UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

January 29, 2019

Ms. Kimberly Manzione
Licensing Manager
Holtec International
Holtec Technology Campus
One Holtec Boulevard
Camden, NJ 08104

SUBJECT: AMENDMENT NO. 4 TO CERTIFICATE OF COMPLIANCE NO. 1032 FOR THE HI-STORM FLOOD/WIND MULTIPURPOSE CANISTER STORAGE SYSTEM – SECOND REQUEST FOR ADDITIONAL INFORMATION

Dear Ms. Manzione:

By letter dated March 11, 2016 [Agencywide Document Access and Management System (ADAMS) Accession No. ML16190A158], as supplemented by letters dated September 16, 2016, January 31, 2017, April 27, 2018, and July 27, 2018 (ADAMS Accession Nos. ML16265A491, ML17032A398, ML18117A472, and ML18208A637, respectively), Holtec International submitted an amendment request to the U.S. Nuclear Regulatory Commission (NRC) for the HI-STORM Flood/Wind Multipurpose Canister Storage System Certificate of Compliance (CoC) No. 1032.

The NRC staff reviewed your application and determined the need for additional information as identified in the second request for additional information (RAI) in the enclosure to this letter. We request that you provide the response to the RAI within 30 days from the date of this letter. If you are unable to meet this deadline, please notify us in writing, within two weeks of receipt of this letter, of your new submittal date and the reasons for the delay.

Please reference Docket No. 72-1032, CAC No. 001028, and EPID No. L-2017-LLA-0030 in future correspondence related to this licensing action. If you have any questions, please contact me at 301-415-1018.

Sincerely,

/RA/

Yen-Ju Chen, Sr. Project Manager
Spent Fuel Licensing Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No.: 72-1032
CAC No.: 001028
EPID No.: L-2017-LLA-0030

Enclosure:
HI-STORM 100 FW Amendment No. 4
Second RAI

SUBJECT: AMENDMENT NO. 4 TO CERTIFICATE OF COMPLIANCE NO. 1032 FOR THE HI-STORM FLOOD/WIND MULTIPURPOSE CANISTER STORAGE SYSTEM – SECOND REQUEST FOR ADDITIONAL INFORMATION, DOCUMENT DATE: January 29, 2019

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ADAMS Accession No.: ML19011A127 * concur via email

OFC:	DSFM	DSFM	DSFM	DSFM	DSFM	DSFM
NAME:	YChen	WWheatley	EGoldfeiz	TTate	TTaylor for JMcKirgan	CRegan For MLayton
DATE:	11/14/2018	11/14/2018	~~11/14/2018~~ 1/11/2019	~~11/14/2018~~ 1/11/2019	1/28/2019	1/29/2019

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Second Request for Additional Information
Docket No. 72-1032
Holtec International
HI-STORM 100 Flood/Wind
Multipurpose Canister Storage System
Certificate of Compliance No. 1032
Amendment No. 4

By letter dated March 11, 2016 [Agencywide Document Access and Management System (ADAMS) Accession No. ML16190A158], as supplemented by letters dated September 16, 2016, January 31, 2017, April 27, 2018, and July 27, 2018 (ADAMS Accession Nos. ML16265A491, ML17032A398, ML18117A472, and ML18208A637, respectively), Holtec International submitted an amendment request to the U.S. Nuclear Regulatory Commission for the HI-STORM Flood/Wind Multipurpose Canister Storage System Certificate of Compliance (CoC) No. 1032.

The staff identified additional information needed in connection with its review of the application as provided in the second request for additional information discussed below. The question describes information needed by the staff to complete its review of the application and to determine whether the applicant has demonstrated compliance with regulatory requirements in 10 CFR Part 72.

Chapter 5 Shielding Evaluation

5-5 Verify whether the combinations of burnup, initial enrichment, and cooling time (BECT) presented in Table 5.4.9 of the Safety Analysis Report (SAR) represent the bounding source terms for the new 16x16D fuel and associated fuel loading patterns in the HI-STORM FW system to be authorized under Amendment 4. Alternatively, provide a complete list of the BECT combinations for the 16x16D fuel so that the staff can determine if the radiological source terms result in radiological dose rates that are within the HI-STORM FW system design limits.

In the letter dated January 19, 2018 (ML18022A612), the staff requested, in RAI 5-4, the applicant to clarify if the radiation source term used in the shielding evaluation is bounding. The applicant stated in its response that: "Shielding analysis … [were] performed considering a wide range of conservative combinations of burnups, enrichments and cooling times. These combinations sufficiently bound all possible fuel loadings." The applicant revised the SAR to include combinations of BECT in Table 5.4.9. The applicant stated that these BECT combinations used in calculations result in source terms that are reasonably bounding for all realistically expected assemblies. The staff notes that these BECT combinations do not mirror the BECT limits in Table 2.1-1.III of the Technical Specifications (TS) Appendix B. The applicant provided the decay heat limits for each fuel cell in the fuel basket that is to be loaded with the new 16x16D fuel in TS Appendix B Table 2.3-5 and states, in the SAR, that the decay heat is used to bound the design basis source terms to demonstrate compliance with 10 CFR 72.236(d). However, there is no information provided on the relationship between the decay heat and the radiological source terms. There are BECT combinations for which an assembly could produce the same decay heat but potentially have higher than design basis radiation source terms (neutron, gamma, or both).

It is important to note that the recommendations published in NUREG/CR-6716 are based on a balanced evaluation of parameters important to safety while alleviating limitations in the TS to provide the CoC holders flexibility to make design changes under the provisions in 10 CFR 72.48. The staff requests this information to determine if the HI-STORM FW Amendment No. 4 system, with the requested new contents, meets the regulatory requirements of 10 CFR 72.236(d).