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

August 28, 2023

Denise Elisio
Holtec International
Holtec Technology Campus
1 Holtec Blvd.
Camden, NJ 08104

SUBJECT: AMENDMENT NO. 16 TO CERTIFICATE OF COMPLIANCE NO. 1014 FOR THE HI-STORM 100 MULTIPURPOSE CANISTER STORAGE SYSTEM – REQUEST FOR ADDITIONAL INFORMATION SECOND ROUND

Dear Denise Elisio:

By letter dated March 9, 2021 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML21068A360) and supplemented by letters dated August 11, 2021 (ML21223A045), February 17, 2022 (ML22048C222), August 31, 2022 (ML22243A269), September 9, 2022 (ML22249A347), October 3, 2022 (ML22276A286), January 4, 2023 (ML23005A000), January 5, 2023 (ML23005A273), January 13, 2023 (ML23013A337), and March 17, 2023 (ML23076A271), Holtec International (Holtec) submitted to the U.S. Nuclear Regulatory Commission (NRC) a request to amend the Certificate of Compliance No. 1014 for HI-STORM 100 Multipurpose Canister Storage System.

After reviewing the information, the NRC staff determined the need to issue the second round of request for additional information (RAI) in the enclosure. We request that you provide the responses 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 2 weeks of receipt of this letter, of your new submittal date and the reasons for the delay.

Please reference Docket No. 72-1014, CAC No. 001028 and EPID No. L-2021-LLA-0039 in future correspondence related to this licensing action. If you have any questions, please contact me at 301-415-1018.

Sincerely,

Signed by Chen, Yen-Ju
on 08/28/23

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

Docket No.: 72-1014
CAC No.: 001028
EPID No.: L-2021-LLA-0039

Enclosure:
RAI Second Round

SUBJECT: AMENDMENT NO. 16 TO CERTIFICATE OF COMPLIANCE NO. 1014 FOR THE HI-STORM 100 MULTIPURPOSE CANISTER STORAGE SYSTEM – REQUEST FOR ADDITIONAL INFORMATION SECOND ROUND, DATE:

August 28, 2023

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DATE	8/21/2023	8/22/2023	8/21/2023	8/22/2023	8/22/2023	8/28/2023

Request for Additional Information
Second Round

Docket No. 72-1014
Certificate of Compliance No. 1014
Amendment No. 16 to HI-STORM 100
Multipurpose Canister Storage System

Shielding Evaluation

RAI 5-5 Provide calculations demonstrating that the HI-STORM 100 storage system design meets regulatory annual dose limits for a real individual located beyond the controlled area in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 72.104(a) with the proposed limits for burnup and enrichment in final safety analysis report (FSAR) tables 2.1.28 and 2.1.29.

As part of Proposed Change No. 7, the applicant proposed replacing the tables of correlation coefficients used to determine appropriate content limits for meeting regulatory dose rate requirements with a table of allowable burnup and cooling time for zirconium based cladding fuel within the ventilated overpacks for the following canisters: MPC-24/24E/24EF, MPC-32/32F and MPC-68/68FF. These new limits on allowable contents produce source terms that would result in higher dose rates than the source terms produced from previously approved correlations and correlation coefficients. The applicant did not provide calculated annual dose for a real individual located beyond the controlled area with the limiting source terms produced from the proposed content limits.

The NRC staff makes findings that regulations associated with cask design in 10 CFR 72.236 are met during design certification. Although there are technical specification dose rate limits on the storage cask surface that have not changed and would serve to limit dose, these are very limited in number, and do not provide enough information to justify that potential loadings allowed by FSAR tables 2.1.28 and 2.1.29 that also meet technical specification dose rate limits would subsequently meet the dose limits in 10 CFR 72.104(a) at the previously specified distances to the controlled area boundary for the HI-STORM 100.

These calculations are needed by the NRC staff to be able to make a finding per 10 CFR 72.236(d) that the system has appropriate shielding to meet annual dose limits in 10 CFR 72.104(a).