

10 CFR 71.95 REPORT EVALUATION FORM – ADDENDUM to June 11, 2012, report

Docket No.: 71-9341
Package Model No.: BEA Research Reactor (BRR)
Report Submitted By: Thomas Newton, Jr., MIT Nuclear Reactor Laboratory
Report Date: January 25, 2012, as supplemented on February 3 and April 18, 2012

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:

Due to an error on the fabrication drawing for the Model No. BEA Research Reactor (BRR) package, the outer seal on the lower drain port that was used to make shipments in the package was not in conformance with the drawings referenced in the certificate of compliance. The fabrication drawings specified Ranier Part No. NAS1523C9N, instead of NAS1523C10N. The seal supplied with the package, NAS1523C9N, was not the correct size and the licensee believed that the package would not pass the preshipment leak test. The seal specified in the drawings was not available from Ranier, so the licensee acquired an equivalent seal from Parker-Hannifin.

The Parker-Hannifin seals used in the shipment had essentially identical material specifications (ASTM M4AA710 A13 B13 F17 F48 Z) as the Ranier seals; the only difference being the temperature of retraction (F48) test that Parker-Hannifin does not require. Not performing this test is acceptable to the staff since the F17 suffix ensures appropriate testing of the seal's low temperature performance. The results of the seal tests for durometer, tensile strength and elongation, heat resistance, compression set, cold temperature resistance, and cold temperature resilience met the specifications in the acceptance tests in chapter 8 of the safety analysis report.

The NRC staff finds that the seals used in the shipment, while from a different manufacturer, are essentially identical to the seals that were specified on the drawings referenced in the certificate of compliance.

4. Corrective actions taken by the licensee:

- The fabrication drawing was revised to specify the correct size and manufacturer of the seals. The correct seals have been ordered, will be used in future shipments from MIT, and will comply with the drain seal specifications shown in the drawings on the certificate of compliance.

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5. Staff comments:

Staff agrees that the seals used in the shipment are essentially identical to those on the drawings and that the safety significance of this event is low.

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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