



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

November 30, 2021

MEMORANDUM TO: Geoffrey Miller, Deputy Director
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

FROM: Christian Jacobs, Sr. Project Manager
Storage and Transportation Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

SUBJECT: SUMMARY OF NOVEMBER 10, 2021, PUBLIC MEETING WITH
HOLTEC INTERNATIONAL TO DISCUSS PRE-APPLICATION OF
CERTIFICATE OF COMPLIANCE NO. 1014, AMENDMENT NO. 18

Handwritten signature of Christian Jacobs in blue ink.

Signed by Jacobs, Christian
on 11/30/21

On November 10, 2021, an Observation public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and Holtec International (Holtec, the applicant). The purpose of the meeting was to discuss Holtec's plans for submittal of Certificate of Compliance (CoC) No. 1014, Amendment No. 18 for the HI-STORM 100 System. Holtec presented slides titled, "Amendment to Incorporate Topical Report For Allowance of Candidate Heat Load Patterns - HI-STORM 100", which is available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML21298A222. The meeting notice and agenda, dated October 26, 2021, are available in ADAMS at Accession No. ML21299A243. The enclosure to this document contains the meeting attendance list.

NRC staff members asked Holtec when they intended to submit the subject amendment for NRC review. Holtec indicated they intend to submit CoC No. 1014, Amendment No. 18 soon after the -A version of the Holtec topical report titled, "Topical Report for Allowance of Heat Load Patterns in HI-STORM 100 and HI STORM FW Systems," (from here on referred to simply as the Topical Report) is issued by NRC. Holtec anticipates that the subject amendment could be submitted to the NRC as early as December 2021. NRC staff requested that Holtec indicate the priority of this amendment in their submittal letter so that an appropriate review schedule can be prepared based on the user need of this amendment.

In regard to the flow chart in Holtec's presentation describing the process as to how the Topical Report would be incorporated into the amendment, NRC staff asked what is the change that would be evaluated under Part 72 of Title 10 of the *Code of Federal Regulations* (10 CFR) 72.48? Holtec responded that anything allowable per 10 CFR 72.48 could result in a change to the Final Safety Analysis Report (FSAR). Holtec indicated that a new heat load pattern could result following the Topical Report.

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NRC staff then asked if that is the case, then would the new heat load pattern be the change, and Holtec would then initiate the 10 CFR 72.48 evaluation? Holtec responded “No, in that case, the change would be the increased temperatures.” The staff noted that 10 CFR 72.236(a) has to be met, the total decay heat is in the CoC Technical Specifications, and is not determined by the Topical Report. The staff asked about documenting the heat loading patterns in the FSAR rather than in a technical report. The staff noted that the peak cladding temperature limit is an acceptance criteria in the Topical Report, in addition to the cask component temperature limits and pressure limits. The staff noted that adding a canister under 10 CFR 72.48 might not be possible. Holtec noted that they were asking staff to review the changes to the HI-STORM 100 FSAR, and that it was also not adverse to updating the Topical Report.

The NRC staff then directed the attendees to the first structural diamond on the flow chart, which reads, “are the temperature results from the Topical Report bounded by those used in the FSAR structural analysis?” NRC staff asked, what requires someone to ask this question if the 10 CFR 72.48 evaluation only begins after answering no to the question? Holtec responded that the question in the first structural diamond of the flow chart is required to be asked as part of using the Topical Report, and the FSAR will require this question to be asked.

NRC staff then questioned where the decision in the first structural diamond in the flow chart would be documented and will it be reviewed by NRC staff. Holtec responded that this information would be documented in the 10 CFR 72.212 report and available for NRC inspection.

NRC staff asked a question related to how the implementation of the Topical Report would affect the shielding analysis for the HI-STORM 100 system. Although the HI-STORM 100 system has separate criteria to ensure shielding and thermal requirements are met, correlations developed to meet dose rate requirements often depend on heat load patterns such that correlations are tied to decay heat values, which are used to reference the location at which each correlation applies. NRC staff asked when applying the Topical Report if these correlations would continue to be tied to the decay heat value, which may not correspond to the location for where that correlation was determined to be acceptable in the shielding evaluation, since these heat load patterns can change via the implementation of the Topical Report. Alternatively, the dose rate correlations could be tied to a specific location, such that the required loading pattern for the dose rate correlations may not look the same as the resultant loading pattern from applying the Topical Report, but would remain within the shielding design basis of the system. Holtec stated that it thinks that previously evaluated loading patterns in terms of shielding would be imposed, no matter the thermal loading pattern that is being used, and that correlations developed to limit dose rate would be tied to the locations previously evaluated and not just a specific decay heat value. Holtec stated that it would make this clear in its submittal of the HI-STORM 100 Amendment No. 18 amendment.

There was much discussion as to whether this approach that Holtec is proposing for this amendment is allowable per the regulations. Unlike a CoC condition, which cannot be changed without requesting an amendment, Holtec can still request to apply the Topical Report to Amendment No. 18 even if the system does not meet all of the limitations and conditions of the Topical Report. If Holtec provides sufficient justification to extend the Topical Report’s applicability beyond the stated limitations and conditions, the staff could make a finding that the HI-STORM 100 Amendment No. 18 could still apply the Topical Report. The Topical Report, together with the additional criteria, could constitute the method of evaluation for this system, as long as Holtec demonstrated that all regulatory design requirements are met. NRC staff would then have to evaluate the proposed conditions and justifications as part of the CoC review. In

other words, it is possible that Holtec could apply the Topical Report in the CoC without having to meet all the conditions and limitations of the Topical Report itself. In that case, there could be separate conditions and limitations applied in the CoC, which are different than those in the Topical Report.

Another option that was discussed to address the invariant model limitation in the Topical Report was that Holtec could propose a supplement to the Topical Report to request a modification of the conditions and limitations of the Topical Report with appropriate justification. NRC staff viewed this approach as a cleaner, more straight forward way of dealing with the invariant model limitation in the Topical Report, but Holtec is not required to supplement the existing Topical Report.

No regulatory decisions were made during the meeting. One member of the public attended the meeting. No one asked any questions during the Questions and Answers session.

CAC: 001028

Docket No.: 72-1014

EPID: L-2021-LLA-0189

Enclosure:

List of Attendees

LIST OF ATTENDEES SELF IDENTIFIED

NOVEMBER 10, 2021, PUBLIC MEETING REGARDING PRE-APPLICATION OF
HOLTEC'S HI-STORM 100 AMENDMENT NO. 18

Name	Affiliation
Christian Jacobs	U.S. Nuclear Regulatory Commission (NRC)
Veronica Wilson	NRC
Michel Call	NRC
JoAnn Ireland	NRC
Earl Love	NRC
Patrick Koch	NRC
Zahira Cruz	NRC
John McKirgan	NRC
Hipolito Gonzalez	NRC
Neil Sheehan	NRC
Kim Manzione	Holtec International (Holtec)
Abrar Muhammad	Holtec
Debu Majumdar	Holtec
Kristopher Cummings	NuScale Power
Kalene Walker	public

SUMMARY OF NOVEMBER 10, 2021, PUBLIC MEETING WITH HOLTEC INTERNATIONAL TO DISCUSS PRE-APPLICATION OF CERTIFICATE OF COMPLIANCE NO. 1014, AMENDMENT NO. 18
 DATE November 30, 2021

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- JMcKirgan, RES/DE
- HGonzalez, NRR/DNRL/NVIB
- NSheehan, OPA/OPA-RI

ADAMS Accession No.: ML21326A080; Memo ML21326A081

OFFICE	NMSS/DFM/STLB	NMSS/DFM/STLB	NMSS/DFM/STLB	NMSS/DFM/CTCFB
NAME	CJacobs CJ	WWheatley WW	CJacobs CJ	YDiaz-Sanabria YD
DATE	Nov 24, 2021	Nov 29, 2021	Nov 29, 2021	Nov 29, 2021
OFFICE	NMSS/DFM/STLB			
NAME	CJacobs CJ			
DATE	Nov 30, 2021			

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