

June 26, 2013

Dr. Stefan Anton
Acting Licensing Manager
Holtec International
555 Lincoln Drive West
Marlton, NJ 08053

SUBJECT: THIRD REQUEST FOR ADDITIONAL INFORMATION, PART 2, FOR
AMENDMENT REQUEST NO. 1 TO THE HOLTEC INTERNATIONAL HI-
STORM FLOOD/WIND MULTI-PURPOSE CANISTER STORAGE SYSTEM
(TAC NO. L24584)

Dear Dr. Anton:

By letter dated October 13, 2011, Holtec International (Holtec) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) to amend the HI-STORM Flood/Wind (FW) Multi-Purpose Canister (MPC) Storage System. The proposed amendment would license two new high capacity MPC models (MPC-37 and MPC-89). Holtec provided responses to the request for additional information (RAI) to the NRC on April 18, 2013. The NRC staff has reviewed the response to RAI 4-1 and has determined that it did not provide adequate information to complete its detailed technical review. The NRC staff has provided additional RAIs identified in the enclosure to this letter that are required to complete its detailed technical review.

We request that you provide the information by July 22, 2013. Please inform us in writing at your earliest convenience, but no later than July 8, 2013, if you are not able to provide the information by the requested date. You should also include a new proposed submittal date and the reasons for the delay to assist us in re-scheduling your review.

Please reference Docket No. 72-1032 and TAC No. L24584 in future correspondence related to this licensing action. If you have any questions, please contact me at (301) 287-9250.

Sincerely,

/RA/ B. H. White for

John Goshen, P.E., Project Manager
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Docket No.: 72-1032
TAC No.: L24584

Enclosure: 3rd RAI, Part 2

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Enclosure: 3rd RAI, Part 2
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HOLTEC INTERNATIONAL

DOCKET NO. 72-1032

AMENDMENT REQUEST NO. 1

TO THE HI-STORM FW MPC STORAGE SYSTEM

THIRD REQUEST FOR ADDITIONAL INFORMATION, PART 2

By letter dated October 13, 2011, Holtec International (Holtec or applicant) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) to amend the HI-STORM Flood/Wind (FW) Multi-Purpose Canister (MPC) Storage System. The proposed amendment would license two new high capacity MPC models (MPC-37 and MPC-89). The NRC staff (staff) has reviewed your application and has determined that additional information is required to complete its detailed technical review.

4.0 THERMAL EVALUATION

The staff finds Holtec's response to request for additional information (RAI) 4-1 provided to NRC in the letter dated April 18, 2013, unacceptable. Below, the staff has identified its concerns with Holtec's response letter and has identified additional information necessary for the staff to complete its review:

1. The response states that the predicted peak cladding temperature at higher porous media flow resistance is 390°C for normal storage with a margin of 10°C. However, Holtec's calculated discretization error is about 15°C which would result in a maximum temperature above the allowable limit for normal storage.

Holtec should consider reducing the design heat load and factor in the discretization error to demonstrate adequate margin.

This information is needed to determine compliance with 10 CFR 72.236.

2. The response did not provide justification on the adequacy of the turbulent model used in the water jacket and the air gap between the MPC and HI-TRAC FW. Justify the use of turbulent flow model.

Adequate justification should be provided in order to model these regions with turbulent flow (for example, since these are enclosures with buoyancy driven flow, Reynolds and Raleigh numbers should be obtained) in order to determine an adequate flow regime.

This information is needed to determine compliance with 10 CFR 72.236

3. The response did not provide the discretization error (Grid Convergence Index (GCI)) for the transfer configuration.

Obtain the discretization error for the transfer configuration following the methods described in American Society of Mechanical Engineers Verification and Validation 20-

2009 (ASME V&V 20-2009), "Standard for Verification and Validation in Computational Fluid Dynamics and Heat Transfer"

This information is needed to determine compliance with 10 CFR 72.236.