

10 CFR 71.95 REPORT EVALUATION FORM

Docket No.: 71-9196
Package Model No.: UX-30
Report Submitted By: Steven R. Penrod, USEC
Report Date: October 15, 2009 [ML092940478]

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 August 19, 2009, United States Enrichment Corporation (USEC), discovered, while conducting an in-transit inspection at the Port of Baltimore, a single ball-lock pin disengaged and dangling by its lanyard on Model No. UX-30 transportation package serial number UX0187.

USEC inspected 36 UX-30 packages, with 10 ball lock pins in each package, at the Port of Baltimore on August 19th. Of the 360 pins inspected, only one was found to not be properly installed in the package. The pin was inspected, found to be in working order, and re-installed into the package prior to departure from the Port of Baltimore.

USEC proposes that the pin was most likely not installed properly prior to shipment from Russia.

4. Corrective actions taken by the licensee:

- USEC confirmed that the ball locking mechanism was working properly and installed the pin in the overpack. Upon receipt of the overpack at its destination, USEC performed additional examination of the pin and confirmed that the pin was working properly.
- USEC has undertaken an aggressive inspection program to identify failed ball-lock pins prior to shipment from their facility, but also periodically after arrival at the Port of Baltimore prior to truck transportation in the U.S.
- USEC has a corrective action program in place to replace the pins which have been determined to be susceptible to marine environment corrosion, with an equivalent pin manufactured from all stainless steel components, as authorized by the Certificate of Compliance.

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5. Staff comments:

This specific ball lock pin did not fail in transit. Instead, it may not have been properly installed at the point of origin. However, the ball lock pin is identified as an item requiring annual replacement. Recent increased use of the package for international transport, and an increased focus on the requirement for all pins to be engaged during transit, has resulted in a series of 10 CFR 71.95 reports. The authorized design of the UX-30 allows for the ball lock pin to have an aluminum handle, and stainless steel body. This design has been identified as being more susceptible to failure, primarily due to corrosion which results in the ball-mechanism failing to properly engage.

It is expected that the ball lock pins will periodically fail. The Certificate of Compliance requires inspection of the ball lock pins, and a functional test to ensure the mechanism is locked in place prior to each shipment. There are 10 pins required on each overpack, five on each side. The safety significance of a single pin failure during transit has not been evaluated by the Certificate holder, however, due to the redundant nature of the closure mechanism, and the results of the drop testing performed on the package, staff finds the safety significance of a single pin not being engaged during transit to be 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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