

March 9, 2006

Director, Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTN: Document Control Desk

Subject: Report per Requirements of 10 CFR 71.95
NAC-LWT Cask Shipping Configuration

Reference: Certificate of Compliance (CoC) No. 9225, Revision 40,
December 30, 2005

Docket No.: 71-9225

Gentlemen:

This report is submitted pursuant to 10 CFR 71.95 (3) documenting the observation of the following case where the as-found condition of the internal configuration of an NAC-LWT cask was contrary to the as-licensed shipping configuration. There is an indication that the condition did exist while making one or more spent fuel shipments with this package.

Abstract:

On January 31, 2006, during a cask operator training exercise performed on the NAC-LWT Unit No. 2 cask, it was noted that the two cap screws securing the internal drain line adaptor plate to the cask body were approximately 7/8-inch long. The license drawing referenced in CoC No. 9225 describes these screws as 1-inch long. The date and location of installation of the slightly shorter cap screws is indeterminate and the potential exists for their having been present during previous spent fuel shipments made with this cask.

Description:

License drawing No. 315-40-02, Revision 17, Legal Weight Truck Cask Body Assembly, Safety Analysis Report, specifies the cap screws (Item No. 24, Socket Head Cap Screw) securing the cask internal drain line adaptor plate to the cask body to be 1/4-20UNC x 1 LG. The drain line and drain line adaptor plate configuration is depicted in Section F - F, shown on sheet 2 of 2 of this license drawing.

The intended function of the cap screws is to maintain the position of the cask internal drain line. The commercial grade cap screws do not have a safety function and do not support any other components with safety functions. No equipment failure occurred due to the installation of the drain line adaptor plate using the shorter cap screws. Package operation in accordance with the CoC was unaffected.

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Description: (cont'd)

Further investigation revealed that the HELI-COIL threaded inserts specified by the license drawing to secure the drain line adaptor plate did not have their driving tangs removed following installation. Failure to remove the driving tangs at the time of installation led to the tang creating a physical interference at the bottom of the HELI-COIL inserts with the end of the 1-inch long cap screws, thereby preventing them from being fully installed which, in turn, led to installation of the slightly shorter cap screws. Personnel error appears to be the cause of the incorrect installation of the HELI-COIL inserts and the use of the slightly shorter cap screws to avoid the interference with the tang of the HELI-COIL insert.

Date and location of the installation of the HELI-COIL inserts and these shorter cap screws are indeterminate. There is a potential that the shorter cap screws were present in the cavity of the cask during one or more spent fuel shipments.

Extent of Condition:

NAC International (NAC) owns eight LWT casks. Out of six units inspected, the Unit No. 2 cask was the only one with the above condition. Two LWT units are being utilized for TPBAR storage at the Savannah River Site. Verification of the cap screw size in these units is not practical until after the casks are unloaded at the end of their storage cycle, currently anticipated to be at the end of calendar year 2006. The NAC Nonconformance Report discussed under "Corrective Actions" will not be closed until the last two LWT units are inspected.

Assessment of Safety Consequences:

Assessment of this combination of the HELI-COIL insert and cap screw revealed that, when properly installed, the 1-inch long cap screw is screwed in past the threaded HELI-COIL insert in order to establish an approximate 1/2-inch effective thread engagement. While the driving tang (left in place, but bent) was creating an interference that prevented proper seating of the head of the 1-inch long cap screw, adequate effective thread engagement was achieved by using a 7/8-inch long cap screw.

NAC has evaluated the safety implication of the condition described in this report and concluded that the use of the shorter cap screws is acceptable to secure the internal drain line adaptor for the following reasons:

- There is no significant difference between the approximate effective thread engagement of the 1-inch long cap screw versus that of the 7/8-inch long cap screw and the HELI-COIL insert.

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- The cap screws and the HELI-COIL inserts are present to support and position nonsafety-related components (drain line adaptor and drain line).
- The function of the cap screws and the function of the HELI-COIL inserts are both nonsafety-related.

Using the shorter cap screws had no adverse impact on the cap screws' performance of their intended function.

Corrective Actions:

As an immediate action, NAC has generated a Nonconformance Report (NCR No. 06-003) to address the issue of the shorter cap screws. The disposition of the NCR was "Rework." The condition of the NAC-LWT Unit No. 2 cask was corrected on February 22, 2006, when two new HELI-COIL inserts were properly installed, along with the required 1-inch long cap screws. This brought the NAC-LWT Unit No. 2 cask back into full compliance with the requirements of the applicable license drawing.

For long-term solution and action to prevent recurrence, NAC is preparing a request for a LWT SAR amendment, changing the applicable license drawing by removing the specific details describing the cap screws, as well as other nonessential nonsafety-related components. This amendment request will provide greater operational flexibility without compromising package performance. To address personnel errors, NAC has recently specified and implemented corrective measures to increase cask operating/maintenance personnel's awareness and sensitivity for CoC compliance.

Since all the shipments using LWT casks were completed without any unusual event caused by the condition described in this report, NAC will close this issue in accordance with the requirements of NAC's Quality Assurance Program. The above-described condition did not result in exposure of any individuals to radiation or to radioactive materials.

Should the U.S. Nuclear Regulatory Commission require additional information regarding the above condition and/or NAC's investigation/corrective actions, please contact me at 678-328-1274.

Sincerely,



Anthony L. Patko
Director, Licensing
Engineering