

# 10 CFR 71.95 REPORT EVALUATION FORM

**Docket No.:** 71-9196

**Package Model No.:** UX-30

**Report Submitted By:** Steven R. Penrod, United States Enrichment Corporation

**Report Date:** December 15, 2005

**Report ADAMS Accession No.:** ML053630038

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:

On June 17, 2005, the Ural Electrochemical Integrated Plant (UEIP) in Russia filled a 30B 2V2-ton cylinder (Cylinder No. LU2487) which was transported to United States Enrichment Corporation (USEC) under the "Megatons to Megawatts" program. The cylinder was filled in accordance with ASTM C996-96. Under the "Megatons to Megawatts" program, USEC retains witnesses in Russia to observe and document the filling of cylinders. A seal is applied to the cylinder valve on each full cylinder; the witness documents the seal number and provides that number to USEC. The full cylinder was shipped to the USEC's Paducah facility and received on August 12, 2005. The seal number is verified at the time the cylinder is received at USEC. On August 12, the seal was confirmed to be the one applied in Russia after the cylinder was filled.

The cylinder was stored at the USEC's Paducah facility until October 11, 2005, when it was shipped to GNF in a UX-30 package in accordance with Certificate of Compliance No. 9196. USEC does not sample the contents of the 30-inch cylinders received from Russia nor does it operate the cylinder valve for any other purpose. The 30-inch cylinder is stored in an outside cylinder storage yard until the cylinder is needed for shipment to Global Nuclear Fuels (GNF). Therefore, when Cylinder No. LU2487 was shipped to GNF on October 11, the contents and condition of the cylinder were the same as that certified and witnessed in Russia.

On November 16, 2005, a GNF operator checked the cylinder valve and placed the cylinder in an autoclave for a leak check. A pigtail was attached to the valve and pressurized to about 40 psig. The operator noticed an immediate drop in pressure in the pigtail and investigated the valve. The operator was able to turn the valve stem in the closed direction approximately 1/2 turn. The operator reinitiated the leak check and the pigtail held pressure. The valve was then opened and it was determined that the cylinder was less than atmospheric pressure. GNF eventually fed the

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cylinder contents to the process and returned the empty cylinder to USEC on December 2, 2005. There was no apparent leakage out of the cylinder since contamination swipes of the cylinder taken upon receipt from Russia, prior to shipment to GNF, after receipt by GNF, and when the cylinder was returned to PGDP on December 2, 2005, were within the limitations allowed by the Department of Transportation.

In discussion with Russian counterparts who prepared the package and transported it to USEC, all procedures were followed. The Russian contact reviewed the working control notes for Cylinder No. LU2487 and reported that there were no deviations from the established process.

**4. Corrective actions taken by the licensee:**

USEC stated that it could not determine the root cause from an examination of the valve on the returned cylinder, since the GNF turned the valve closed 1/2 turn and obtained a good leak check, and their finding the cylinder was still below atmospheric pressure.

**5. Staff comments:**

The safety significance is low since there was no indication of leakage from the cylinder. Since an NRC licensee was the recipient and not the shipper, no corrective actions are needed.

**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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