



Tennessee Valley Authority, Sequoyah Nuclear Plant, P.O. Box 2000, Soddy Daisy, Tennessee 37384

January 6, 2021

10 CFR 72.4
10 CFR 72.212

ATTN: Document Control Desk
Director, Division of Fuel Management
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Sequoyah Nuclear Plant, Units 1 and 2
Renewed Facility Operating License Nos. DPR-77 and DPR-79
NRC Docket Nos. 50-327, 50-328, and 72-034

Subject: **Thermal Validation Test of HI-STORM FW MPC Storage System Pursuant to Certificate of Compliance No. 72-1032 Amendment 3 Condition 8**

Reference: TVA letter to NRC dated September 21, 2020, "Sequoyah Nuclear Plant - Registration of Spent Fuel Storage Cask Pursuant to 10 CFR 72.212(b)(2)"

In accordance with Certificate of Compliance (CoC) No. 1032, Amendment No. 3 for the HI-STORM Flood/Wind (FW) Multi-Purpose Canister (MPC) Storage System, Tennessee Valley Authority (TVA), as required by Condition 8 of the CoC, hereby submits the results of a thermal validation test conducted at the Sequoyah Nuclear Plant (SQN).

Specifically, Condition 8 of CoC No. 72-1032 requires the submittal of a report to the NRC summarizing the results of the thermal validation test and analysis. Specifically the Condition 8 states:

For the storage configuration, each user of a HI-STORM FW MPC Storage System with a heat load equal to or greater than 30 kW shall perform a thermal validation test in which the user measures the total air mass flow rate through the cask system using direct measurement of air velocity in the inlet vents. The user shall then perform an analysis of the cask system with the taken measurements to demonstrate that the measurements validate the analytic methods described in Chapter 4 of the FSAR. The thermal validation test and analysis results shall be submitted in a letter report to the NRC pursuant to 10 CFR 72.4 within 180 days of the user's loading the first cask with a heat load equal to or greater than 30 kW. To satisfy condition 8 for casks of the same system type (i.e., HI-STORM FW casks), in lieu of additional submittals pursuant to 10 CFR 72.4, users may document in their 72.212 report a previously performed test and analysis submitted by letter report to the NRC that demonstrates validation of the analytic methods in Chapter 4 of the FSAR.

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A cask system meeting the decay heat threshold of this CoC condition was loaded at SQN on August 28, 2020. This cask system was registered by the Reference Letter. Decay heat calculation indicate a total decay heat at the time of loading of 32.53 kW. The thermal validation test was conducted on September 10, 2020.

Enclosure 1 to this letter is an affidavit prepared in accordance with 10 CFR 2.390 requesting that the proprietary reports provided in Enclosures 2 and 3 be withheld from public disclosure. Any questions regarding the withholding of proprietary information should be addressed to: Holtec International, Ms. Kimberly Manzione, Licensing Manager, One Holtec Boulevard, Camden, NJ 08104.


Enclosure 2 contains a proprietary Thermal Test report, which describes the test process and provides the data collected during the test of the HI-STORM FW MPC Storage System. Enclosure 3 contains a proprietary Thermal Validation Analysis report, which documents the evaluations, and the results of the analytic models used to predict the total air flow through the cask system. The results indicate that the highest calculated air mass flow rate is lower than the lowest measured mass flow rate from the actual loaded cask. These test and analysis results satisfy the Condition 8 requirements specified in the CoC.

When separated from Enclosures 2 and 3, this cover letter and Enclosure 1 are decontrolled.

This document contains no new regulatory commitments.

If you have any questions, please contact Jeff Sowa, Site Licensing Manager, at (423) 843-8129.

Respectfully,

Marshall,
Thomas B.  Digitally signed by
Marshall, Thomas B.
Date: 2021.01.06 06:42:00
-05'00'

Thomas B. Marshall
Site Vice President
Sequoyah Nuclear Plant

Enclosures:

1. Affidavit Pursuant to 10 CFR 2.390 to Withhold Information from Public Disclosure
2. HI-2200917, Thermal Test of HI-STORM FW System (Proprietary)
3. HI-2200736, Thermal Validation Analysis of HI-STORM FW System (Proprietary)

cc:

NRC Regional Administrator - Region II

~~Proprietary Information - Withhold under 10 CFR 2.390~~
Enclosure 1 is decontrolled when separated from Enclosures 2 and 3

Enclosure 1

Affidavit Pursuant to 10 CFR 2.390 to Withhold Information from Public Disclosure

AFFIDAVIT PURSUANT TO 10 CFR 2.390

I, Kimberly Manzione, being duly sworn, depose and state as follows:

- (1) I have reviewed the information described in paragraph (2) which is sought to be withheld, and am authorized to apply for its withholding.
- (2) The information sought to be withheld is provided in HI-2200736 and HI-2200917, which contain Holtec Proprietary Information.
- (3) In making this application for withholding of proprietary information of which it is the owner, Holtec International relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC Sec. 552(b)(4) and the Trade Secrets Act, 18 USC Sec. 1905, and NRC regulations 10CFR Part 9.17(a)(4), 2.390(a)(4), and 2.390(b)(1) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential commercial information", and some portions also qualify under the narrower definition of "trade secret", within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, Critical Mass Energy Project v. Nuclear Regulatory Commission, 975F2d871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704F2d1280 (DC Cir. 1983).

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- (4) Some examples of categories of information which fit into the definition of proprietary information are:
- a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by Holtec's competitors without license from Holtec International constitutes a competitive economic advantage over other companies;
 - b. Information which, if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product.
 - c. Information which reveals cost or price information, production, capacities, budget levels, or commercial strategies of Holtec International, its customers, or its suppliers;
 - d. Information which reveals aspects of past, present, or future Holtec International customer-funded development plans and programs of potential commercial value to Holtec International;
 - e. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.

The information sought to be withheld is considered to be proprietary for the reasons set forth in paragraphs 4.a and 4.b above.

- (5) The information sought to be withheld is being submitted to the NRC in confidence. The information (including that compiled from many sources) is of a sort customarily held in confidence by Holtec International, and is in fact so held. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by Holtec International. No public disclosure has been made, and it is not available in public sources. All disclosures to third parties, including any required transmittals to the NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for

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maintenance of the information in confidence. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in paragraphs (6) and (7) following.

- (6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge. Access to such documents within Holtec International is limited on a "need to know" basis.
- (7) The procedure for approval of external release of such a document typically requires review by the staff manager, project manager, principal scientist or other equivalent authority, by the manager of the cognizant marketing function (or his designee), and by the Legal Operation, for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside Holtec International are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.
- (8) The information classified as proprietary was developed and compiled by Holtec International at a significant cost to Holtec International. This information is classified as proprietary because it contains detailed descriptions of analytical approaches and methodologies not available elsewhere. This information would provide other parties, including competitors, with information from Holtec International's technical database and the results of evaluations performed by Holtec International. A substantial effort has been expended by Holtec International to develop this information. Release of this information would improve a competitor's position because it would enable Holtec's competitor to copy our technology and offer it for sale in competition with our company, causing us financial injury.

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- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to Holtec International's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of Holtec International's comprehensive spent fuel storage technology base, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the extensive physical database and analytical methodology, and includes development of the expertise to determine and apply the appropriate evaluation process.

The research, development, engineering, and analytical costs comprise a substantial investment of time and money by Holtec International.

The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

Holtec International's competitive advantage will be lost if its competitors are able to use the results of the Holtec International experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions.

The value of this information to Holtec International would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive Holtec International of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing these very valuable analytical tools.

