

Request for Additional Information (D-RAI)

Docket Nos. 50-443 and 72-63

June 17, 2026, Exemption Request for Deviating from Conditions of

Certificate of Compliance No. 1032, Amendment No. 7

NextEra Energy Seabrook, LLC

Seabrook Independent Spent Fuel Storage Installation

Materials Evaluation

RAI M-1

Provide additional information on the assumed operational status of the canister in the analysis provided to support the exemption request and describe how other HI-STORM FW structures, systems and components (SSCs) were considered in the analysis.

The Executive Summary Holtec Calculation HI-2260256-R2.0 states the following:

During cask transfer containing spent fuel within the nuclear facility along the designated haul path or while a cask is stored on the ISFSI pad, a postulated external blast event could challenge the structural integrity of the confinement boundary.

This description ignores details of the transfer operation where the MPC would be expected to be either fully inside of a transfer cask, fully inside of a HI-STORM FW overpack or partially inside of a transfer cask and partially inside a HI-STORM FW overpack during MPC transfer operations. While it appears that the analysis provided by the applicant conservatively ignores any protection of the MPC to the explosive overpressure when the MPC is positioned inside of a transfer cask and/or inside a HI-STORM FW overpack, the analysis does not include a specific statement or assumption stating that the assumed operational status of the MPC conservatively ignores any protection offered by other HI-STORM FW SSCs.

This information is requested to verify compliance with requirements 10 CFR 72.7.

RAI M-2

Provide a description of how the allowed variation in the dimensions of the canister (i.e., ovality or non-circularity) considered in the calculation or the basis for why allowed variations in canister dimensions such as ovality can be ignored.

Holtec Calculation HI-2260256-R2.0, Section 4.0, "Assumptions," includes a description to justify the bases for the canister height, backfill pressure, and ignoring the internal canister structure as conservative. The assumptions described in Section 4.0 of Holtec Calculation HI-2260256-R2.0 do not address allowed variation in the dimensions of the canister.

This information is requested to verify compliance with requirements 10 CFR 72.7.

Enclosure

RAI M-3

Provide the following additional information. (1) the source for strain rates greater than 22 in/in that are included in Holtec Calculation HI-2260256-R2.0, Table 5-2: Strain Rate vs Yield Strength Scale Factor for 304/304L (Stainless Steel) at 450 F and (2) the value of, and justification for the expected strain rates for the MPC-37CBS under the explosive overpressure transient described in the application.

Table 5-2 in Holtec Calculation HI-2260256-R2.0 identifies yields strength scale factors for Type 304/304L stainless steel as a function of strain rate. Section 5.0, "Input Data," identifies the ASME B&PV Code Section III Nonmandatory Appendix Table EE-1250-1 as the source of information for these values. The staff note that the referenced ASME B&PV Code table contains yield strength scale factors up to a maximum strain rate of 22 in/in. The applicant should provide the source of information for the yield strength scale factors at strain rates greater than 22 in/in included in Table 5-2 in Holtec Calculation HI-2260256-R2.0.

Table 5-2 in Holtec Calculation HI-2260256-R2.0 identifies yield strength scale factors ranging from 0 in/in (quasi static) to 1000 in/in; however, the strain rate, or possible range of strain rates under the explosive transients described in the exemption request are not stated. The applicant should provide and justify the strain rate value(s) for the explosive transient evaluated in the exemption request.

This information is requested to verify compliance with requirements 10 CFR 72.7.

Structural Evaluation

RAI St-1

Assuming that the licensee is adhering to the requirements of 10 CFR 72.122(c), confirm or justify that exempting from: a) the dose limit requirements of 10 CFR 72.212(b)(iii), 72.104, and 72.106(b), b) the storage cask structural integrity requirements of 72.212(b)(5)(ii), do not need to be included in the list of the regulations as cited in NextEra Seabrook's exemption request dated June 17, 2026.

The NRC staff noted that certain safety functions have not been specifically addressed, and/or sufficient technical justification has not been included in the June 17, 2026, exemption request, to allow verification that the Holtec HI-STORM FW System Transfer Cask and Storage Cask Overpacks, as applicable, would not be degraded as a result of the blast event, including structural integrity supporting radiation and shielding functions and criticality control.

Provide supporting evidence for the continued functions with respect to the following statements made in June 17, 2026, exemption request:

- 1) In Section III(b): *"This evaluation (summarized below in Section IV) concluded that the proposed system use meets all the requirements of criticality control, shielding, structural, confinement, and thermal safety functions."*
- 2) Safety Conclusion in Section IV: *"The storage system meets the criteria outlined in the HI-STORM FW FSAR...and thus meets all requirements in 10 CFR Part 72."*

This information is requested to verify compliance with requirements 10 CFR 72.7, 72.212(b)(iii), 72.104, 72.106(b), and 72.122(c).