

June 9, 1994

Mr. Tim Merinar
National Institute for Occupational Safety and Health
Certification and Quality Assurance Branch
944 Chestnut Ridge Road
Morgantown, West Virginia 25505

Dear Mr. Merinar

I wish to thank you for the e-mail response via internet that provided electronic copies of the two requested NIOSH Respirator User Notices. The US Nuclear Regulatory Commission (NRC) included these notices as attachments to an Information Notice (IN) that was issued to NRC licensees for nuclear power reactors and for fuel facilities. The electronic copies made it possible to include the NIOSH notices with the associated NRC IN that was placed on our Tech Specs Plus electronic bulletin board system (BBS). This BBS is provide as a public service to the nuclear industry and the public. It can be reached via an toll free number, 800-679-5784. The Tech Specs Plus BBS is also accessible via BBS Gateway 63 on FedWorld, operated by the National Technical Information Service. FedWorld can be reached at 703-321-8020, has over 65 lines, and also reached via internet; telnet fedworld.gov.

Attached is a copy the NRC IN 94-35 as provided on the Tech Specs Plus BBS. We simulated the letter head information from the original copies. Again, thank you for your assistance.

Sincerely,

Original Signed By

Thomas G. Dunning
System Operator
NRC Tech Specs Plus BBS

Attachment:
As stated

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555-0001

June 9, 1994

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National Institute for Occupational Safety and Health
Certification and Quality Assurance Branch
944 Chestnut Ridge Road
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Sincerely,

A handwritten signature in cursive script, appearing to read "Thomas G. Dunning".

Thomas G. Dunning
System Operator
NRC Tech Specs Plus BBS

Attachment:
As stated

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION &
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
WASHINGTON, D.C. 20555

May 16, 1994

NRC INFORMATION NOTICE 94-35: NIOSH RESPIRATOR USER NOTICES, "INADVERTENT SEPARATION OF THE MASK-MOUNTED REGULATOR (MMR) FROM THE FACEPIECE ON THE MINE SAFETY APPLIANCES (MSA) COMPANY MMR SELF-CONTAINED BREATHING APPARATUS (SCBA) AND STATUS UPDATE"

Addressees

All holders of operating licenses or construction permits for nuclear power reactors, and all licensed fuel facilities.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees to two recent respirator user notices issued by the National Institute for Occupational Safety and Health (NIOSH) of the Department of Health and Human Services concerning the unexpected separation of mask-mounted regulators from self-contained breathing apparatus (SCBA) facepieces during firefighting activities. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances

On February 23, 1994, NIOSH issued a respirator user notice (Attachment 1) describing factors that can contribute to the separation of mask-mounted regulators from SCBA facepieces. The unexpected separation of a mask-mounted regulator could result in an individual being unprotected in an environment that might pose an immediate threat to the life and health of that individual. These regulators are used on mask-mounted regulator SCBA with the following NIOSH certification numbers: TC-13F-256, TC-13F-257, TC-13F-258, and TC-13F-302. The affected regulators have a quick-connect mechanism and are designated as Mine Safety Appliances Company part number 492488.

In addition, the respirator user notice applies to certain Mine Safety Appliances Company combination air-line and SCBA devices with the following certification numbers: TC-13F-266 and TC-13F-267. The affected regulators have a quick-connect mechanism and are designated as Mine Safety Appliances Company model number 7-1047-1.

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Mask-mounted regulator and combination air-line and SCBA devices with regulators that attach to the facepiece with a threaded connector are not affected by the respirator user notice.

On March 31, 1994, NIOSH issued a respirator user notice status update (Attachment 2), describing the development of a Neckstrap/Regulator-Retainer Kit by Mine Safety Appliances Company and accepted by NIOSH. This neckstrap/regulator-retainer, when properly installed, provides a lock for the regulator-to-facepiece connection. The user notice update states that this retainer must be installed on all Mine Safety Appliances Company mask-mounted regulator respirators used at temperatures below 32 degrees Fahrenheit (F) in order to maintain the NIOSH approval. Although NIOSH believes that proper maintenance will prevent these failures in warm-weather service, NIOSH suggests continual use of the retainer to prevent further occurrences of inadvertent regulator/facepiece separation.

Licensees may wish to share this information with other potential users, such as local fire departments.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact the technical contacts listed below or the appropriate Office of Nuclear Reactor Regulation project manager.

/s/'d by Robert F. Burnett

/s/'d by Brian K. Grimes

Robert F. Burnett, Director
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Brian K. Grimes, Director
Division of Operating Reactor Support
Office of Nuclear Reactor Regulation

Technical contacts: D. Carter, NRR
(301) 504-1848

J. Roth, NMSS
(301) 504-3427

Attachments:

1. NIOSH Respirator User Notice - February 23, 1994
2. NIOSH Respirator User Notice (Status Update) - March 31, 1994
3. List of Recently Issued NMSS Information Notices
4. List of Recently Issued NRC Information Notices

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
National Institute for Occupational
Safety and Health — ALOSH
944 Chestnut Ridge Road
Morgantown, WV 26505 — 2888

February 23, 1994

NIOSH Respirator User Notice**Inadvertent Separation of the Mask-Mounted Regulator (MMR)
from the Facepiece on the Mine Safety Appliances (MSA) Company MMR
Self-Contained Breathing Apparatus (SCBA)**

The National Institute for Occupational Safety and Health (NIOSH) and MSA have received reports of unexpected separation of MMRs from SCBA facepieces during firefighting activities. These regulators are used on MMR SCBA with the following certification numbers: TC-13F-256 (30-minute low pressure SCBA), TC-13F-257 (30-minute high pressure SCBA), TC-13F-258 (30-minute high pressure SCBA), and TC-13F-302 (45-minute high pressure SCBA). The affected regulators have a quick-connect mechanism and are designated as MSA part number 492488.

In addition this User Notice applies to certain MSA combination air-line devices with the following certification numbers: TC-13F-266 and TC-13F-267 (combination air-line and SCBA). The affected regulators have a quick-connect mechanism and are designated as MSA model number 7-1047-1.

It should be noted that MMR and combination air-line and SCBA devices with regulators that attach to the facepiece with the threaded connector are not affected by this Notice.

If the MMR separates from the facepiece, the wearer is left unprotected. Such a separation could be life threatening since these SCBA may be used in immediately dangerous to life and health environments.

The manufacturer has identified three contributing factors that can lead to regulator separation:

1. Lack of lubrication of the facepiece adapter O-ring. Not lubricating this O-ring will greatly increase the force required to insert the second-stage regulator into the facepiece. This can result in a user believing the regulator is locked into the facepiece when it is actually only held in by the friction of the O-ring. If the regulator is not properly locked into the facepiece, subsequent disengagement can occur. The manufacturer has published the proper lubrication procedure for the facepiece adapter O-ring which must be followed to ensure proper operation. The manufacturer has reported that many users are not lubricating this O-ring.
2. Dirt and debris in the quick-connect mechanism. Dirt and debris in the quick-connect mechanism can prevent it from properly locking into the facepiece. The manufacturer has published a procedure for the proper cleaning of the quick-connect mechanism, as described in MSA's Product Information News, Number 2, June 1992.
3. Ice formation in the quick-connect mechanism during cold weather operation. If water enters the quick-connect mechanism and freezes during cold weather operation the regulator may not properly lock into the facepiece. Care must be taken before the regulator is inserted into the

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facepiece to ensure that any ice formation inside the quick-connect mechanism will not interfere with its ability to return to the locked position. This can be done by operating the quick-connect mechanism and visually checking to make sure the mechanism is working properly prior to insertion of the regulator into the facepiece.

In the interim, MSA recommends the following: (1) Follow the manufacturer's instructions regarding the proper lubrication and cleaning of the quick-connect mechanism. (2) Make sure the quick-connect mechanism is operating properly prior to inserting it into the facepiece. (3) Follow the procedure detailed in the MSA Level I instruction manual including checking the regulator-to-facepiece connection by grasping and pulling on the regulator. Perform this check often during use to ensure the regulator is properly secured. Contact your local MSA office at 1-800-672-2222 if you have questions or need to obtain instruction manuals or maintenance instructions for the proper use and care of the MMR SCBA.

In addition to these three known causes for regulator disengagement, there have been several field reports that ice buildup on the second-stage regulator and facepiece assembly may cause inadvertent disengagement. In subfreezing temperatures ice may form on the junction between the facepiece and the quick-connect handwheel. When this junction is not free to rotate, force on the air-line connecting the air bottle to the regulator may activate the quick-disconnect and cause inadvertent separation to occur. The investigation into the role that ice buildup plays in inadvertent regulator disengagement is continuing by both MSA and NIOSH. Further information will be released as it becomes available.

At this time, NIOSH does not recommend removing the MMR SCBA from warm-weather service; the cleaning and lubrication procedures recommended by the manufacturer seem sufficient to eliminate the possibility of inadvertent warm-weather MMR separation. However, in subfreezing temperatures in the presence of water spray, NIOSH recommends against the use of MMR SCBA. This recommendation stands until data and information are sufficient to convince NIOSH that inadvertent MMR separation is not possible for a properly used and maintained SCBA. Because of the life-threatening implications of any SCBA failure, NIOSH considers the possibility of any failure to be unacceptable.

Users of MSA MMR SCBA who have experienced inadvertent regulator/facepiece separations, or other failure modes, are encouraged to report these incidents to both NIOSH and MSA. Information should be forwarded in writing to NIOSH in care of Mr. Tim Merinar, NIOSH, Certification and Quality Assurance Branch, 944 Chestnut Ridge Road, Morgantown, West Virginia 26505 and MSA in care of Mr. Charles Seibel, Manager of Product Safety, MSA, P.O. Box 426, Pittsburgh, Pennsylvania 15230 or by telephone at 1-800-672-5555 (FAX 412-967-3309). Separations or any other failures involving any SCBA should also be reported to NIOSH.

Sincerely yours,

(Original signed by R.W. Metzler)*

Richard W. Metzler, Chief
Certification and Quality
Assurance Branch
Division of Safety Research

**An electronic copy of this Notice was provided to NRC courtesy of the National Institute of Occupational Safety and Health.*

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
National Institute for Occupational
Safety and Health -- ALOSH
944 Chestnut Ridge Road
Morgantown, WV 26505 -- 2888

NIOSH Respirator User Notice
March 31, 1994

Status Update on the Inadvertent Separation of the
Mask-Mounted Regulator (MMR)
from the Facepiece on the Mine Safety Appliances (MSA) Company
MMR Self-Contained Breathing Apparatus (SCBA)

On February 23, 1994, the National Institute for Occupational Safety and Health (NIOSH) issued a Respirator User Notice regarding the inadvertent separation of the MMR from the facepiece on the MSA MMR SCBA and combination airline/SCBA that have regulators with quick-disconnect mechanisms. These regulators are used on MMR SCBA with the following certification numbers: TC-13F-256 (30-minute low-pressure SCBA), TC-13F-257 (30-minute high-pressure SCBA), TC-13F-258 (60-minute high-pressure SCBA), and TC-13F-302 (45-minute high-pressure SCBA). The affected regulators have a quick-connect mechanism and are designated as MSA part number 492488.

These regulators are also used on certain MSA combination airline devices with the following certification numbers: TC-13F-266 and TC-13F-267 (combination airline/SCBA). The affected regulators have a quick-connect mechanism and are designated as MSA model number 7-1047-1.

A Neckstrap/Regulator-Retainer Kit has been developed by MSA and has received NIOSH acceptance. This neckstrap/regulator-retainer, when properly installed, provides a lock for the regulator-to-facepiece connection. This retainer must be installed on all MSA MMR respirators used at temperatures below 32 degrees Fahrenheit (F) in order to maintain the NIOSH approval. Although not required at temperatures above 32 degrees F, continual use of the retainer will prevent further occurrences of inadvertent regulator/facepiece separation, should the quick-disconnect mechanism fail to lock properly when inserted into the facepiece.

Use of the neckstrap/regulator retainer is not a substitute for following the manufacturer's recommendations for maintenance and use. Failure to properly lubricate the facepiece adapter O-ring can result in increasing the force necessary to insert the MMR. Failure to properly clean and maintain the quick-disconnect mechanism can result in the build-up of dirt and debris in the locking mechanism. Both of these conditions can result in the regulator failing to

Page 2

properly lock onto the facepiece, thus making inadvertent regulator/facepiece separation likely, even at temperatures above 32 degrees F. The Institute has requested that MSA distribute the neckstrap/regulator retainer to all end users of MMR SCBA, as well as provide it on all new purchases.

In the February 23 Respirator User Notice, NIOSH recommended that MMR SCBA not be used at temperatures below 32 degrees F in the presence of water spray. This recommendation is no longer in effect for those respirators that have the neckstrap/regulator retainer properly installed. All field-deployed MMR SCBA used at temperatures below 32 degrees F must have the neckstrap/regulator retainer properly installed.

Contact MSA for the specific details regarding the availability of the Neckstrap/Regulator Retainer Kit. Their address is:

Mine Safety Appliances Company
P.O. Box 439
Pittsburgh, Pennsylvania 15230
Telephone: (800) 672-5555

Separations or any other failures involving any SCBA should be reported to NIOSH by contacting Mr. Tim Merinar, NIOSH, Division of Safety Research, Certification and Quality Assurance Branch, 944 Chestnut Ridge Road, Morgantown, West Virginia 26505-2888, either in writing or by calling (304) 284-5713.

Sincerely yours,

(Original signed by R.W. Metzler)*

Richard W. Metzler, Chief
Certification and Quality
Assurance Branch
Division of Safety Research