

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

December 12, 1997

**NRC INFORMATION NOTICE NO. 97-86: ADDITIONAL CONTROLS FOR TRANSPORT OF
THE AMERSHAM MODEL NO. 660 SERIES
RADIOGRAPHIC EXPOSURE DEVICES**

Addressees

Registered users of the Model No. 660 series packages, and Nuclear Regulatory Commission industrial radiography licensees.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this notice to alert addressees to additional controls for transport that have been added to Certificate of Compliance No. 9033, for the Amersham Model No. 660 series radiographic exposure devices. It is expected that recipients will review the information for applicability to their operations. However, suggestions contained in this information notice are not NRC requirements, therefore, no specific action nor written response is required.

Description of Circumstances

In October 1997, Amersham Corporation of Burlington, Massachusetts, performed physical testing of the Model No. 660 series radiographic exposure devices. During the tests, one of the test units experienced an unexpected failure and did not meet the external radiation standards specified in 10 CFR Part 71.

Amersham subjected four Model No. 660 test specimens to the hypothetical accident test sequence described in 10 CFR 71.73. The test sequence consists of a 9-meter (30-foot) free drop, a 1-meter (40-inch) drop onto a puncture bar, and a thermal (fire) test. Because of damage sustained in the drop and puncture tests, the depleted uranium radiation shielding in one test unit was partially exposed during the subsequent thermal test. The exposed depleted uranium shield experienced significant oxidation and degradation during the thermal test. As a result, the test unit no longer provided shielding sufficient to meet the post-accident radiation limit specified in 10 CFR 71.51(a)(2).

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updated on
1/27/98

IDR-1/c



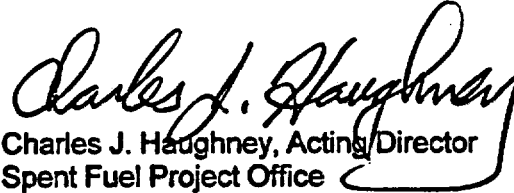
Discussion:

Certificate of Compliance No. 9033, for the Model No. 660 series packages, has been revised to specify additional controls to be used in transport. These controls are needed to ensure that the package does not sustain damage that may reduce its effectiveness in the event of a transportation accident including a fire. These controls apply to radiographic exposure devices identified as Model No. 660, 660E, 660A, 660AE, 660B, or 660BE. The additional controls are noted below:

1. For transportation in private carriage, the package must be either:
 - (a) properly secured within a box attached to the vehicle for the purpose of transporting or storing radiography devices. The package must be properly blocked, braced, and supported to prevent shifting within the box during transport; or
 - (b) properly secured within a steel box of welded construction or a steel drum. The package must be properly blocked, braced, and supported to prevent shifting within the steel box or steel drum during transport. The steel box or drum must be blocked, braced, and secured against movement within the vehicle.
2. For transportation by common carrier, the package must be properly secured within a steel box of welded construction or a steel drum. The package must be properly blocked, braced, and supported to prevent shifting within the steel box or steel drum during transport. The steel box or steel drum must be blocked, braced, and secured against movement within the vehicle.

These controls are temporary measures pending the development and testing of package design modifications. These controls must be implemented until they are removed from the Certificate of Compliance.

This information notice requires no specific action nor written response. If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate regional office.



Charles J. Haughney, Acting Director
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Technical contacts: Ross Chappell, NMSS
301-415-8510
E-mail: crc1@nrc.gov

Dave Tiktinsky, NMSS
301-415-8523
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Attachments:

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

**LIST OF RECENTLY ISSUED
NMSS INFORMATION NOTICES**

Information Notice No.	Subject	Date of Issuance	Issued to
97-75	Enforcement Sanctions Issued as a Result of Deliberate Violations of NRC Requirements	09/24/97	All U.S. Nuclear Regulatory Commission licensees
97-72	Potential for Failure of the Omega Series Sprinkler Heads	09/22/97	All holders of OLs or CPs for nuclear power reactors and fuel cycle facilities
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 Medical Device Manufacturers, on the Year 2000 Problem	08/06/97	All U.S. Nuclear Regulatory Commission medical licensees, veterinarians, 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

LIST OF RECENTLY ISSUED
NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
97-85	Effects of Crud Buildup and Boron Deposition on Power Distribution and Shutdown Margin	12/11/97	All holders of OLs for pressurized-water reactors, except those licensees who have permanently ceased operations and have certified that the fuel has been permanently removed from the reactor vessel
97-84	Rupture in Extraction Steam Piping as a Result of Flow-Accelerated Corrosion	12/11/97	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
95-49, Sup. 1	Seismic Adequacy of Thermo-Lag Panels	12/10/97	All holders of OLs for nuclear power reactors
97-83	Recent Events Involving Reactor Coolant System Inventory Control During Shutdown	12/05/97	All holders of OLs for pressurized-water reactors, except those licensees who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel
97-82	Inadvertent Control Room Halon Actuation Due to a Camera Flash	11/28/97	All holders of OLs for nuclear power reactors
97-81	Deficiencies in Failure Modes and Effects Analyses for Instrumentation and Control Systems	11/24/97	All holders of OLs for nuclear power reactors except those who have ceased operations and have certified that fuel has been permanently removed from the vessel

OL = Operating License
CP = Construction Permit

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Charles J. Haughney, Acting Director
 Spent Fuel Project Office
 Office of Nuclear Material Safety
 and Safeguards

Technical contacts: Ross Chappell, NMSS
 301-415-8510
 E-mail: crc1@nrc.gov

Dave Tiktinsky, NMSS
 301-415-8523
 E-mail: dht@nrc.gov

Attachments: *Attachments filed in Jacket*

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

"C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFC	NMSS / SFPO	E	NMSS / SFPO	E	NMSS / SFPO	E	OGC	E	NMSS / IMNS	E	NMSS (per fax)	N
NAME	NLOsgood		CRChappell		SFShankman		ENJensen		SLBaggett		EKraus	
DATE	11/25/97		11/25/97		11/26/97		12/02/97		12/02/97		11/24/97	

OFC	NMSS/SFPO	E										
NAME	CJHaughney											
DATE	12/05/97		/ 197		/ 197		/ 197		/ 197		/ 197	

DISK INCLUDED
 97-86.IN

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 (301) 415-8510 (301) 415-8523
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OFC	NMSS/ SFPO	E	NMSS/ SEPO	E	NMSS/ SFPO	E	OGC na record decision EJS	NMSS/ IMNS	E	NMSS EKraus
NAME	NLOsgood		CRChappell		SFShackman		ENJensen	SLBaggett		EKraus
DATE	11/25/97		11/25/97		11/26/97		12/02/97	12/2/97		11/24/97

OFC	NMSS/ SFPO	E								
NAME	CJHaughney									
DATE	12/5/97		/ /97		/ /97		/ /97	/ /97		/ /97

DISK INCLUDED
 S:/MODEL660.IN

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