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Mr. John Goshen
c/o Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

November 18, 2010

Subject: Submittal of Comments on Preliminary Safety Evaluation Report, Certificate of Compliance and Technical Specifications for the Holtec International HI-STORM Flood/Wind Multipurpose Canister Storage System General License Application, USNRC Docket No. 72-1032 (TAC L24321)

Reference: NRC Letter (Goshen) to Holtec (Morin), dated November 2, 2010

Dear Mr. Goshen:

By letter dated November 2, 2010, the NRC requested Holtec comments on the Preliminary Certificate of Compliance (CoC)/Technical Specification (TS) and Safety Evaluation Report (SER) for the certification of the HI-STORM FW MPC Storage System (USNRC Docket No. 72-1032). Holtec appreciates the opportunity to provide comments on these documents. Our comments, both editorial and non-editorial, are transmitted with this letter in Attachment 1.

Please do not hesitate to contact me if you require any additional information or clarification at 1-856-797-0900 x687 or t.morin@holtec.com.

Sincerely,

Ms. Tammy S. Morin
Licensing Manager
Holtec Technical Services, Holtec International

cc: Mr. Robert Johnson, USNRC
Mr. Douglas Weaver, USNRC
Ms. Vonna Ordaz, USNRC

List of Attachments:

Attachment 1: Holtec Comments to Preliminary SER and CoC/TS for USNRC Docket No. 72-1032 (6 pages)

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Holtec Comments to
Preliminary SER and CoC/TS for USNRC Docket No. 72-1032

Comments on Safety Evaluation Report (SER):

1. Page i – TOC title for Section 2 “Criterial” → “Criteria”
2. Page 1 (no page number on page) – 2nd paragraph – Suggest changing “amendment” → “application”. In addition, suggest adding the revision level of the NUREG-1536 to which the review was performed.
3. Page 2 – 3rd full paragraph – The first sentence of this paragraph is a repeat from the last paragraph of Page 1.
4. Page 3 – 1st paragraph – Suggest changing “similar as” → “similar to”
5. Page 3 – 2nd paragraph – Suggest changing “HI-STORM 100 SAR” → “HI-STORM 100 FSAR”
6. Page 3 – Section 2.2.1 – Suggest changing “HI-STORM FW Cask system” → “HI-STORM FW system” and “maximum average burnup” → “maximum fuel assembly average burnup” for consistency.
7. Page 3 – Section 2.2.1 – 1st sentence – Suggest rewording the sentence to “The HI-STORM FW system is designed to store up to 37 PWR fuel assemblies or up to 89 BWR fuel assemblies.”
8. Page 5 – Section 3.1.2 – 2nd paragraph – Suggest changing “criteria” → “criteria”
9. Page 6 – Section 3.3.3.2 -1st sentence – The first sentence is a bit unclear. Suggest rewording to “The allowable pressure from explosion is set to prevent sliding or tipping of the HI-STORM FW storage cask and to the accident condition design external pressure for the MPC, which is 55 psig.”
10. Page 7 – Section 3.3.3.5 – Add “HI-TRAC VW” to the last sentence as the analysis was also performed for this component as mentioned in the text of that paragraph.
11. Page 7 – Section 3.3.3.6 – 2nd paragraph – Suggest changing “FSAR” → “SAR” for consistency. The FSAR will not be submitted until after the CoC is issued.
12. Page 9 – Section 4 – Suggest adding the revision level to NUREG-1536 or have it added to a reference section (see Comment 2). Also suggest adding ISG-11 Rev 3 to the list of references and/or be consistent when referring to all the review documents in the text of the SER.
13. Page 9 - Section 4.1, Items 2 and 3 - The section is titled spent fuel cladding, yet these items address the MPC and cask.
14. Page 11 – Section 4.4.2 – Suggest changing “Peak Centerline Temperature” → “Peak Cladding Temperature”
15. Page 11 – Section 4.4.2 - Suggest referring to SAR Figures 1.2.1 and 1.2.2 to identify the regions shown in the Tables of this SER section.
16. Page 13 – Section 4.6 – 1st paragraph- Delete the repeated word “that”.
17. Page 13 – Section 4.6 – 2nd paragraph – Analysis in SAR section 4.4.4.3 provides thermal results for elevations above sea level. Specifically thermal results for 1500 feet above sea

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level are provided in Table 4.4.9 and these indicate that all of the temperatures are under the limits. Holtec suggests that the statement in the SER be changed to "...if an ISFSI is located at an elevation greater than 1500 ft above sea level...", consistent with the HI-STORM 100 System.

18. Page 14 – Section 4.7.1.1 - Provide revision of ISG-11 or add a reference section.
19. Page 14 – Section 4.8.1 – 1st sentence – The SER indicates that three off-normal events were considered in the thermal analysis. As per Chapter 4 of the SAR, four off-normal events were considered in the thermal evaluation of the application. FHD malfunction is missing from the list of events.
20. Page 14 – Section 4.8.1 – 4th sentence - Suggest adding "and pressure" after "The off-normal temperature" since the SAR tables referenced (4.6.1 and 4.6.7) provides the results for both.
21. Page 15 – Section 4.8.2 – 1st sentence - The SER indicates that five accident events were considered in the thermal analysis. As per Chapter 4 of the SAR, six accident events were considered in the thermal evaluation of the application. Flood is missing from the list of events.
22. Page 15 – Section 4.10 – last sentence – Suggest changing "vendor's" → "applicant's"
23. Page 15 – F4.2 – "except during short-term operations," should be deleted from the finding. No active cooling systems are required for the HI-STORM FW system at all, even during short-term operations.
24. Page 16 – Section 5.3 – The reference to Table 3-2 of Appendix A in this instance is incorrect. This step in the process, purging the space beneath the MPC lid during lid-to-shell welding, is discussed in Chapter 9 (specifically Subsection 9.2.4) of the SAR. Table 3-2 of Appendix A provides the final backfilling requirements.
25. Page 17 – Section 5.6 – The reference to Table 3-1 of Appendix A in this case is incorrect. This should be Surveillance 3.1.1.3. In addition Surveillance 3.1.1.3 specifies that the vent and drain port cover plate welds will be tested, this section of the SER omits the word "welds".
26. Page 17 – Section 5.7 for consistency with the TS sentence should read "The acceptance criterion when using FHDS is the gas temperature exiting the demoisurizer shall be less than or equal to 22°F for at least 30 minutes or the gas dew point exiting the MPC shall be less than or equal to 22.9°F for at least 30 minutes."
27. Page 17 – Section 5.7 – The root and final welds of the closure ring to MPC lid is a partial penetration weld as stated in the SER, however the closure ring to MPC shell weld, on the outer diameter, is a fillet weld per SAR Table 7.1.1. The text should be changed to reflect that.
28. Page 17 – Section 5.7 same comment as 25.
29. Page 18 – F5.1 – Suggest changing "exceptions" → "alternatives"

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30. Page 18 – F5.2 – Please see comment 12 with regard to the revision level of NUREG-1536 used for this review.
31. Page 18 – F5.3 – Add that monitoring of combustible gas will also be performed during cutting of the weld consistent with the requirement in Section 3.5 of Appendix B.
32. Page 18 – F5.3 – Suggest removing “Corrosion of Components” from the finding. Hydrogen may be generated due to various reasons, including but not limited to galvanic reactions, radiolysis, and/or spent fuel pool chemistry; however the short durations in the spent fuel pool will not result in corrosion of the components.
33. Page 18 – F 5.6 – same comment as 25. The leaktight criteria for these welds is specified in SR 3.1.1.3 not Table 3-1 of TS Appendix A. Suggest changing “containment” → “confinement” as this is the applicable term in storage applications.
34. Page 18 – In the paragraph after the Findings, change “containment” → “confinement” in two places (see Comment 33).
35. Page 19 and throughout the Shielding Section add the clarifying “VW” to “HI-TRAC” and “FW” to “HI-STORM” for consistency throughout the SER.
36. Page 19 – Section 6.1.2 – 1st paragraph – Remove reference to “Holtite” as a neutron shielding material in the HI-TRAC VW as this material is not used. Delete “is provided” after “HI-TRAC”. Change Figure reference “5.I.1” → “5.1.1”. Replace “with MCNP5 computer code” → “with the MCNP5 computer code”.
37. Page 20 – Section 6.2 – Change “Subsection 5.2.5” → “Subsection 5.2.4”
38. Page 21 – Section 6.3 – “Section 5.I.3 as well as” should be deleted from the text.
39. Page 22 – Section 6.3.1 – top of page – The conservative modeling approximations are listed on SAR page 5-40 instead of 5-42. Suggest that this be replaced with a reference to Subsection 5.3.1 instead of the page number. Replace “in term” → “in terms” in two places and “streaming path” → “streaming paths”.
40. Page 23 – Section 6.4.1 – last paragraph – Correct table references such that Table 5.1.6 → 5.1.5; Table 5.1.7 → 5.1.6; and Table 5.1.8 → 5.1.7
41. Page 24 – Section 6.4.3.1 – last sentence – Replace “condition found” → “condition and found”
42. Page 27 – List of bulleted items – “Maximum Guide and/or Instrument Tube Thickness (PWR)” should be “Minimum Guide and/or Instrument Tube Thickness (PWR)” consistent with SAR Table 2.1.2.
43. Page 31 – Section 7.3.1 – 1st paragraph – Suggest changing “is represented during” → “is representative for” or similar.
44. Page 33 – Section 7.4.2 – 2nd paragraph – Suggest changing “is flooded it has” → “is flooded and therefore has”
45. Page 40 – Section 8.1.7 – last sentence of 4th paragraph – Note that the structural evaluation of the basket welds are not detailed in the structural section of the SER.
46. Page 43 – Section 8.1.10 – 3rd paragraph – last sentence – Same as comment 45.

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47. Page 44 – Section 8.2.2 – add “and outside” to end of first sentence. The concrete of the HI-STORM FW overpack is fully encased by carbon steel.
48. Page 44 – Section 8.2.3 – 3rd paragraph – clarification should be made in the sentence to indicate that all non-destructive examinations “for code welds” will comply with ASME Section V of the ASME code. See SAR Section 10.1.1.4.
49. Page 46 – Section 9.2 – “spend” → “spent”
50. Page 46 – F9.2 clarify sentence. Suggest re-wording to “The bolted closure plate of the overpack and welded MPC allow for ready retrieval...”
51. Page 46 – F9.3 – Add “HI-TRAC VW” before “cask”.
52. Page 46 – F9.6 – The reference to Section 10 of the SER is incorrect, replace with Section 11.

Comments on Certificate of Compliance (CoC) 1032:

1. Page 1, Box referring to the Safety Analysis Report Title – Delete “Inc.” from Holtec International.
2. Page 1- Description – 1st paragraph – Suggest changing “or 89” → “up to 89”
3. Page 2 - first full paragraph – Suggest changing “spent fuel pool” → “cask loading area”. As discussed in the application fuel can be loaded in a hot cell as well as the pool.
4. Page 2 – Condition 2 – Suggest “Written acceptance tests and a maintenance program”, or similar.
5. Page 2 – Condition 2 – Suggest removal of “.” after “NB”
6. Page 2 – Condition 2 - Suggest changing “criteria” → “criterion”.
7. Page 2 – Condition 4 – In parenthetical statement - Suggest “as applicable” instead of “if applicable” unless there are other regulations besides 10 CFR 50.59 or 10 CFR 72.48 that may be applicable.
8. Page 3 – Condition 8 – Suggest replacing “the first HI-STORM Cask Systems” with “the first HI-STORM Cask System”. In addition, the intent of the second sentence of the second paragraph is not clear or necessarily applicable. If the air mass flow rate test is required only once, then there is no need for another user to satisfy this condition.

Comments on Technical Specifications (TS) Appendix A:

1. Page 1 – Suggest removing definition for the CASK TRANSFER FACILITY as it is not referred to in the CoC or TS.
2. Page 3 – Definition of TRANSFER CASK - add “and prior to and during unloading” to the definition.
3. Page 3.1.2-2 – SR 3.1.2 – Change 135 °F to 136 °F for consistency with thermal calculations.

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4. Page 3.3.1-1 - Applicability Statement - Suggest changing the logical connector “AND” to “OR” in the Applicability statement or clarifying the Applicability statement in a different way. If “AND” is used as the logical connector it means both conditions have to apply for the LCO to be applicable. If “OR” is used as the logical connector it means either condition has to apply for the LCO to be applicable. Holtec believes if either of these conditions applies, the LCO is to be entered.
5. Page 3.4-1 - Table 3-1 – The MPC heat load limit for the MPC-37 during vacuum drying of high burnup fuel should be “34.36” and not “36.36”. Additionally, a note should be added to the table to point the user to Appendix B Table 2.3-3 for PWR fuel and Appendix B Table 2.3-4 for BWR fuel which provides the heat load limits per region when vacuum drying high burn up fuel. Suggest the following changes (in *italics>*) to the table:

Table 3-1
MPC Cavity Drying Limits

Fuel Burnup (MWD/MTU)	MPC Heat Load (kW)	Method of Moisture Removal (Notes 1 and 2)
All Assemblies ≤ 45,000	≤ 47.05 (MPC-37) ≤ 46.36 (MPC-89)	VDS (Note 3) or FHD
One or more assemblies > 45,000	≤ 34.36 (MPC-37) ≤ 34.75 (MPC-89)	VDS (Notes 3 <i>and</i> 4) or FHD
One or more assemblies > 45,000	≤ 47.05 (MPC-37) ≤ 46.36 (MPC-89)	FHD

Notes:

1. VDS means a vacuum drying system. The acceptance criterion when using a VDS is the MPC cavity pressure shall be ≤ 3 torr for ≥ 30 minutes while the MPC is isolated from the vacuum pump.
2. FHD means a forced helium dehydration system. The acceptance criterion when using an FHD system is the gas temperature exiting the demoinsturizer shall be ≤ 21°F for ≥ 30 minutes or the gas dew point exiting the MPC shall be ≤ 22.9°F for ≥ 30 minutes.
3. Vacuum drying of the MPC must be performed with the annular gap between the MPC and the TRANSFER CASK filled with water.
4. *Heat load limits are set for each Region; see Appendix B Table 2.3-3 for PWR fuel or Appendix B Table 2.3-4 for BWR.*

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[End of Appendix A Comment #5]

6. Page 5.0-2 - Item 5.2.c – “may be lifted to” → “may be lifted to and carried at”

Comments on Technical Specifications (TS) Appendix B:

1. Page 2-6 – Table 2.1-1 – Section II, item h – Weight of the assembly should include a DFC as well as a channel.
2. Page 2-7 – Note 1 - Suggest rephrasing of the wording in Note 1 to “The lowest maximum allowable enrichment of any fuel assembly loaded in an MPC-89, based on fuel array class and fuel classification, is the maximum allowable enrichment for the remainder of the assemblies loaded in that MPC.”
3. Page 3-1 – Section 3.2.1 and 3.2.2 - Change “(nom.)” to “(min.)” in all four locations. These are the minimum values per the licensing drawings.
4. Page 3-6 - Table 3-1, NB-6111 – The MPC is not pressure tested after final seal welding rather it is pressure tested after the lid to shell weld is completed. For clarity suggest that the beginning of the paragraph in the 4th column reads “The MPC is welded in the field following fuel assembly loading. After the lid to shell weld is completed, the MPC shall then be...”
5. Page 3-10 - Section 3.4.3.b – Suggest changing the criteria for the site specific analysis to state “The analysis should demonstrate that the earthquake will not result in cask tipover or cause excessive sliding such that impact between casks could occur. Any impact between casks should be considered an accident for which the maximum total deflection, d , in the active fuel region of the basket panels shall be limited by the following inequality: $d \leq 0.005 l$, where l is basket cell inside dimension”. This allows for some sliding of the casks on the pad and matches the acceptance criteria under the accident scenario.