

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

September 22, 1997

**NRC INFORMATION NOTICE 97-72: POTENTIAL FOR FAILURE OF THE OMEGA SERIES
SPRINKLER HEADS**

Addressees

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

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees to a potential for failure of the Omega Series sprinkler heads manufactured by Central Sprinkler Company of Lansdale, Pennsylvania. 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

Documents issued by state and local fire protection authorities state that independent laboratory testing of samples of certain Omega Series sprinkler heads demonstrated that water pressure necessary for sprinkler activation may exceed available system pressure (Maryland State Fire Marshall News Release, April 28, 1997, and Fairfax County, Virginia, Fire and Rescue Department, May 16, 1997, NRC Accession No. 9708140231). In the event of a fire, this situation could render sprinkler systems relied upon for the protection of structures, systems, or components important to safety inoperable.

The sprinkler heads of concern were manufactured between 1983 and June 1996 and include Models C-1, C-1A, R-1, R-1A, R-1M, EC-20, EC-20A, Model M Upright, Model M Pendent, Model M Sidewall, HEC-12, HEC-20, Prohibitor C-1A, Prohibitor EC-20A, Prohibitor HEC-12, Flow Control Pendent Flush, and Flow Control Pendent sprinkler heads. These sprinkler heads contain an EPDM rubber O-ring. The manufacturer has stated that contamination of the piping system from hydrocarbons or leak sealants may result in O-ring swell which increases the operating pressure of the sprinkler head above the listing requirement of 7 psig. State and local fire protection authorities report failure rates up to 45 percent and failures have been reported with specimens taken from stocks of spare sprinklers that had never been installed. In sprinkler heads manufactured after June 1996, the manufacturer has replaced the EPDM O-ring with a silicone O-ring. In a letter of comment on a draft version of this information notice, the manufacturer states that the silicone seal "...will prevent any excessive hydrocarbon based contamination concerns with...the sprinklers" (letter to Alfred E. Chaffee, NRC from Carmine Schiavone, Central Sprinkler Co., July 17, 1997, NRC

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9/29/97



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Accession No. 9708140231). Although the NRC has not verified the manufacturer's claims, the staff is not aware of any reported failures of the sprinkler heads that contain the silicone O-ring.

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 (NRR) or Office of Nuclear Material Safety and Safeguards (NMSS) project manager.

Elizabeth Q. Ten Eyck
Elizabeth Q. Ten Eyck, Director
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Office of Nuclear Material Safety and Safeguards

for J. B. Matthews
Jack W. Roe, Acting Director
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Attachments:

1. List of Recently Issued NMSS Information Notices
2. List of Recently Issued NRR Information Notices

Attachments filed in Packet.

LIST OF RECENTLY ISSUED
NMSS INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
97-65	Failures of High-Dose-Rate Remote Afterloading Device Source Guide Tubes, Catheters, and Applicators	08/15/97	All high-dose-rate remote afterloader licensees
97-64	Potential Problems Associated with Loss of Electrical Power in Certain Teletherapy Units	08/13/97	All U.S. Nuclear Regulatory Commission medical teletherapy licensees
97-61	U.S. Department of Health and Human Services Letter, to Device Manufacturers, on the Year 2000 Problem	08/06/97	All U.S. Nuclear Regulatory Commission medical licensees, veterinarians, Medical and manufacturers/distributors of medical devices
97-58	Mechanical Integrity of In-Situ Leach Injection Wells and Piping	07/31/97	Holders of and Applicants for Licenses for In-Situ Leach Facilities
97-57	Leak Testing of Packaging Used in the Transport of Radioactive Material	07/30/97	Suppliers and users of packaging for the transportation of radioactive material required to perform packaging leak tests
97-56	Possession Limits for Special Nuclear Material at the Envirocare of Utah Low-Level Radioactive Waste Disposal Facility	07/28/97	All licensees authorized to possess special nuclear material
97-55	Calculation of Surface Activity for Contaminated Equipment and Materials	07/23/97	All Uranium Recovery Licensees

**LIST OF RECENTLY ISSUED
NRC INFORMATION NOTICES**

Information Notice No.	Subject	Date of Issuance	Issued to
97-71	Inappropriate Use of 10 CFR 50.59 Regarding Reduced Seismic Criteria for Temporary Conditions	09/22/97	All holders of OLs for nuclear power reactors except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel
97-70	Potential Problems with Fire Barrier Penetration Seals	09/19/97	All holders of OLs for nuclear power reactors except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel
97-69	Reactor Trip Breakers and Surveillance Testing of Auxiliary Contacts	09/19/97	All holders of OLs for pressurized water reactors except those who have per- manently ceased operations and have certified that fuel has been permanently removed from the reactor vessel
97-68	Loss of Control of Diver in a Spent Fuel Storage Pool	09/03/97	Holders of a facility or construction permit issued for a power reactor pursuant to 10 CFR Part 50

OL = Operating License
CP = Construction Permit

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original signed by
 Elizabeth Q. Ten Eyck, Director
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 Office of Nuclear Material Safety and Safeguards

original signed by D.B. Matthews for
 Jack W. Roe, Acting Director
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- Attachments:
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Tech Editor has reviewed and concurred on 06/19/97
 DOCUMENT NAME: 97-72.IN
 *SEE PREVIOUS CONCURRENCE

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DATE	08/28/97	09/04/97	08/29/97	09/19/97

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DATE	08/ /97	08/ /97	08/29/97	08/ /97

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8/29 #2

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