

# 10 CFR 71.95 REPORT EVALUATION FORM

**Docket No.:** 71-9225

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

**Report Submitted By:** NAC International

**Report Date:** July 22, 2004 (supplemented October 15, 2004, and February 14, 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:

- 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:** In March 2004, two NAC-LWT casks containing irradiated research reactor spent fuel were shipped from Indonesia to Idaho National Engineering Laboratory. Upon unloading in June 2004, both casks were found to contain a significant quantity of residual water (less than 2 liters). 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, as supplemented, describes the evaluation performed by NAC to identify the cause of the residual water. NAC conducted an investigation and could not determine, with confidence, the cause of the residual water. However, NAC initiated changes in the vacuum drying process to address identified deficiencies in instrumentation and written procedures that could have contributed to the failures.

**4. Corrective actions taken by the licensee:** 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 gauges used for vacuum drying, and others.

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**5. Staff comments:**

Another instance of residual water in an NAC-LWT cask was identified in 71.95 report filed on February 7, 2005, by Exelon Generation Company. Based on these two reports, an inspection of the NAC International quality assurance program was performed July 10-14, 2005. The inspection included evaluation of NAC's root cause analysis and corrective actions. 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 event, the evaluation and conclusions. (ML053250059). NAC has provided updated acceptance tests in Chapter 8 for ensuring that sealed canisters are properly qualification tested to ensure no water inleakage after drying operations (ML061110052).

**6. Staff conclusion:**

9 The report does NOT identify generic design or license/certificate issues that warrant additional Commission or staff action. This report is considered closed.

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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