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Your ref: Docket No. 71-9291
Our ref: LTR-LCPT-12-11

May 3, 2013

SUBJECT: Event Report - Docket 71-9291, Certificate of Compliance USA/9291/B(U)F-96,
Liqui-Rad (LR) Transport Unit Package

Dear Mr. Mark Lombard:

A written report is hereby submitted pursuant to 10 CFR 71.95. The written report is for an instance in which conditions of approval in the Certificate of Compliance for LR Transport Unit Package (USA/9291/B(U)F-96) were not observed in making a shipment.

(1) Abstract / Background

The LR Packaging is designed to transport Type B quantities of fissile uranyl nitrate solutions.

The containment boundary of the LR is defined as the containment vessel, primary lid and seal, and secondary lid and seal. This containment vessel is built in accordance with the ASME Pressure Vessel Code (Section VIII Division 1).

The primary and secondary lids provide a leak-tight seal, which is leak testable. Both of these lids are sealed with double O-rings, and secured by 5/8" stainless steel bolts and nuts (sixteen sets of nuts and bolts are used to secure the primary lid, while the secondary lid is secured by twelve). The closure torque required for each bolt or stud is 75 ft.-lbs. [+10 -0]

The Certificate of Compliance 9291, Revision 8, specifies condition 6 (b) as follows:

- 6 (b) Each packaging must be acceptance tested and maintained in accordance with the Acceptance Tests and Maintenance Program in Chapter 8 of the application.

Section 8.2 of the LR Safety Analysis Report for Packaging specifies as follows:

8.2 Maintenance Programs

The user shall establish written procedures for the annual maintenance and inspection of each LR requiring the following as a minimum.

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- ...
- 8.2 (g) Periodic leak tests, as described by ANSI N14.5-1997, shall be performed to verify that the containment boundaries of the package remain capable of limiting leakage of the payload to less than the maximum allowable leakage rate criterion of 1.0×10^{-3} ref-cc/sec...

This information is provided pursuant to 10 CFR 71.95 (c) (1).

(2) Narrative of the Event

LR containers are used to transport uranyl nitrate (<5.0 wt % U-235) from Nuclear Fuel Services (NFS) to Westinghouse. Westinghouse then returns the empty LR containers to NFS, for their reuse.

As part of the annual LR maintenance program carried out by Westinghouse, a qualified contractor, Leak Testing Specialists (LTS) is brought to the Westinghouse site to perform leak testing of LR containers. From March 4th-March 8th 2013, thirty-six(36) LR containers were leak tested by LTS.

On March 5th, shipments of LRs containing heels began from Westinghouse to NFS, using several of the freshly tested containers.

The afternoon of March 14th, the LTS quality assurance manager notified Westinghouse that there was a discrepancy in the reported range of pressures they used for the tests vs. the minimum pressure required for the test procedure, and it was quickly confirmed that the pressures used were incorrect.

As a result of the initial oversight, Westinghouse shipped eighteen (18) LR containers which were no longer within the limit of their most recent valid primary lid annual pressure test (nine of which had expired five days before shipment, and another set of nine which expired the day that they were shipped).

This information is provided pursuant to 10 CFR 71.95 (c) (2).

(3) Assessment of Safety Consequences and Implications of the Event

The shipment was sent and received without incident. No leaks or exposure to contamination occurred.

This information is provided pursuant to 10 CFR 71.95 (c) (3).

(4) Corrective Actions

Immediate actions taken:

This incident was captured in the Westinghouse corrective action program as Issue #13-080-C002. On March 14th, all shipments of LR containers between Westinghouse and NFS were stopped until the leak test issues were resolved.

March 19th-22nd, LTS retested the thirty-six(36) containers which had been effected, and QA was able to validate that the correct pressures were indeed being used. All packages passed this second set of pressure tests.

Corrective actions established to prevent recurrence of this issue are as follows:

- The LTS procedure was reviewed
- LTS personnel were retrained on the importance of operations to maintain the safe function of their client's packages.
- A QA directive was established in LTS for the review of test procedures prior to every test.

This information is provided pursuant to 10 CFR 71.95 (c) (4).

(5) Extent of Condition

Thirty-six(36) LR containers were affected by this, of which eighteen(18) were shipped outside of their annual inspection allowances.

A review of previous issues related to the LR containers did not find any similar occurrences.

This information is provided pursuant to 10 CFR 71.95 (c) (5).

(6) Contact

Please contact Matthew Presson at (803) 647-1793 for any additional information about this event.

This information is provided pursuant to 10 CFR 71.95 (c) (6).

(7) Extent of Exposure to Radiation

No individuals were exposed to radiation due to this issue.

This information is provided pursuant to 10 CFR 71.95 (c) (7).

Sincerely,

** Electronically approved*

Matthew R. Presson
Licensing, Compliance and Package Technology
WESTINGHOUSE ELECTRIC COMPANY, LLC

cc
Wes Stillwell, Director, Nuclear Fuel Transport

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