

10 CFR 71.95 REPORT EVALUATION FORM

Docket No.: 71-9279

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Package Model No.: TRUPACT-II

Report Submitted By: T. E. Sellmer

Report Date: May 9, 2007

Review the incoming report to determine if additional Commission or staff action is warranted. The review should consider whether the report identifies a generic defect or problem with the package design and the safety significance of the issue. Note that a high safety significance represents a potential for significant radiation exposure, medium safety significance represents a potential for some moderate radiation exposure, and low safety significance represents little or no potential for radiation exposure.

1. The report identifies:

- ☐ Significant reduction in the effectiveness of a package during use;
- ☐ Defect with a safety significance;
- ☒ Shipment in which conditions of the approval were not observed.

2. What is the safety significance? ☐ High ☐ Medium ☒ Low

3. Summary of the report:

A report (ML071700524) of a condition pursuant to 10 CFR 71.95 dated May 9, 2007, was received from Washington TRU Solutions, LLC (DOE's operator in charge of this shipping operation) regarding the use of packaging HalfPACT number 503 operated under NRC Certificate of Compliance Number 9279 {Rev. 4, Section 11(a)}.

The Advanced Mixed Waste Treatment Project (AMWTP) located at Idaho National Lab. reported to Washington TRU Solutions (WTS) that HalfPACT number 503 (a portion of shipment number IN070137) had been shipped on March 10, 2007, with a pre-shipment leakage rate test of the Outer Containment Assembly (OCA) using an unauthorized mixture of helium and nitrogen. The non-compliance event was discovered by AMWTP during a facility walk down activity after shipment number IN070137 had departed for the Waste Isolation Pilot Plant (WIPP) Site. The Department of Energy Carlsbad Field Office (DOE CBFO) and WTS allowed the shipment to proceed to WIPP Site because at the time of the notification from AMWTP, the shipment was more than half way to WIPP. For HalfPACT number 503, the required pre-shipment leakage rate testing of inner containment vessel, was performed on March 8. The WIPP received the shipment on March 11, 2007, and emplaced it in the underground on March 12, 2007. There were no component failures.

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Following the event, Washington TRU Solutions, LLC, performed an "Extended Condition Evaluation" which identified and tested an additional six TRUPACT-IIs and HalfPACTS in the same manner using an unauthorized mixture of helium and nitrogen. None of these six packages had been released for shipment. It also disassembled the nine other packages affected by this condition, performed the pre-shipment leakage test in accordance with the applicable safety analysis report (SAR) requirements prior to release for shipment.

Washington TRU Solutions, LLC, concluded that in the process of performing the required pre-shipment leakage rate testing of inner containment vessel, the operator ran out of helium. To complete the test, the backfill system was attached to a spare bottle containing nitrogen. This caused the use of an unauthorized mixture of helium and nitrogen to test the main containment o-ring seal and vent port plug o-ring seal on the OCA. The root cause of this pre-shipment non-compliance event was therefore caused by a failure of the AMWTP personnel to properly verify that the helium backfill system was connected to the correct test gas prior to performing the leak test.

4. Corrective actions taken by the licensee:

The shipper (AMWTP) issued a nonconformance report and:

- Implemented a revision to the applicable operations procedure to include additional actions to verify that helium is the test gas to be used prior to initiating pre-shipment leakage rate testing.
- Implemented secondary verification and sign off for verification of helium test gas at AMWTP prior to initiating pre-shipment leakage rate testing.
- Initiated work on instruction and procedure to include steps to verify helium gas bottle prior to connecting to the helium backfill system to perform pre-shipment leakage rate testing.
- Performed training of all effected personnel on all applicable procedure revisions and interim work instructions.
- Have representatives from CBFO and WTS perform a documented surveillance at AMWTP to verify the above corrective actions have been adequately implemented and are effective.
- Currently developing a procedure to properly handle and verify the contents of compressed gas cylinder at AMWTP.
- Conducted a CBFO TRUPACT-II and HalfPACT users lessons learned session.

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5. Staff comments:

There were no systems or components failures and no safety consequences as a result of the event.

6. Staff conclusion:

- ☒ The report does NOT identify generic design or license/certificate issues that warrant additional Commission or staff action. This report is considered closed.
- ☐ There is a need to take additional action. Provide a summary of the bases and recommended actions:

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