

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

April 10, 2000

NRC INFORMATION NOTICE 2000-07: NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH RESPIRATOR USER NOTICE: SPECIAL PRECAUTIONS FOR USING CERTAIN SELF-CONTAINED BREATHING APPARATUS AIR CYLINDERS

Addressees

All holders of operating licenses for nuclear power reactors, non-power reactors, and all fuel cycle and material licensees required to have an NRC-approved emergency plan.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees about a recent Respirator User Notice issued by the National Institute for Occupational Safety and Health (NIOSH). The NIOSH notice recommends special attention and increased oversight and inspections for certain high-pressure aluminum seamless and aluminum composite hoop-wrapped cylinders made of aluminum alloy 6351-T6. These cylinders may develop cracks in the neck and shoulder area, leading to greater than normal loss of air during storage and ruptures leading to serious injury or death. Additionally, short of catastrophic failures, the unexpected loss of air (and reduction of service time) could lead to reduced worker safety and less effective emergency response.

This NRC notice updates information previously provided in NRC Information Notices 83-68, 84-34, 85-48, and 86-24. It is expected that recipients will review the information for applicability to their facilities and consider actions, if appropriate, to upgrade their self-contained breathing apparatus (SCBA) cylinder inspection program. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances

On December 7, 1999, NIOSH issued a Respirator User Notice recommending increased inspection and maintenance activities for all cylinders made of aluminum alloy 6351-T6 manufactured by Luxfer Gas Cylinders. These cylinders are susceptible to sustained load cracking, and can be identified by specific Department of Transportation (DOT) exemption numbers provided in Attachment 1. These DOT numbers are marked on the cylinder label. Note that Luxfer cylinders manufactured in the United States after 1988 use a different alloy and are not subject to the NIOSH notice. The affected cylinders are used on various NIOSH-approved SCBA, including various sizes and rated durations ranging from 5 to 30 minutes.

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To date, six SCBA cylinders have ruptured, and the most recent event occurred during refilling at a fire department on May 2, 1999, in North Carolina. No injuries were reported. The followup investigation of the incident revealed that the ruptured cylinder had been leaking before the failure.

NIOSH, after consultation with DOT, SCBA manufacturers, and Luxfer, developed seven safety precautions that, if followed, should reduce the user's risk of serious injury or death. The NIOSH notice provides contacts representing the manufacturer and an industry association who will provide inspection procedures to users of these high-pressure aluminum cylinders.

This information notice requires no specific action or written response. In the general interest of worker safety and maintaining an adequate emergency response capability, licensees may wish to share this information with other potential users, such as local fire departments. If you have any questions about the information in this notice, please contact the technical contacts listed below or the Office of Nuclear Reactor Regulation (NRR) project manager or appropriate Office of Nuclear Material Safety and Safeguards (NMSS) project manager.

/RA/

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Attachments:

1. NIOSH Respirator User Notice
2. List of Recently Issued NRC Information Notices

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LIST OF RECENTLY ISSUED
 NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
2000-06	Offsite Power Voltage Inadequacies	3/22/2000	All holders of operating licenses for nuclear power reactors, except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor
2000-05	Recent Medical Misadministrations Resulting from Inattention to Detail	3/06/2000	All medical licensees
2000-04	1999 Enforcement Sanctions for Deliberate Violations of NRC Employee Protection Requirements	2/25/2000	All NRC licensees
2000-03	High-Efficiency Particulate Air Filter Exceeds Mass Limit Before Reaching Expected Differential Pressure	2/22/2000	All NRC licensed fuel-cycled conversion, enrichment, and fabrication facilities
2000-02	Failure of Criticality Safety Control to Prevent Uranium Dioxide (UO ₂) Powder Accumulation	2/22/2000	All NRC licensed fuel-cycled conversion, enrichment, and fabrication facilities
2000-01	Operational Issues Identified in Boiling Water Reactor Trip and Transient	2/11/2000	All holders of licenses for nuclear power reactors
99-34	Potential Fire Hazard in the use of Polyalphaolefin in Testing of Air Filters	12/28/99	All holders of licenses for nuclear reactors and fuel cycle facilities
99-33	Management of Wastes Contaminated With Radioactive Materials	12/28/99	All medical licensees
99-32	The Effect of the Year 2000 Issues on Medical Licensees	12/17/99	All NRC medical licensees