

Enclosure 2 to Holtec Letter 5018062

Amendment Request 1032-4

REVISED SUMMARY OF PROPOSED CHANGES (SOPC)

All changes to the CoC are marked in the subsequent attachments. Changes that have occurred as part of prior applications are not marked as changes.

Proposed Change #1

Addition of MPC-32ML, with the following additional changes for this revision of the SOPC:

- a. Change of 16x16D assembly class fuel clad inner diameter from 0.366” max to 0.373” max for MPC-32ML,
- b. Increased length of fuel assembly class 16x16D from 193” max to 196.122” max for MPC-32ML,
- c. Increased weight of fuel assembly class 16x16D from 1858 lbs max to 2200 lbs max (including Non-Fuel Hardware and DFC) for MPC-32ML, and
- d. Increased MPC-32ML cavity and overall heights as indicated in Drawing No. 10464 Rev. 1.

Reason for Proposed Change #1

The MPC-32ML allows for storage of certain Westinghouse fuel assemblies.

Justification for Proposed Change #1

The new MPC basket has been designed to utilize the same enclosure vessel as the MPC-37 and MPC-89 previously certified for storage in the HI-STORM FW system, and also utilizes the same Metamic-HT neutron absorber. The MPC-32ML has been evaluated against the previously certified MPCs and the HI-STORM FW FSAR has been updated to identify if the existing analyses are bounding or if new analyses have been performed. This canister and its approved contents have also been added to the draft CoC.

The dimensional and weight changes for 16x16D assemblies and MPC-32ML added in this revision of the SOPC are supported by structural analysis and evaluations in Chapter 3 of the HI-STORM FW FSAR (Proposed Revision 5.D), for storage in the HI-STORM FW System. Computed temperatures and pressure for the MPC-32ML in Chapter 4 remain below their respective limits. The reactivity of the system is maintained below 0.95, as noted in Chapter 6. Shielding analysis is performed for the HI-STORM FW System loaded with MPC-32ML in Chapter 5 of the FSAR. Confinement boundary “no credible leakage” criterion is maintained.

Proposed Change #2

Deleted

Reason for Proposed Change #2

Deleted

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Justification for Proposed Change #2

Deleted

Proposed Change #3

Addition of fuel assembly class 16x16E as content for MPC-37

Reason for Proposed Change #3

Expand allowable contents for the HI-STORM FW System, thereby increasing the permissible spent fuel assemblies to be placed in long term safe storage, and reducing the quantity of spent fuel assemblies in the spent fuel pool on plant sites.

Justification for Proposed Change #3

The 16x16E assemblies added to MPC-37 are bounded by 17x17 assemblies for shielding analysis in to Chapter 5 of the HI-STORM FW FSAR (Proposed Revision 5.D). The reactivity is less than 0.95 for normal and accident conditions, and bounded by 17x17 assembly class evaluated in Chapter 6. The 17x17 assembly class thermal analysis in Chapter 4 bound the 16x16E assembly added. The weight and dimensional limitations are in accordance with CoC Appendix B, ensuring the current structural evaluations and safety case are applicable. Confinement boundary leakage “no credible leakage” criterion is maintained.

Other Miscellaneous Changes

- The design pressures (in HI-STORM FW Table 2.2.1) have been modified to separate the short-term operation design pressure from the off-normal condition. This change provides greater clarity in the correct design pressure to use in each scenario. The short-term operation design pressure has been lowered to allow for more design margin.

NRC Requested Supplemental Changes per 6/25/18 Conference Call

- Caution note added to HI-STORM FW FSAR Section 9.2.1 (Overview of Loading Operations) that states fuel cladding is not exposed to air during loading operations, and inert gas must be used any time the fuel is not covered with water. This change provides clarification to the FSAR and ensures users do not enter the unanalyzed condition of potential oxidation of fuel cladding during fuel loading operations.
- Definition of Undamaged Fuel in HI-STORM FW FSAR Glossary updated to align with definition in HI-STORM FW CoC Appendix A and Table 2.1.3 (Note 14) of HI-STORM

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FW FSAR. Also, a caution note is added to HI-STORM FW FSAR Section 9.2.3 (MPC Fuel Loading) that states low-enriched fuel must be shown to be without known or suspected grossly breached rods via review of records, fuel sipping, or other method.

- Metamic-HT Sourcebook (Report 2084122) has been revised to include fracture toughness test program, to study crack propagation in material assumed to contain flaws or defects. This program replaces the Charpy test program used previously for HI-STORM FW. Corresponding changes are made to Section 1.2.1.4.1 (Neutron Absorber – Metamic HT) and Section 3.4 of the HI-STORM FW FSAR. This ensures alignment and consistency with updated approach for other Holtec systems.