Date: 1997-02-26

Lesson Learned Statement:

Failure to retrofit all Mine Safety Appliance (MSA, manufacturer) Self-Contained Breathing Apparatus (SCBA) units at both the regulator and the facepiece may render the units unusable in emergency situations, causing delays in emergency response time.

EXECUTIVE SUMMARY: Failure to ensure the MSA SCBA units at TRA had compatible 2nd stage regulators and facepiece assemblies caused a delay in the emergency response to a freon release at the ATR.

Discussion:

On 2/25/97, a large Freon (R-22) release occurred in the basement of the ATR facility at the Test Reactor Area (TRA). The release resulted in an evacuation of personnel from most of the ATR facility, and MSA SCBAs were required for entry into the spill area. When personnel obtained an SCBA for entry, the SCBA facepiece was found to be incompatible with the SCBA 2nd stage regulator unit. Another MSA SCBA unit was also found to have an incompatible regulator and facepiece. Personnel were able to make compatible units from the two types of regulator/facepiece combinations to make the entry.

Analysis:

Immediately after the incident, all 21 SCBA units at TRA were inspected, and all incompatible facepieces and regulators were pulled out of service. Some time ago, MSA had a problem with a regulator falling off the facepiece because the connection didn't seal properly. Thus, MSA designed a clip to hold the 2nd stage regulator/facepiece connection in place. Of the 21 TRA units inspected, 16 had this clip-style connection. Since that time, MSA has designed a new mask mounted regulator (MMR) with 1/4 turn quick-connect which snaps securely into place to replace the clip-style connection. All new MSA SCBA units come with the 1/4 turn quick connect. The problem is that the old and new facepiece and regulator connections are not compatible. Apparently, 5 new MSA SCBA units were ordered for TRA, and the facepieces and regulators from the old and new style MSA SCBA units were eventually intermixed. All MSA SCBA units at TRA were inspected and the 5 units with the MMR with 1/4 turn quick-connect kits were taken out of service to eliminate the possibility of incompatible connections being placed together for use.

FUTURE ACTIONS: 1) All MSA SCBA units at the INEL (sic) will be retrofitted with the MMR with 1/4 turn quick-connect kit to eliminate the possibility of placing incompatible facepieces and 2nd stage regulators with the same unit. 2) TRA will borrow 16 MSA SCBA units with the MMR with 1/4 quick-connect kit from the Chemical Processing Plant until the INEL (sic) fire department can retrofit the 16 old-style facepieces and regulators currently at TRA. 3) All INEL (sic) facility respirator points-of-contact will check all MSA SCBA units in their respective areas to ensure all facepieces and regulators are compatible.
and schedule a time with the INEL (sic) fire department to retrofit any old-style facepieces and regulators found.

**Recommended Actions:**

Check all MSA SCBA units to ensure all facepieces and regulators are compatible.

**Originator:**

Idaho National Engineering and Environmental Laboratory (INEEL), Occupational Health

**Validator:**

N/A

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**Name Of Authorized Derivative Classifier:**

D. F. Trenchak

**Name Of Reviewing Official:**

N/A

**Priority Descriptor:**

Red / Urgent

**Keywords:**

MSA, SCBA, INCOMPATIBLE, REGULATOR, FACEPIECE, RETROFIT

**References:**

Occurrence Report: ID--LITC-ATR-1997-0006

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**DOE Function / Work Categories:**

Occupational Safety & Health - General

**ISM Category:**
Hazard:

Personal Injury / Exposure - Airborne Materials

*End of Lesson!*