# 10 CFR 71.95 REPORT EVALUATION FORM

**Docket No.:** 71-9225

**Package Model No.:** NAC-LWT

**Report Submitted By:** Exelon Generation Company

**Report Date:** February 7, 2005

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:**

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

**2. What is the safety significance?** 9 High 9 Medium X Low

**3. Summary of the report:**

In October 2003, an NAC-LWT cask containing irradiated damaged fuel rods within an inner sealed canister was shipped from La Salle nuclear plant to the Studsvik hot cell facility in Sweden. A small quantity of residual water was observed in the cask and canister upon opening, and a larger amount of water was discovered during preparation for cask decontamination in April 2004. Exelon became aware of the residual water in December 2004. CoC 9225 for the Model No. NAC-LWT includes a condition that states: "The cask must be dry (no free water) when delivered to a carrier for transport." The report describes the root cause evaluation performed by Exelon. Exelon identified the following possible cuases: The inner sealed canister design was not subjected to appropriate qualification tests with respect to drying; inappropriate instrumentation was used to monitor the vacuum drying process; and a potential design weakness in the inner canister could have allowed inleakage of water after it had been dried.

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

Specific corrective actions taken by Exelon include development of procedures to address roles and responsibilities for future irradiated fuel shipments. This was identified in response to the delay in notification of the event to the NRC (the shipment occurred in October 2003, and notification was made in February 2005). NAC corrective actions are listed in NAC Letter dated February 14, 2005. They include: revising cask drying procedures consistent with lessons learned, including sketches of equipment layout during vacuum drying, ensure additional documentation during cask operations, upgrading vacuum and pressure guages used for vacuum drying, and others. Specific corrective actions added to address particulars of the La Salle shipment include use of free flow or screened canisters for damaged fuel, rather than sealed canisters, specification of a formal confirmatory qualification testing for the vacuum drying process, increased awareness regarding design verification for all changes in cask configurations.

**5. Staff comments:**

Another instance of residual water in an NAC-LWT cask was identified in 71.95 report filed on July 22, 2004, by NAC International. Based on these two reports, an inspection of the NAC International quality assurance program was performed July 10-14, 2005. The results of the inspection were documented in an inspection report dated August 18, 2005 (ML052340057), and responses to the inspection findings were considered adequate (ML053210011). DOT has been informed of the events, the evaluation, and conclusions (ML053250059).

**6. Staff conclusion:**

X This report is considered closed. Follow-on activities may include:

Increase staff sensitivity to this problem by including as a discussion topic in Part 71 weekly meeting. Include (a) review of functional tests for sealed canisters as part of Chapter 8 reviews (this has been completed for the NAC-LWT); and (b) review of design changes that may increase difficulties in cask drying operations.

The basis for recommended activities is that adequate cask drying is important to safety, and drying operations are subject to errors in practice.

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