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

June 18, 2009

Subject: Comments on Preliminary Safety Evaluation Report, Certificate of Compliance, and Technical Specifications for HI-STORM 100 System CoC Amendment 7.
USNRC Docket No. 72-1014; TAC No. L24085

Dear Mr. Goshen:

Thank you for providing us the opportunity to review the preliminary Safety Evaluation Report (SER), Certificate of Compliance (CoC), and associated Technical Specifications (TS) for Amendment 7 to the HI-STORM 100 CoC.

Attachment 1 contains Holtec's comments on the documents.

Thank you for your continued effort toward timely approval of this amendment. Feel free to contact me if you have any questions.

Kindest regards,

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Acting Licensing Manager
Holtec International

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The following are Holtec's comments on the preliminary Certificate of Compliance (CoC), Safety Evaluation Report (SER), and Technical Specifications (TS) for the HI-STORM 100 Cask System CoC No. 72-1014, Amendment #7. The comments for each document are listed separately.

CoC: Generally throughout the document there should be consistency when using "above ground" and "underground".

Section 1.b, 4th paragraph, last sentence – there appears to be a "110" that should not be there.

Section 1.b, Underground Systems – for consistency replace "overpack" with "VVM".

Item 5, last sentence – For above ground systems the transfer of the MPC from the HI-TRAC to the OVERPACK may occur in the fuel storage building, at the ISFSI, or at a cask transfer facility (CTF). For the underground system, the MPC transfer can only occur at the ISFSI from the HI-TRAC into the VVM, therefore there is no CTF. The MPC transfer operation is considered part of the TRANSPORT OPERATIONS. Suggest wording change to "Lifting operations outside of structures governed by 10 CFR Part 50 must be in accordance with Section 5.5 of Appendix A and Sections 3.4.6 and 3.5 of Appendix B, for above ground systems, or Section 5.5 of Appendices A-100U for the underground systems." See comments to App A-100U and App B-100U below regarding this as well.

Section 9, 2nd Paragraph — The preliminary CoC implies that each user must test their SCS prior to using it for the first time. This is inconsistent with current practice. Currently if a first time user of a supplemental cooling system can show that their system is equivalent to a system that has already been tested, analyzed, and documented with the NRC, they can reference the report sent to the NRC by the user of that system, in lieu of testing their own system. Suggest CoC text change to read "*Each first time user of a Supplemental Cooling System (SCS) which has not been previously tested and documented with the NRC shall measure and record coolant temperatures...*"

Section 10, item g – requires an " , if applicable" to the end of the step since supplemental cooling is not required for casks with low heat load or casks containing only moderate burnup fuel.

Section 12, Suggest this paragraph be shortened to state the condition as "The bounding seismic parameters for the net horizontal acceleration at a specific site must account for amplification by either reducing the unamplified pad net

horizontal ...” The first sentences are repeated in the SER and do not provide the user with any specific direction.

SER: Page 1, Holtec does not find a record of a submittal to the NRC corresponding to this LAR (1014-6) on April 11, 2008. Also NRC should consider adding Holtec letter 5014651 submitted on June 2, 2008 which is the Environmental Report for 100U and Holtec letter 5014675 submitted on January 22, 2009 which contained the proprietary information in support of the January 16, 2009 RAI response letter.

Page 1, third bullet – change “cavities” to “VVMs”

Page 2, 2nd paragraph – remove extra “)”; capitalize “a” in “amendment 6”.

Page 4, 1st paragraph – capitalize “t” before table 2.I.9

Page 4, Section 2.2.1 – suggest the following for the first sentence “The HI-STORM 100 Cask system is designed to store *up to* either 24 or 32 PWR fuel assemblies *or up to* 68 BWR fuel assemblies.

Page 4, Section 2.2.1, 2nd sentence – Holtec did not request any changes to the approved fuel assemblies in this amendment.

Page 6, and generally throughout - consistency when using “above ground” and “underground”. At times there are “aboveground” or “above-ground” as well as “below-ground”.

Page 7, first paragraph, the latest revision of drawing number 4501 is revision 4, not revision 6.

Page 7, and generally throughout, use of “UFSAR”. In some places UFSAR is used, in others FSAR is used.

Page 8, Section 3.1.1, last sentence – when referring to Tables 2.I.7 and 2.I.8 use the entire table number, not just “8”.

Page 8, and generally throughout, when referring to bedrock we should also add “or substrate material having a shear wave velocity ≥ 3500 fps”, or clarify this early on when the SER states bedrock it means both of these conditions.

Page 11, last paragraph on page, 2nd sentence – “This represents the *maximum* weight of a loaded transporter...”

Page 23, Section 3.4.3, first paragraph – “When required by soil conditions, *as described in TS Appendix 100-U Section 3.9*, an ICCPS will be employed.”

Page 25, 2nd paragraph – suggest removing “associated with the construction of new VVMs”. Any excavation is prohibited from taking place within a distance equal to ten times the depth of the planned excavation.

Page 27, Section 4.4.1 – MPC-24, 24E, 32 and 68 are the only MPC models listed in Appendix B-100U.

Page 27, Section 4.4.2, suggest stating “.the divider shell insulation must be stable *up to a temperature of 800 deg F*”

Page 27, Section 4.4.3 item 6 – there are no “foundation anchor housings” in the CEC. The CEC rests in a recessed space in the support foundation.

- Page 28, last sentence on page – suggest “If Holtec decides to continue using this approach (modeling a single VVM to represent an array of 100U VVM casks)...” for clarity.
- Page 30, 2nd paragraph after Table, 2nd sentence – instead of “greater than sea level” it should be “greater than 1500 ft”. See FSAR Section 4.I.4.3 for discussion.
- Page 34, Section 5.1.1, 2nd paragraph – need to add an open parentheses or remove the close parentheses.
- Page 35, Section 5.1.2, last sentence – suggest “Limits for the system contents are incorporated into CoC Appendix B-100U.” If the listing provided is to be inclusive, it may need more items listed. Otherwise, it is better to be less detailed. There are also minimum enrichment requirements, maximum enrichment requirements, and other fuel characteristics imposed in Appendix B-100U.
- Page 42, Section 7.0, Since there are no changes proposed to the MPC in this amendment, Holtec considers the confinement evaluation does not require specific findings.
- Page 43, Section 8.2, 2nd paragraph, remove the “-“ between “structural” and “lid”
- Page 50, Finding F10.8 does not read properly, suggest to remove the word “addition”.

TS APPENDIX A

Definitions for LOADING OPERATIONS, STORAGE OPERATIONS, TRANSPORT OPERATIONS, and UNLOADING OPERATIONS should be modified to add “/VVM” to the last two instances of “OVERPACK” where the MPC transfer is described. Example:

“LOADING OPERATIONS include all licensed activities on an OVERPACK or TRANSFER CASK while it is being loaded with fuel assemblies. LOADING OPERATIONS begin when the first fuel assembly is placed in the MPC and end when the OVERPACK or TRANSFER CASK is suspended from or secured on the transporter. LOADING OPERATIONS does not include MPC transfer between the TRANSFER CASK and the OVERPACK/VVM, which begins when the MPC is lifted off the HI-TRAC bottom lid and ends when the MPC is supported from beneath by the OVERPACK/VVM.”

TS APPENDIX B

Page 2-2, Section 2.1.3, Regionalized loading should be limited to INTACT FUEL ASSEMBLIES. Suggest for 2nd sentence, “Regionalized loading is limited to INTACT FUEL ASSEMBLIES with ZR cladding.”

Page 2-31, Center table title for Table 2.1-2.

Section 3.5.1 because we are creating a separate set of technical specifications for the underground system, this section needs to revert to the wording in the current amendment (#5) which is equivalent to Amendment #6 (in rulemaking), with the minor change shown below. The section should read as follows:

Lifting of a loaded TRANSFER CASK and MPC using devices that are not integral to structures governed by 10 CFR Part 50 shall be performed with a CTF that is designed, operated, fabricated, tested, inspected, and maintained in accordance with the guidelines of NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants", as applicable, and the below clarifications. The CTF Structure requirements below do not apply to heavy loads bounded by the regulations of 10 CFR Part 50 or to the loading of an OVERPACK in a belowground restraint system which permits MPC transfer near grade level and does not require an aboveground CTF.

Section 3.11, this added section is equivalent to Section 3.4, Item 10, therefore Holtec considers this to be redundant. If the Staff chooses to remove section 3.11, then Sections 3.9 and 3.10 can also be eliminated from TS Appendix B.

TS APPENDIX A-100U

Section 3.2.2 - Since the transfer will always occur at the ISFSI, the NOTE can be removed.

Table 3-2 – The backfill limits for the MPC-24EF, 32F, 68F, 68FF should be removed since these models are not intended to be loaded into the underground system.

Section 5.5 Item 3, remove "transportation between the FUEL BUILDING and the CTF and/or ISFSI pad" after "TRANSPORT OPERATIONS". TRANSPORT OPERATIONS is defined as this.

Section 5.5 Item 4 - Referring to Section 3.5 (CTF) is no longer needed because the ISFSI is the only place where the MPC can be transferred into the VVM. MPC transfer is defined in TRANSPORT OPERATIONS. Suggest the following:

"The TRANSFER CASK and MPC, when loaded with spent fuel, may be lifted to those heights necessary to perform cask handling operations, including MPC transfer, provided the lifts are made with structures and components designed, operated, fabricated, tested, inspected, and maintained in accordance with the guidelines of NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants", as applicable, and has devices which prevent uncontrolled lowering of the load."

Section 5.7.4, add “.” at the end of the sentence.

TS APPENDIX B-100U

Section 3.3, Table 3-1 of Appendix B contains code alternatives for the MPC and HI-TRAC. This table should be referenced as applicable. Holtec suggests the following:

“The American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), 1995 Edition with Addenda through 1997, is the governing Code for the HI-STORM 100 System, as clarified in Specification 3.3.1 below, except for Code Sections V and IX. The ASME Code paragraphs applicable to the 100U VVM are listed in Table 3-2. The latest effective editions of ASME Code Sections V and IX, including addenda, may be used for activities governed by those sections, provided a written reconciliation of the later edition against the 1995 Edition, including addenda, is performed by the certificate holder. American Concrete Institute (ACI) 349-85 is the governing Code for plain concrete as clarified in Appendix 1.D of the Final Safety Analysis Report for the HI-STORM 100 Cask System.

3.3.1 Alternatives to Codes, Standards, and Criteria

Table 3-1 of Appendix B to CoC 1014 lists approved alternatives to the ASME Code for the design of the MPCs and TRANSFER CASKs of the HI-STORM 100U System.”

Section 3.4 Item 11, replace “OVERPACK” with “VVM”

Section 3.5, delete this section and Table 3-4. See above comments on Section 5.5 of Appendix A-100U. Adjust Table of Contents as necessary.

Section 3.11, this added section is equivalent to Section 3.4, Item 12, therefore Holtec considers this to be redundant.