



December 16, 2011

Mr. Luis Cruz
US Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: Transmittal of Information Regarding Leakage Testing of Multi-Purpose Canisters. (USNRC Docket No. 72-1014 and 72-1032)

Reference: [1] USNRC/NEI Public Meeting held September 21, 2011
[2] Interim Staff Guidance-25, "Pressure Test and Helium Leakage Test of the Confinement Boundary for Spent Fuel Storage Canister", dated August 8, 2010
[3] Summary of September 21, 2011, Public Meeting with the Nuclear Energy Institute to Discuss Industry Position on Helium Leakage Testing of Dry Storage Systems Confinement Boundaries, dated October 11, 2011
ML11285A016
[4] Holtec letter 5014690, "Reply to EA-09-190", dated September 2, 2009, ML092470363

Dear Mr. Cruz:

In September of 2011 a public meeting [1] was held at the office of Spent Fuel Storage and Transportation (SFST) to discuss Interim Staff Guidance (ISG)-25 [2]. SFST published a meeting summary [3] on October 11, 2011.

In the meeting summary [3] it states:

"Another position presented by the staff was that the data describing the operational experience that 100% of over 1,000 casks leak tested passed the test meeting the specific leakage rate criterion should be more specific (e.g. leak rates, dose monitoring results, components tested, applicable material fabrication standards, materials, form, among others), in order to be reviewed."

Holtec would like to take this opportunity to provide SFST with some basic information on the materials of construction, fabrication standards, components tested, how the components are tested, and the result of the leak rate testing that we have for nearly 400 Multi-Purpose Canisters (MPC) used in the HI-STORM 100 Dry Storage System. Specific details can be provided to SFST if necessary.

The MPCs are made of austenitic stainless steel, typically Type 304 however 304LN, 316 and 316LN may also be used in accordance with our licensing basis. The MPCs are fabricated to

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ASME Boiler & Pressure Vessel Code Section III, Subsection NB. The materials of construction are purchased in accordance with ASME Code Section II and Section III requirements and are inspected accordingly, meaning that the plate is fully ultrasonic tested to inspect for defects. The fabrications welds, i.e. the MPC shell welds and the MPC shell to baseplate weld, are multi-pass (at least three passes) and are subject to liquid penetrant examination of the root and final pass and a 100% radiography of the final weld. The fabrication welds are then subject to a helium leak test to confirm they are "leaktight" in accordance with the definition in the ANSI N14.5-1997 standard.

After loading fuel into the MPC and placing the lid-to-shell weld, the MPC is subject to either a hydrostatic or pneumatic test in accordance with the ASME code and the lid-to-shell weld is then subject to a final liquid penetrant examination. This provides the assurance that this weld has no credible leakage. The port cover plate welds performed in the field are also subject to a helium leak test to confirm they are "leaktight" in accordance with the definition in the ANSI N14.5-1997 standard.

In 2009, Holtec received a notice of violation on our 72.48 program for removing the helium leak testing of the fabrication welds without seeking prior NRC approval. Our response to the violation [4] provided our basis for removing the helium leak testing, which included the helium leak test results for over 180 MPCs. None of the helium leak tests had revealed a weld defect and all the welds met the applicable acceptance criteria for leakage. Since then we have helium leak tested over 200 more MPCs with the same positive results; all of the welds meet the "leaktight" criteria of the ANSI N14.5-1997 standard.

The meeting summary [3] indicated that Staff would be writing a formal response to NEI. We hope conveying this additional information to you about Holtec's fabrication and inspection techniques of the MPCs, including our helium leak testing experience, will be of some assistance to you. Please feel free to contact us with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Morin".

Ms. Tammy Morin
Licensing Manager
Holtec International

emcc: Mr. Doug Weaver, Acting Director, SFST, NMSS
Mr. Mike Waters, Branch Chief, SFST, NMSS
Mr. John Goshen, Project Manager, SFST, NMSS