NRC FORM 699
(11-2017)

U.S. NUCLEAR REGULATORY COMMISSION

CONVERSATION RECORD

NAME OF PERSON(S)/TITLE CONTACTED OR IN CONTACT WITH YOU	DATE OF CONTACT	TYPE OF CONVERSATION
See attendee list	05/09/2019	☐ E-MAIL ☑ TELEPHONE ☐ INCOMING ☐ OUTGOING
E-MAIL ADDRESS	**TELEPHONE NUMBER**	
ORGANIZATION	**DOCKET NUMBER(S)**	
Holtec International	72-1032	
LICENSE NAME AND NUMBER(S)	**MAIL CONTROL NUMBER(S)**	
Holtec International		

SUBJECT
Discuss Holtec's response to the second round of request for additional information (RAI) for HI-STORM Flood/Wind Amendment No. 4.

SUMMARY AND ACTION REQUIRED (IF ANY)
Holtec attendees: Behrooz Khorsandi, Royston Ngwayah, Peter Stefanovic, and Joyce Tomlinson.

NRC attendees: Yen-Ju Chen, Eliezer Goldfeiz, Christian Jacobs, Zhian Li, and Veronica Wilson.

Staff has five comments on Holtec's response to the second round of RAI prior to this call, and Holtec's response and planned actions to staff's comments are documented below.

Comment #1: Update Figure 5.1.3 to reflect the new canister and contents unless the new canister/fuel is bounded by the curves currently presented in the figure. A comparison between the data in Table 5.1.10 and Table 5.1.5 seems to indicate the dose rate at the middle plane of the MPC-32ML is much larger than that of the MPC-37.

Holtec's response: The dose rate at the middle plane of the MPC-32ML is much larger than that of MPC-37 since the MPC-37 dose rates are for a representative source term, while the MPC-32ML dose rates are the bounding dose rates all evaluated source term combinations.

Holtec's Action: Add a figure in FSAR to reflect the new canister/fuel.

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NAME OF PERSON DOCUMENTING CONVERSATION
Yen-Ju Chen

SIGNATURE	DATE OF SIGNATURE
Yen-Ju Chen	May 20, 2019

CONVERSATION RECORD (continued)

LICENSE NAME AND NUMBER(S)	MAIL CONTROL NUMBER(S)
Holtec International	

SUMMARY AND ACTION REQUIRED (IF ANY) (Continued)

Comment #2: Clarify if the analysis with the HI-TRAC VW with the MPC-32ML is performed with the minimum lead thickness. The FSAR states "...it is concluded that the dose rates around the HI-TRAC VW with MPC-32ML are also comparable with those with MPC-37. Also, the lead thickness of the HI-TRAC VW varies from one plant to another plant. Thus, no additional shielding calculation is performed in this chapter for HI-TRAC VW with MPC-32ML." The FSAR needs to show a bounding calculation of the dose rate around the VW or have a separate dose rate calculation for each HI-TRAC VW at various lead thickness.

Holtec's response: The comment is accepted.

Holtec's Action: In the FSAR, Holtec will perform additional calculations for HI-TRAC with the minimum thickness with the MPC-32ML canister and provide the bounding dose rates.

Comment #3: Provide the calculated dose rates for all cases listed in Table 5.0.3 to demonstrate that all BECT combinations produce dose rates that are bounded by the data as shown in Table 5.1.10. The staff finds some inconsistencies between data shown in Tables 5.4.9 and 5.1.10.

Holtec's Response: The dose rates in Table 5.1.10 are bounding dose rates. It is not the purpose of Table 5.4.9 to provide the dose rates for all source combinations. Since most dose rates provided in Tables 5.1.10 and 5.1.11 are from the source term combinations that may never happen, additional dose rates are provided in Tables 5.4.9 and 5.4.10 to present more realistic dose rates to the cask's user. Staff noted that it requested the additional dose rates to demonstrate that Holtec's proposed approach is valid.

Holtec's Action: Expand FSAR Table 5.4.9 to include additional dose rates corresponding to points in Table 5.0.3.

Comment #4: Provide a sensitivity analysis for the dose rate around the cask or source terms against the enrichment for the clusters of outliers in Figures 7-1, especially those in the ranges of 30 - 36 GWD/MTU and 40 - 45 GWd/MTU where there are lots outliers.

Holtec's response: The comment is accepted.

Holtec's Action: Perform and document the result of the sensitivity study in an updated calculation package.

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CONVERSATION RECORD (continued)

LICENSE NAME AND NUMBER(S)	MAIL CONTROL NUMBER(S)
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SUMMARY AND ACTION REQUIRED (IF ANY) (Continued)

Comment #5: The staff needs (a) the dose rates around the HI-TRAC transfer cask, and (b) a revised Radiation Protection Chapter of the SAR. Based on the response to the 2nd round of RAI, the staff noted that the source terms in the MPC-32ML are significantly larger than that of the MPC-37. Also the calculated dose rate at the mid-plane of the MPC-32ML overpack is significantly larger than that of the MPC-37 cask (by ~23%, 173 vs 141). These significant variations warrant the need for a revised shielding calculation for the HI-TRAC VM unless a sufficient justification is provided. The same reasons to the need for a revision of the Radiation Protection chapter.

Holtec's response: As discussed in response to Comment #1, the MPC-32ML dose rates are higher than the MPC-37 dose rates because the MPC-37 dose rates are for a representative source term, while the MPC-32ML dose rates are the bounding dose rates for all evaluated source term combinations.

Holtec's Action: Look into two options for FW Amendment No. 4: (1) Restrict the lead thickness of the transfer cask which would reduce the dose rates below the current dose rates in FSAR Chapter 5, or (2) update the Radiation Protection chapter to include dose estimates for the MPC-32ML. Holtec will update FW Amendment No. 5 accordingly.

Staff expressed that Holtec needs to properly justify any methodology or approach it takes to address these comments, i.e., if it chose to restrict the lead thickness, FSAR Chapter 5 would need to be updated with a dose rate analysis demonstrating that the restricted lead shield thickness with the bounding MPC-32ML source term would give the same dose estimate as the dose estimate currently in Chapter 11 with the MPC-37.

Since Holtec plans to use the same approach for fuel qualification table matters in FW Amendment No. 5 and HI-STORM 100 Amendment No. 15, staff reminded Holtec that it should expect similar questions for these two cases if these questions have not been addressed in the current application materials.

Holtec will inform the staff on the schedule for providing the supplemental information for FW Amendment No. 4.