



Holtec Center, 555 Lincoln Drive West, Marlton, NJ 08053

Telephone (856) 797-0900

Fax (856) 797-0909

January 3, 2014

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: USNRC Docket Nos. 72-1008, 72-1014 and 72-1032
HI-STAR 100 Certificate of Compliance 1008
HI-STORM 100 Certificate of Compliance 1014
HI-STORM Flood/Wind (FW) Certificate of Compliance 1032
HI-STAR 100 System 10 CFR 72.48(d)(2) Biennial Report
HI-STORM 100 System 10 CFR 72.48(d)(2) Biennial Report
HI-STORM FW System 10 CFR 72.48(d)(2) Biennial Report

References: 1. Holtec Project 5014
2. Holtec Project 5018
3. Holtec Letter 5014734

Dear Mr. Goshen:

In accordance with 10 CFR 72.48(d)(2), Holtec International herewith submits the biennial report of changes, tests, and experiments implemented for the HI-STAR 100, HI-STORM 100 and HI-STORM FW Systems under the provisions of 10 CFR 72.48. The attached report summarizes all changes, tests, and experiments implemented by Holtec under the provisions of 10 CFR 72.48 for the HI-STAR 100, HI-STORM 100 and HI-STORM FW Systems between December 31, 2011 and December 31, 2013.

There were no changes, tests, and experiments implemented by Holtec in accordance with 10 CFR 72.48 for the HI-STORM FW System prior to December 31, 2011. This is therefore the first biennial submittal that includes 72.48s for the HI-STORM FW System.

It is noted that the last such biennial report (Reference 3) was submitted on January 4, 2012, and that the period between these filings is consistent with the 10 CFR 72.48(d)(2) reporting requirement.

NM5526



Holtec Center, 555 Lincoln Drive West, Marlton, NJ 08053

Telephone (856) 797-0900

Fax (856) 797-0909

If you have any questions, then please contact me at (856)-797-0900 ext. 3844.

Sincerely,

Royston Ngwayah
Licensing Engineer,
Holtec International

cc: (letter only w/o attachments)
HUG Licensing Subcommittee (via email)

Attachment 1: Biennial Summary of Changes, Tests, and Experiments Pertaining to the HI-STAR
100, HI-STORM 100 and HI-STORM FW Dry Cask Storage Systems (49 pages)

10 CFR 72.48(d)(2) Report for the HI-STAR 100, HI-STORM 100 and HI-STORM FW Cask Systems

Attachment 1 – Biennial Summary of Changes, Tests, and Experiments Pertaining to the HI-STAR 100, HI-STORM 100 and HI-STORM FW Dry Cask Storage Systems

NRC Docket Nos. 72-1008, 72-1014 and 1032

10 CFR 72.48(d)(2) Report

Notes on the 10 CFR 72.48(d)(2) Report:

1. The first two columns of the report are the Holtec 72.48 number assigned (sequentially) to the change, test or experiment and the corresponding latest revision.
2. The third column of the report is the dry cask certificate number impacted by the change, test or experiment.
3. The fourth column of the report is the Holtec Project Number for the component(s) impacted by the change, test or experiment. These are:

- a. 1020 - HI-STAR Overpack
- b. 1021 - MPC-68/68F/68FF
- c. 1022 - MPC-24/24E/24EF
- d. 1023 - MPC-32/32F
- e. 1024 - HI-STORM 100/100S/100S Version B Overpack
- f. 1025 - HI-TRAC 1251125D Transfer Cask
- g. 1026 - HI-TRAC100/100DTransferCask
- h. 1027 - HI-STORM 100 Ancillary Equipment
 - i. 5014 - HI-STORM 100 Generic
 - j. 100 - HI-STORM Flood/Wind (FW) Assembly (Overpack)
- k. 101 - MPC-89
- l. 102 - MPC-37
- m. 103 - HI-TRAC VW Transfer Cask
 - n. 104 - HI-STORM FW Ancillary Equipment
 - o. 5018 - HI-STORM FW Generic

4. The fifth column of the report lists if the change, test or experiment was initiated by an engineering change order (ECO), a supplier manufacturing deviation report (SMDR), and Site-Specific Analysis (Analysis), Site-Specific Drawing changes (DWG) or Site-Specific Procedural changes (HPP).
5. The sixth column of the report lists if the change, test or experiment required a full evaluation (an adverse change) or only a screening (not an adverse change).
6. The seventh column of the report lists the affected components of the change, test or experiment.
7. The eighth and ninth columns of the report are the description of the change, test. or experiment and the summary of the evaluation (required for full evaluations only).

10 CFR 72.48(d)(2) Report for the HI-STAR 100, HI-STORM 100 and HI-STORM FW Cask Systems

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
916	3	1014	1024	SMDR	Full Evaluation	HI-STORM Base shield block, lid vent shield, base spacer block, and base MPC support	<p>Eleven SA 36 plates ordered for the HI-STORM 100S Version B Base Spacer Block, Base Shield Block, Base MPC Support and Lid Vent Shield do not meet the chemistry requirements specified in ASME-SA-36. The trace element reported out of specification for the tested samples is Manganese (Mn). The ASME specification requires 0.85% Mn as a minimum and the test data shows 0.82% and 0.83% Mn is present in the samples. Another batch of eleven SA 36 plates for the same items do not meet the tensile yield strength requirements specified in ASME-SA36. The tensile yield strength is shown as 35.2 ksi; whereas the ASME requirement is 36 ksi minimum at room temperature. It is proposed to accept all plates as SA 283 material for the base spacer block (Item 2), base shield block (Item 3), base MPC support (Item 5) and lid vent shield (Item 34) of DWG 3996 as is.</p> <p>***Revision 1*** Corrected typo in Mn specification. ASME requires 0.85% Mn.</p> <p>***Revision 2*** Section 1.2 - Clarified that the percentage composition of Mn has no effect on shielding, as Mn is not included in the carbon-steel composition used for dose rates calculations. In the analyses, carbon-steel only contains iron and carbon and these analyses are consistent with the NRC reviewed and approved HI-STORM FSAR.</p> <p>***Revision 3*** Revised to include additional detail and perform a full evaluation due to the reduction in</p>	<p>There are no malfunctions associated with the HI-STORM system due to the proposed activity and so no malfunction likelihood, consequences or results can be increased.</p> <p>The containment boundary remains unchanged, so no accident consequences can be increased.</p> <p>Methods of handling and operating the cask system is not affected, so no new accidents can be created.</p> <p>Cask system temperatures, including fuel cladding, are not increased and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
							carbon steel strength from that specified in Table 3.3.6 of the FSAR.	

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
928	0	1014	928	SMDR	Screening Only	MPC-32 Lid	The 1 3/4-5 UNC lifting holes in the top of the MPC-32 lid were not machined in the correct locations. It is proposed to machine each incorrect hole to a 3 1/2-4 UNC hole, fully encompassing both the offset hole and the correct hole location. Stainless steel plugs (3 1/2-4 UNC x 4-3/8") will then be screwed into position, seal welded in place, and machined flush with the lid surface. The 1 3/4-5 UNC lifting holes will be remachined into the stainless steel plugs at the correct lifting locations. This is a one-time manufacturing deviation.	N/A
936	0	1014, 1008	1021	SMDR	Screening Only	MPC-68 lid (MPC-2568-33)	It is proposed to plug the mis-located holes per the attached sketch (option #2) to SMDR 1928 and re-allocate this lid for use in an MPC that does not require upper fuel spacers.	A full 72.48 evaluation is not warranted. The change was screened out during the Screening for Abbreviated Evaluation. There was no impact on the FSAR texts, CoC/TS or SERs for HI-STORM or HI-STAR 100. The impact was limited to the fabrication drawing (1402 R50), which is not in the FSAR.

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
937	1	1014, 1008	1021, 1022, 1023	ECO	N/A (clerical changes)	MPC Lid, HI-TRAC pool and top lids, HI-STORM anchor blocks	<p>***Revision 1*** Revised Summary of 72.48 Evaluation, Section 4.2 (Criteria # 2, # 4 and # 6) to remove any reference to the HI-STORM system being passive in nature and updated to correct the use of the term "malfunction". All other justification from Revision 0 is applicable. FSAR Chapter 3 author and reviewer signature from Revision 0 is applicable and no signature required for this revision 1.</p> <p>Per ECO 5014-182R0, it is proposed to make changes to the FSAR and MPC drawings as part of corrective action report (CAR 168) for QPV 717. See Attachment A of ECO 5014-182 for a complete markup of the FSAR changes. The net effect of these changes is to increase the minimum yield strength of the MPC lid material to 33ksi.</p>	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
968	0	1014	1026, 5014	ECO	Full Evaluation	HI-TRAC 100D	<p>It is proposed to introduce a new optional HI-TRAC 100D design which utilizes lead sheet in lieu of poured lead in the HI-TRAC body. Additional changes are also proposed as listed in ECO-1026-44. As a result of the new optional design and the ECO changes previously mentioned, changes to the HI-TRAC 100D licensing drawing are necessary. These changes are specifically screened/evaluated in this 72.48 in order to implement the new design. The following is a summary of the proposed changes:</p> <p>[1] Add optional HI-TRAC 100D design which utilizes lead sheets and a modified water jacket/rib design in lieu of poured lead.</p> <p>[2] Provide optional holes on trunnions for machining purposes.</p> <p>[3] Change some dimensions to "REF". These dimensions are not of the level detail required of a licensing drawing.</p> <p>The introduction of layered lead sheets in the HI-TRAC body requires text changes to chapter 9 of the FSAR as presented in ECO-5014-200.</p>	<p>There are no malfunctions associated with the HI-STORM system due to the proposed activities and so no malfunction likelihood, consequences or results can be increased.</p> <p>The containment boundary remains unchanged, so no accident consequences can be increased.</p> <p>Methods of handling and operating the cask system is not affected, so no new accidents can be created.</p> <p>Cask system temperatures, including fuel cladding, are not increased and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
972	0	1014	5014	ECO	Screening Only	N/A (FSAR changes only)	<p>Removal of the requirement for cooling down the MPC shell prior to re-flood by flowing water through the MPC/HI-TRAC annulus space.</p> <p>HI-STORM FSAR (HI-2002444) Revision 9 - Those loading to Amendments 3 and above can apply this change to their procedures.</p> <p>The requirement in the 2nd Warning Note on page 8.3-6 of Chapter 8 for a specific flow rate and duration for MPC shell cooling via the MPC/HI-TRAC annulus is removed. The warning note will now read: "Warning: At the start of annulus filling, the annulus fill water may flash to steam due to high MPC shell temperatures. Water addition should be performed in a slow and controlled manner until water steam generation has ceased."</p> <p>In addition the step which follows the warning note is deleted.</p>	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
975	0	1032	101, 102, 5018	ECO	Full Evaluation	MPC-37 and MPC-89	Various changes made to the MPC-37 and MPC-89 licensing drawings to improve fabricability and ease operations. Detailed change descriptions are provided in the attached 72.48 form.	<p>The evaluation concluded there is no increase in the likelihood of a malfunction or creation of a new malfunction. The structural integrity, thermal performance, and shielding effectiveness of the HI-STORM, HI-TRAC, and MPC is maintained, so no accident consequences can be increased. Methods of handling and operating the cask systems are not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased beyond acceptable limits and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
977	0	1014	1026	SMDR	Screening Only	HI-TRAC 100D	After installation of the lead sheets (Item # 29) and the lead cover plates (Item# 5) per drawing 4130, it was identified that the 5" minimum from the Shielded Transfer Canister Technical Specification requirement for the water jacket cavity was not maintained. It is proposed to measure the water jacket thickness to meet the TS requirement and then weld the water jacket shell to the side of the main ribs. The proposed repair calls for the HI-TRAC ribs to be built-up by performing weld repairs after welding the water jacket to the main ribs. This is a one-time fabrication deviation.	N/A
978	0	1014	5014	ECO	Screening Only	HI-TRAC	Create consistency in the FSAR with regard to "testing to verify continued compliance" of special lifting devices used with the HI-STORM 100 System. Instead of mandating annual load testing, the testing is required to be in accordance with the ANSI N14.6-1993 Standard "for Radioactive Materials-Special Lifting Devices for Shipping Containers Weighing 10 000 Pounds (4500 kg) or More" which allows for load testing or periodic NDE in lieu of load testing.	N/A
979	1	1014	1025	SMDR	Screening Only	HI-TRAC 125D	DWG 6115 requires the critical dimension between the trunnion blocks to be 83 1/4" +/- 1/4". During inspection of the Vogtle HI-TRAC 125D, this critical dimension was actually found to be 83 5/8". It is proposed to accept the HI-TRAC with this dimension as is based on successful fitup of the Vogtle lift yoke.	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
982	0	1014	2028	Analysis	Full Evaluation	MPC-68	In accordance with HI-STORM FSAR requirements, vacuum drying of MPC-68 canisters loaded with Moderate Burnup Fuel (MBF) is permitted in the no annulus flush condition under aggregate decay heat equal to or less than 21.52 kW and storage cells heat emission rates not exceeding 316 W. This storage cell heat load limit is supported in the FSAR by a reference heat distribution scenario wherein all storage cells are assumed to be generating heat at the same uniform rate in all cells. Columbia Generating Station (CGS) proposes to vacuum dry MPC-68 canisters without annulus flushing that exceed the individual storage cell maximum heat load of 316 W but maintain the maximum aggregate decay heat load of 21.52 kW allowed for this condition.	There are no malfunctions associated with the HI-STORM system due to the proposed activity, so no malfunction likelihood, consequences or results can be increased. The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased beyond acceptable limits and MPC internal pressures are not increased, so no fission product boundary limit is exceeded. No new evaluation methods are used.

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
983	0	1014	5014	ECO	Screening Only	HI-TRAC 125D	It is proposed to make the following change to the HI-TRAC 125D Licensing Drawing 3768R11: [1] Sheet 10: Lid Bottom Plate, Zone D-5: Change the outer diameter of the lid bottom plate dimension 81 ¼" to a "REF" dimension. [2] Sheet 15: Section F-F , Zone D-5: Change the Outer diameter of the lid, top flange and outer shell dimension 81 ¼" to a "REF" dimension.	N/A
984	0	1014	1024	ECO	Screening Only	HI-STORM 100S and HI-STORM 100S Version B	Per ECO 1024-152R0, it is proposed to make changes to the HI-STORM 100S and HI-STORM 100S Version B licensing drawings . The primary intent of these changes is to make the licensing and fabricaton drawing consistent with each other . See Attachment A of ECO 1024-152R0 for a complete list of changes.	N/A
985	0	1014, 1008	1022, 1023	ECO	Screening Only	MPC-24 Basket Supports, PWR Upper Fuel Spacers	It is proposed to make the following change to the MPC-24 Fuel Basket Licensing drawing 3926R11: [1]Sheet 4, Zone C-3: Change the thickness dimension of wide shim from "1/8"MIN" to "1/8" NOM". It is proposed to make the following change to the MPC Enclosure Vessel Licensing drawing 3923R27: [2]Sheet 5, Zone B-7: Change the upper fuel spacer upper plate for PWR Fuel Spacer Assembly from "DIA 5" (NOM.)" to "DIA 4"(NOM.) or DIA 5"(NOM.)".	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
987	0	1014	1023	SMDR	Full Evaluation	MPC-32	<p>The MPC Drain Port Cap (Item 12, Dwg 3753) on Comanche Peak's MPC-32 Serial Number 198 became stuck while trying to close it after backfill operations. Several attempts to loosen the cap have failed. The MPC has since been re-flooded with water to maintain a safe configuration. In order to proceed with re-drying the canister, the stuck cap is required to be removed and replaced. The suspected cause of the stuck cap is galling of the threads between the cap and drain tube.</p> <p>In order to examine the condition of the drain tube threads and take necessary remedial actions, the following activities have been proposed in sequence.</p> <p>Activity 1: Remove the stuck cap by machining (details provided in FCR-1937-LOADING-10R1). Following evaluation of the drain tube threads and chasing as necessary, if the replacement cap can operate freely by threading up and down easily by hand and passes an 85 ft-lb torque test with no additional damage, the condition is accepted as is and no repair will be necessary. Note that the machining process may introduce foreign material into the MPC as described in Attachment C to SMDR 2185 and minor gouging (tool marks) on the recessed landing for the port cover plate. The foreign material and tool marks are proposed to be accepted as is.</p> <p>Activity 2: If after removal of the stuck cap, the drain tube threads do not meet the standards presented</p>	<p>The evaluation has concluded that the proposed activities have no adverse impact on the design function of the HI-STORM system. There is no impact on the structural integrity, thermal performance, shielding and confinement function of the MPC due to the proposed activities. Therefore, the activities are considered acceptable.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
							<p>above, then, using suitable mechanical means, a portion of the drain tube approximately 1/2" to 1" below the surface of the bottom of the recess of the lid will be removed (a pipe bladder will be used to prevent additional foreign material). Machining of the remaining tube in the lid and the replacement drain tube section will then be performed such that weld prep for a 1/8" partial penetration groove weld results. The replacement drain tube section will then be welded in place and the weld VT inspected. Loading operations can then recommence as normal.</p>	

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
988	0	1014	5014	ECO	Screening Only	HI-STORM 100S Version B	It is proposed to make the following changed to the HI-STORM FSAR (HI-2002444) Revision 10 (changes are provided in marked up FSAR pages in Attachment A of ECO-5014-201): [1] Revise section 3.1.2.3 (Page 3.1-20) and table 3.1.18 to include Base-Bottom plate to the list of SA516 Gr.70 as-rolled items which are exempted from impact testing. [2] Change section number 11.2.10.3 to 11.2.10.2. [3] Change HI-STORM overpack steel (Fe-55) activation in Table 2.4.1 from "7.18e-3" to "6.82e-3"	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
989	0	1014	1021	SMDR	Full Evaluation	MPC-68, Baseplate	Per NCR 0530-15R0, the drain tube plates (Item 3, Dwg 4504R13) were welded 2-1/4" out of location due to incorrect layout of the 0° mark on the Baseplate. Due to incorrect layout, the drain tube plates and the lift lugs are misaligned approximately 3.5° (c-w dir) out of location which resulted in drain tube assembly not being in-line with the sump location. It is proposed (see sketch on SMDR 2194) to enlarge the sump hole 2-1/2", center-to-center, while maintaining the same depth (5/8") as required by the drawing to better align the drain tubes with the guides.	There are no malfunctions associated with the HI-STORM system due to the proposed activity and so no malfunction likelihood, consequences or results can be increased. The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased and MPC internal pressures are not increased, so no fission product boundary limit is exceeded. No new evaluation methods are used.

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
992	0	1014	1705	DWG	Full Evaluation	HI-STORM 100S Version B & HI-TRAC 125D	<p>At D.C. Cook Nuclear Plant (DCCNP) it is proposed to utilize a seismic restraint system during the stack-up of the HI-TRAC 125D on the HI-STORM Ver. B for MPC transfer operations. The DCCNP seismic restraint system consists primarily of structural steel members, synthetic slings and pads. A pair of extended arms support the HI-TRAC from the existing Auxiliary Building truss structure by connecting to a DCCNP specific HI-TRAC top lid weldment. The HI-TRAC is also secured via bolts to the mating device and restrained to the Goldhofer using long synthetic slings attached to the top lid. The HI-STORM is laterally restrained to the Goldhofer cask transporter deck via a restraining ring at the top and then seismically restrained via pre-stressed slings and turnbuckles. The seismic restraint assembly is shown in Drawing 8283.</p> <p>This 72.48 addresses the use of the DCCNP specific HI-TRAC lid and the HI-STORM restraining ring with respect to their effect on the cask system components' (i.e., HI-TRAC and HI-STORM) FSAR described design functions only. A separate 50.59 has been performed to evaluate Part 50 impacts.</p>	<p>There are no malfunctions associated with the HI-STORM system due to the proposed activity, so no malfunction likelihood, consequences or results can be increased.</p> <p>The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
994	0	1014	1023	SMDR	Screening Only	MPC	During field operations in preparation for fuel loading at Farley, two separate MPCs became stuck while lowering into the HI-TRAC. It is suspected that tight clearances between the MPC O.D. and the HI-TRAC I.D. have resulted in the fit-up issues due to the Farley HI-TRAC inner shell being built to the small side of the allowable tolerance on inner shell I.D. In order to allow for successful insertion and transfer of the MPC through the HI-TRAC, it is proposed to grind the excess weld crown on the Farley MPC's longitudinal and circumferential confinement boundary welds to just above flush with the shell and baseplate without grinding the base metal. The final weld surface will be liquid penetrant examined in accordance with ASME Section III, Subsection NB and helium leak tested in accordance with ANSI N14.5.	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
995	0	1014	1705	Analysis	Full Evaluation	HI-STORM 100S Ver. B, MPC-32	As part of the 72.212 process, site specific fire and explosion hazards have been evaluated for the D.C. Cook Nuclear Plant (DCCNP). The evaluations are documented in Holtec report HI-2125197, Evaluation of Effects of Wheeled VCT Fire on HI-STORM 100S Version B, Revision 1 and Shaw Stone & Webster's (SS&W) Technical Report 13090401-R-M-009, Evaluation of Fire and Explosion Hazards for ISFSI, Revision 2. This 72.48 review assesses the hazards evaluated in these reports that are not bounded by the HI-STORM 100 FSAR design basis reference parameters in accordance with 72.212(b)(7), as clarified in NRC RIS 2012-05.	There are no malfunctions associated with the HI-STORM system due to the proposed activity, so no malfunction likelihood, consequences or results can be increased. The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased beyond acceptable limits and MPC internal pressures are not increased beyond acceptable limits, so no fission product boundary limit is exceeded. No new evaluation methods are used.

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
996	0	1014	1705	Analysis	Full Evaluation	HI-STORM 100S Ver. B; MPC-32	As part of the 72.212 process, site specific tornado missiles and the design basis explosion hazard have been evaluated for the D.C. Cook Nuclear Plant (DCCNP). The evaluations are documented in Holtec reports HI-2114936, Environmental Hazards Evaluation for DC Cook, Revision 1 and HI-2125121, HI-STORM Explosion Finite Element Analyses, Revision 0. This 72.48 review assesses the hazards evaluated in these reports that are not bounded by the HI-STORM 100 FSAR design basis reference parameters in accordance with 72.212(b)(7), as clarified in NRC RIS 2012-05.	There are no malfunctions associated with the HI-STORM system due to the proposed activity, so no malfunction likelihood, consequences or results can be increased. The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased beyond acceptable limits and MPC internal pressures are not increased beyond acceptable limits, so no fission product boundary limit is exceeded. No new evaluation methods are used.

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
997	0	1032	100	ECO	Screening Only	HI-STORM FW	<p>It is proposed to make the following changes to DWG 6494R3, "HI-STORM FW ASSEMBLY - LICENSING DRAWING":</p> <p>[1] Sheet 1, Parts List: Change the material of Item 21 from A513 to "304 or 316 S/S".</p> <p>[2] Sheet 1, Parts List: Change the material of Items 22 and 23 from A519 to "304 or 316 S/S".</p> <p>[3] Sheet 1, Grid A-1: Resize text in Flag Note 11 to remain in the margins</p> <p>[4] Sheet 1, Parts List: Create Flag Note 12 in Remarks section of Item 5</p> <p>[5] Sheet 1, Notes: Create Flag Note 12 to read "HEAT SHIELD MAY BE MADE OF MULTIPLE SECTIONS OVERLAYED AND WELDED TOGETHER".</p> <p>[6] Sheet 1, Grid B-4: Create Flag Note 13 on Heat Shield in section A-A view.</p> <p>[7] Sheet 1, Notes: Create Flag Note 13 to read "TOP AND BOTTOM OF HEAT SHIELD CLOSED OFF BY WELDED BACKINGS"</p> <p>[8] Sheet 1, Revision Table: Remove Drawing Approval Status</p> <p>[9] Sheet 1, General Notes: Delete Note D</p> <p>[10] Sheet 2, Grid A-5: Remove weld 9 in Detail G</p> <p>[11] Sheet 1, Grid B-4: Create Flag Note 14 on Heat Shield in section A-A view</p> <p>[12] Sheet 1, Notes: Create Flag Note 14 to read "THE HEAT SHIELD SHALL BE ATTACHED TO THE HI-STORM BODY BY WELDING OR BOLTING"</p>	FW

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
998	0	1032	103, 5018	ECO	Full Evaluation	HI-TRAC VW (MPC-37 and MPC-89 versions)	<p>DWG 6514R2, "HI-TRAC VW MPC 37 LICENSING DRAWING" & DWG 6799R2 "HI-TRAC VW MPC 89 LICENSING DRAWING"</p> <p>[1-5] & [19-23]: Changes to Dimensions for Fit-up with Mating Device and Spent Fuel Pool</p> <p>[6, 24]: Create Water thickness dimension to reflect Shielding analysis</p> <p>[7,8,25, 26]: Editorial Changes</p> <p>[9,10,27,28]: Add note to allow lead thickness to change and be limited by overall cask weight.</p> <p>[11,12,29,30]: Make note stating OD of Water Jacket variable based on lead thickness</p> <p>[13-17,31-35]: Allow for a minimum of one bottom lid drain port.</p> <p>[18,36]: Change thread to match structural analysis. The following changes are also proposed to HI-STORM FW FSAR HI-2114830R1 text:</p> <p>[37] Chapter 3: Table 3.1.9: Page 3-34: 5th Row: Add bottom flange to the row for as rolled plate for HI-TRAC VW components.</p> <p>[38] Chapter 3: Section 3.4.3.2.b- Case (i): Stress Analysis of the HI-TRAC VW Threaded Anchor Locations (TALs): Change the thread size used for the shear area of the internal thread from 2"- 4.5UNCx 4" long to 2-1/4"- 4.5 UNC x2.25" min length and update the calculation in this section (See Attachment A).</p> <p>[39] Chapter 3: Table 3.4.2: Update the SF for the bottom lid bolts (see Attachment B).</p> <p>Detailed change descriptions are provided in the attached 72.48 form.</p>	<p>The evaluation concluded there is no increase in the likelihood of a malfunction or creation of a new malfunction.</p> <p>The structural integrity, thermal performance, and shielding effectiveness of the HI-STORM, HI-TRAC, and MPC is maintained, so no accident consequences can be increased. Methods of handling and operating the cask systems are not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased beyond acceptable limits and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
999	0	1014	5014	ECO	Screening Only	Non Fuel Hardware	<p>It is proposed to make the following text changes to the HI-STORM 100 FSAR (HI-2002444R10) via ECO-5014-203R0:</p> <p>[1] Chapter 5, Section 5.0, Sheet 5.0-2, 1st Paragraph: Add "with any number of full-length rods and thimble plug rodlets in the locations without a full-length rod" after (BPRAs) to read as "PWR fuel assemblies may contain burnable poison rod assemblies (BPRAs) with any number of full-length rods and thimble plug rodlets in the locations without a full-length rod , thimble plug devices (TPDs), control rod assemblies (CRAs) or axial power shaping rod assemblies (APSRs), neutron source assemblies (NSAs) or similarly named devices".</p> <p>[2] Add clarifying text to Section 5.4.6 as shown in Attachment A to ECO-5014-203R0 to justify that the analysis for BPRAs with full length rods remains bounding for BPRAs with thimble plug rodlets.</p>	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1000	0	1032	5018	ECO	Screening Only	No Fuel Hardware	<p>HI-STORM FW FSAR HI-2114830R0: It is proposed to make the following text changes to the HI-STORM FW FSAR (HI-2114830R0) via ECO-5018-9R0</p> <p>[1] Chapter 5, Section 5.0, Page 5-1, 3rd Paragraph: Add "with any number of full-length rods and thimble plug rodlets in the locations without a full-length rod" after BPRAs to read as "PWR fuel assemblies may contain burnable poison rod assemblies (BPRAs) with any number of full-length rods and thimble plug rodlets in the locations without a full-length rod , thimble plug devices (TPDs), control rod assemblies (CRAs) or axial power shaping rod assemblies (APSRs), neutron source assemblies (NSAs), or similarly named devices" .</p> <p>[2] Add clarifying text to Section 5.4.4 as shown in Attachment A to ECO-5018-9R0 to justify that the analysis for BPRAs with full length rods remain bounding for BPRAs with thimble plug rodlets.</p>	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1001	0	1032	5018	ECO	Screening Only	MPC-37/89	<p>It is proposed to make the following changes to the HI-STORM FW FSAR, HI-2114830R0:</p> <p>[1]Page 1-36, Third paragraph: Add "to approximately 1.5-2.5 inches" after MPC cavity. Second sentence- add "manufacturing tolerances and" before "the irradiation". See Attachment A to ECO 5018-8 for exact changes.</p> <p>[2] Table 2.1.1: Fuel Assembly Nominal Length (in) for MPC-89: Change the Maximum dimension from 176.5 (with DFC) to 181.5 (with DFC).</p> <p>[3]Table 3.2.1, footnote +, last sentence: Add, "(if required)" after fuel shims and add, "to approximately 1.5-2.5 inches" to the end of the sentence. See Attachment A to ECO-5018-8 for exact changes.</p> <p>[4]Page 1-41, First paragraph, last sentence: Replace "a device" with "An optional device" to read as "An optional device which prevents the MPC from sliding out of the transfer cask is attached to the lift blocks."</p> <p>[5]Section 12.2.12.2, Page 12-28, first paragraph, last sentence: Add "optional" before grounding to read as "The overpack outer shell is composed of conductive carbon steel and, as such, provides a direct path to the ground through the optional grounding cable."</p>	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1003	0	1014	1634	SMDR	Screening Only	Dresden Unit 1 Damaged Fuel Container	It is proposed to accept the use of Dresden Unit 1 damaged fuel containers which have a container sleeve I.D. of 4.75" +/- 0.010" in lieu of the 4.93" Nom. sleeve I.D. (.12" thk wall) specified in Figure 2.1.1 and Table 6.4.5 of the HI-STORM 100 FSAR Revision 4.	N/A
1005	0	1032	103	ECO	Screening Only	HI-TRAC VW (MPC-89 and MPC-37 versions)	Various changes made to the HI-TRAC VW licensing drawings to make editorial corrections and clarify design requirements. Detailed change descriptions are provided in the attached 72.48 form.	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1006	0	1032	100, 101, 102, 5018	ECO	Full Evaluation	MPC-89, MPC-37, HI-STORM FW	Various changes made to the MPC-37, MPC-89, and HI-STORM FW licensing drawings to improve fabricability and ease operations. Detailed change descriptions are provided in the attached 72.48 form.	<p>The evaluation concluded there is no increase in the likelihood of a malfunction or creation of a new malfunction.</p> <p>The structural integrity, thermal performance, and shielding effectiveness of the HI-STORM, HI-TRAC, and MPC is maintained, so no accident consequences can be increased. Methods of handling and operating the cask systems are not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased beyond acceptable limits and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1007	0	1014	1021, 1022, 1023, 5014	ECO	Screening Only	MPC Vent/Drain Port	<p>DWG 3923R28 - "MPC ENCLOSURE VESSEL - LICENSING DRAWING"</p> <p>[1] Sheet 3, Section C-C: Add "SEE NOTE 19" to 68-1/2" (MAX.) Dimension.</p> <p>[2] Sheet 1, NOTES CON'T: Add Note 19 to read, "MPC SHELL OUTER DIAMETER SHALL NOT EXCEED 68-1/2" INCLUDING ANY WELD REINFORCEMENT. INFORMATION CHANGED TO ADDRESS CORRECTIVE ACTION(S) PER QI-1232. REFER TO QI-1232 PRIOR TO MAKING ANY CHANGES TO INFORMATION IDENTIFIED WITH THIS NOTE"</p> <p>[3] Sheet 2, Grid A-4: Add Drawing Detail "OPTIONAL VENT/DRAIN CONNECTION" showing new Vent/Drain Port Design option per Attachment A of source ECOs.</p> <p>HI-STORM FSAR (HI-2002444 R10):</p> <p>[4] Chapter 2: Table 2.2.6: Add new items to Materials and Components of the HI-STORM System MPC Table per Attachment A.</p> <p>[5] Chapter 8: Sheet 8.1-15: 2nd Note: Change the current note to say, "The vent and drain ports are opened by pushing the RVOA operating rod down to engage the drive mechanism on the MPC port connection and turning the operating rod fully in the counter-clockwise direction. The operating rod will not turn once the port is fully open. Similarly, the vent and drain ports are closed by turning the operating rod fully in the clockwise direction. The ports are closed when the operating rod cannot be turned further".</p>	At the conclusion of the screening for abbreviated evaluation it was determined that a full evaluation was not necessary and the changes could be implemented via the 72,48 process.

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1008	0	1014	1916	SMDR	Full Evaluation	HI-TRAC 100D	<p>[1] Weld 5 on DWG 4130 requires a 5/8" groove weld. This weld size will not be achieved due to tolerance stack up. The first quadrant has 15 of the required 16 layers of lead installed which is currently restricting the weld size. The last layer of lead will add to the reduction of the weld size. Depths of the groove were measured at 3 locations: .591", .566", .564". It is proposed to accept the deviation as is.</p> <p>[2] Weld 12 on DWG 4130 requires a 5/16" groove weld. This weld is undersized at the top 9" of the rib. The worst case condition makes this a 1/8" groove weld and the best case condition will make it a 1/4" groove weld. It is proposed to accept the deviation as is.</p> <p>[3] Due to items 4 & 5 (lead cover plates) sticking up past the notch cut in item 16 (rib) and weld 12, there is a gap under items 17 & 18 (water jacket top ring). This gap will not be able to meet the gap allowance in the WPS for making welds for items 17 & 18. Measurements of the gap sizes and rib locations were taken with items 17 & 18 pressed tight to items 4 & 5: 45 deg. 5/16", 135 deg. 1/4", 225 deg. 1/4". This deviation will be reworked and brought back into full compliance with the drawing.</p>	<p>There are no malfunctions associated with the HI-STORM system due to the proposed activity and so no malfunction likelihood, consequences or results can be increased.</p> <p>The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1011	0	1014	1026	SMDR	Full Evaluation	HI-TRAC 100D Water Jacket	<p>The height of the Pilgrim HI-TRAC water jacket cavity is undersized by 3/8" (under worst case conditions) in one quadrant. The water jacket cavity height is required to be 168 3/4" +/- 3/8" per licensing DWG 4128 R8. The worst case as-built dimension is 168" and is localized to one area. It is proposed to accept the deviation as is.</p>	<p>There are no malfunctions associated with the HI-STORM system due to the proposed activity and so no malfunction likelihood, consequences or results can be increased.</p> <p>The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1013	0	1032	101, 102, 5018	ECO	Full Evaluation	MPC-37 and MPC-89	Various changes made to the MPC-37 and MPC-89 licensing drawings to improve fabricability and ease operations. Various changes made to the FW FSAR. Detailed change descriptions are provided in the attached 72.48 form.	<p>The evaluation concluded there is no increase in the likelihood of a malfunction or creation of a new malfunction.</p> <p>The structural integrity, thermal performance, and shielding effectiveness of the HI-STORM, HI-TRAC, and MPC is maintained, so no accident consequences can be increased. Methods of handling and operating the cask systems are not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased beyond acceptable limits and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1014	0	1014	1058	Analysis	Screening Only	MPC-32	TVA proposes to load MPC-32 canisters with Westinghouse Standard (STD) fuel assemblies containing instrument tube tie rods (ITTRs). The loading will be in accordance with HI-STORM 100 FSAR Rev 7 and CoC 72-1014, Amendment 5.	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1015	0	1014	1021	SMDR	Full Evaluation	MPC-68	Per HSP-108R7, Section 6.2, the minimum thickness requirement for the MPC shell after grinding is 0.430 inches [10% of the thickness + 0.02 for allowance of the weld]. Thickness in one localized area (less than 1/2 inches ²) in weld 2.1, one inch from weld # 1 is 0.417 inches. It is proposed to accept the MPC top shell as is.	<p>The evaluation concluded there is no increase in the likelihood of a malfunction or creation of a new malfunction.</p> <p>The structural integrity, thermal performance, and shielding effectiveness of the HI-STORM, HI-TRAC, and MPC is maintained, so no accident consequences can be increased. Methods of handling and operating the cask systems are not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased beyond acceptable limits and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1016	0	1014	1023	SMDR	Full Evaluation	MPC-32	Per Drawing 3923R29 (Note 13) and HSP-108R7 (Section 6.2), the minimum thickness requirement for the MPC shell after grinding is 0.430 inches [0.5 - (10% of the thickness + 0.02 allowance on the weld)]. Thickness in two areas of weld 1 (circumferential weld between the bottom shell and top shell) located on the weld in the center of RT marks 4 and 5 are 0.378 inches and 0.372 inches and are approximately 3/8 inches apart. Thickness for all other areas around the affected areas are in the 0.490 range. It is proposed to accept the MPC top shell as is.	<p>The evaluation concluded there is no increase in the likelihood of a malfunction or creation of a new malfunction.</p> <p>The structural integrity, thermal performance, and shielding effectiveness of the HI-STORM, HI-TRAC, and MPC is maintained, so no accident consequences can be increased. Methods of handling and operating the cask systems are not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased beyond acceptable limits and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1017	0	1032	102, 5018	ECO	Full Evaluation	MPC-37 and MPC-89 Metamic HT Baskets	<p>[1] It is proposed to revise certain minimum guaranteed values of the structural properties of Metamic-HT used for the MPC-37 and MPC-89 baskets. The list of updated properties is provided in Table 1.1.1 herein and will be reproduced in Table 1.2.8 of the FSAR.</p> <p>[2] It is also proposed to lengthen the basket shim sections in the area of the MPC lift lugs. This change provides support to the previously unsupported top region of the MPC-37 fuel basket (in the area of the lift lugs) to improve the structural performance of the basket under the non-mechanistic tip-over accident event (which is the governing loading scenario for the fuel basket). See ECO-102-5 for detailed description of the proposed shim sections.</p> <p>[3] Finally, it is also proposed to reorganize and rewrite the fragmented text matter on Metamic-HT in the FSAR (Appendix 1.B and 1.C) to clarify the role of each thermo-physical property and to enhance ease of user compliance with the FSAR. The proposed changes replace FSAR Appendix 1.B and 1.C with new text in Section 1.2.1.4.1 of the FSAR (see Attachment A to ECO-5018-15 for the full text changes).</p>	<p>There are no malfunctions associated with the HI-STORM system due to the proposed activity and so no malfunction likelihood, consequences or results can be increased.</p> <p>The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1018	0	1032	103	ECO	Screening Only	HI-TRAC VW (MPC-37 and MPC-89)	<p>DWG 6799R5, "HI-TRAC VW - MPC 89 - LICENSING DRAWING"</p> <p>[1] Sheet 1, SECTION A-A: Add two (2) mating device alignment holes on the 107" Bolt Circle to each flange corner.</p> <p>[2] Sheet 1, SECTION A-A: Revise Alignment Hole Callout to read: "ALIGNMENT HOLES FOR MATING DEVICE 16X MAX FINAL QUANTITY AND ARRANGEMENT OF HOLES MAY VARY"</p> <p>[3] All Sheets: Update all drawing views to reflect PC [1].</p> <p>DWG 6514R4, "HI-TRAC VW - MPC 37 - LICENSING DRAWING"</p> <p>[4] Sheet 1, SECTION A-A: Add two (2) mating device alignment holes on the 107" Bolt Circle to each flange corner.</p> <p>[5] Sheet 1, SECTION A-A: Revise Alignment Hole Callout to read: "ALIGNMENT HOLES FOR MATING DEVICE 16X MAX FINAL QUANTITY AND ARRANGEMENT OF HOLES MAY VARY"</p> <p>[6] All Sheets: Update all drawing views to reflect PC [4].</p>	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1020	0	1032	5018	ECO	Screening Only	MPC-37, MPC-89	<p>It is proposed to make the following changes to HI-STORM FW FSAR (HI-2114830 R1):</p> <p>[1],[2],[3],[4],[5]- Added Helium leakage testing of the MPC base metals (shell, baseplate, and MPC lid) and MPC shell to baseplate and shell to shell welds to be performed on MPC. This requirement is added to address NRC round 3 RAI. Detailed change descriptions are provided in 72.48 form.</p> <p>[6] Chapter 10: Subparagraph 10.1.1.3: 2nd bullet: Remove anti rotation bars. See Attachment A to ECO for marked up pages.</p> <p>[7] Chapter 10: Subparagraph 10.1.1.2: First paragraph, 2nd sentence: Add, "Mapping is considered an equivalent record which contains the type, size and location of the relevant indications discovered during weld examination.". 3rd sentence: Replace "The video or photographic records" to "The documentation of relevant indications". See Attachment A to ECO for marked up pages.</p> <p>[8] Chapter 10: 10.1.2.2.2: MPC Confinement Boundary: 1st sentence: Add to verify the lid-to-shell field weld after performed. See Attachment A to the ECO for marked up pages.</p> <p>[9] Chapter 10: Section 10.1.3: 5th paragraph: Remove reference to Shop Operating Procedure HTSOP-108. See Attachment A to ECO for marked up pages.</p> <p>[10] Chapter 10: Section 10.1.6: Lead: Add (through holes) after macrovoids in two locations. See Attachment A to ECO for marked up pages.</p>	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1023	1	1014	1024	SMDR	Full Evaluation	HI-STORM 100S Ver. B	SA-36 plate material purchased from Certified Steel failed yield strength during testing. The minimum requirement is 36 ksi. The actual test results from the plate samples ranged from 30.9 ksi (lowest) to 34.4 ksi (highest). It is proposed to accept these plates as SA 283 material for the base spacer block (Item 2), base shield block (Item 3), base MPC support (Item 5) and lid vent shield (Item 34) of DWG 3996 as is.	<p>There are no malfunctions associated with the HI-STORM system due to the proposed activity and so no malfunction likelihood, consequences or results can be increased.</p> <p>The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1024	2	1014	930	HPP	Full Evaluation	HI-STORM 100S Version B	<p>Austenitic stainless steel (SS) used in MPCs is susceptible to Stress Corrosion Cracking (SCC) in chloride environments near salt water bodies. Currently insufficient data is available to determine extent of the spent fuel storage canisters susceptibility to SCC. A test is proposed to be conducted at Hope Creek on two loaded HI-STORM 100 Systems to collect information that will be used to determine the over-all material condition of the MPC exterior surface. The information collected from the test will be the temperature and salt concentration from the MPC external surface. Video cameras will be used to assist in the testing process. It is proposed to accept the process for collecting the information for testing.</p>	<p>There are no malfunctions associated with the HI-STORM system due to the proposed activity and so no malfunction likelihood, consequences or results can be increased.</p> <p>The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1025	2	1014	2148	DWG	Screening Only	HI-STORM 100 System	In order to mitigate the effects of a seismic event during the unrestrained HI-STORM/HI-TRAC stackup and transfer of the MPC to/from the HI-STORM, it is proposed to shim the unsupported top plate of a modified Low Profile Transporter (LPT) that has been fitted with specially engineered damping and low coefficient of friction materials. The details of the stackup support assembly shims and modified LPT are provided in drawings 8943 and 4506, respectively.	The proposed changes were screened out. Full 72.48 evaluation is not required.
1026	0	1014	5014	ECO	Screening Only	CTF	It is proposed to make text changes to Section 2.3.3.1 of the HI-STORM 100 FSAR (HI-2002444 R10) to make editorial clarifications and corrections and introduce flexibility in certain design criteria for a Cask Transfer Facility (CTF). See Attachment A to ECO-5014-207 for the full list of changes. See Attachment B for the detailed text changes shown in context with the affected FSAR pages.	The proposed changes were screened out. Full 72.48 evaluation is not required.

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1027	0	1014	5014	ECO	Screening Only	CTF	<p>It is proposed to clarify the HI-STORM FSAR (HI-2002444 R10) text as follows:</p> <p>[1] Section 2.3.3.1, Paragraph N: Cask Restraint System: Add the following clarifying text to the end of the paragraph, "If the HI-STORM/HI-TRAC stack is laterally supported such that the fundamental natural frequency of the beam mode vibration of the stack is in the rigid range of the horizontal acceleration time histories (or the corresponding response spectra), then the dynamic time history solution converges to the static solution using the ZPA (see Glossary, Table 1.0.1) of the corresponding time history. In such a case, a time history analysis or a static analysis may be performed since the maximum predicted responses from both solutions are identical. {1,2,3}"</p>	The proposed changes were screened out. Full 72.48 evaluation is not required.

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1029	0	1014	1024	SMDR	Full Evaluation	HI-STORM 100S Ver. B	SA-36 plate material purchased from Certified Steel failed yield strength during testing. The minimum requirement is 36 ksi. The actual yield strength from the plate sample is 35.7 ksi. It is proposed to accept these plates as SA 283 Gr. D material for the base spacer block (Item 2) and base shield block (Item 3) of DWG 3996 as is.	<p>There are no malfunctions associated with the HI-STORM system due to the proposed activity and so no malfunction likelihood, consequences or results can be increased.</p> <p>The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1031	0	1032	103	SMDR	Full Evaluation	HI-TRAC VW	Per the licensing drawing 6514R5, the slot weld between the water jacket shell and the short rib is required to be 1/2" thk x 1 1/2" - 12" (pitch). Due to a typographical error on the fabrication drawing 8716R2.2, slots were incorrectly machined on the shell with a 13 5/8" pitch. The incorrect slot spacing makes the required weld dimension unachievable. It is proposed to accept the deviation as is.	<p>There are no malfunctions associated with the HI-STORM FW system due to the proposed activity and so no malfunction likelihood, consequences or results can be increased.</p> <p>The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1032	1	1014	2154	DWG	Full Evaluation	HI-TRAC 125	<p>The configuration of the FitzPatrick HI-TRAC 125 which utilizes a transfer lid for MPC transfer operations does not allow for bolting the transfer lid to the HI-STORM 100S Version B during stackup. To allow for the fully bolted stackup configuration, the use of a mating device is required in lieu of the transfer lid. A new modified pool lid is designed to fit with the mating device. In order to attach the mating device to the HI-TRAC 125, an adapter plate is utilized to mimic the physical characteristics of the HI-TRAC 125D bottom flange. The details of the adapter plate and the modified pool lid are provided in drawings 9098 and 9217 respectively. The details of the entire assembly are provided in drawing 9259.</p> <p>DWG 9098R1 for the adapter plate requires a 1"-8 threaded thru hole at hole location #22. During fabrication of the adapter plate, hole #22 was incorrectly tapped to 1 1/8"-7. The adapter plate has been repaired by machining out the oversized hole, welding a suitable plug into the enlarged hole, and remachining the 1"-8 thru hole at hole location #22. See SMDR 2310 for details. This 72.48 evaluation considers the final as-built configuration of the adapter plate.</p> <p>***This 72.48 evaluation is for the use of the modified pool lid and the adapter plate with the FitzPatrick HI-TRAC 125 during handling operations with the overhead crane. The stackup seismic evaluation and any required floor evaluations for</p>	<p>There are no malfunctions associated with the HI-STORM system due to the proposed activity and so no malfunction likelihood, consequences or results can be increased.</p> <p>The containment boundary remains unchanged, so no accident consequences can be increased. Methods of handling and operating the cask system is not affected, so no new accidents can be created. Cask system temperatures, including fuel cladding, are not increased and MPC internal pressures are not increased, so no fission product boundary limit is exceeded.</p> <p>No new evaluation methods are used.</p>

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
							setting the loaded HI-TRAC down are not part of Holtec's scope and the required information is not available from FitzPatrick at this time. Therefore, these evolutions have not been considered in this evaluation. A separate 72.48 evaluation shall be performed for these excluded activities prior to use.***	

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1033	0	1014	1021, 1022, 1023	SMDR	Screening Only	MPC-32 Shell	The MPC shell height per fabrication drawing 4838R17 is required to be 187 7/16 (+0", -3/16"). The height of the MPC shell in a localized area of the circumference is 1/16" less than the minimum height (187 1/4") on the fabrication drawing. Note that the undersized condition is along less than 1/4 of the circumference of the shell. It is proposed to accept the MPC shell as is.	N/A
1034	0	1014	1021	SMDR	Screening Only	MPC-68 Basket	The baskets of three Browns Ferry MPC-68s (S/N 321, 324, & 326) exhibit light rusting on the basket welds. HSP-314 contains requirements for cleanliness pertaining to rust, however the MPC baskets cannot be adequately inspected to quantify the total amount of rust and confirm that the requirements are met. It is therefore proposed to accept as is these MPCs where it is assumed that the requirements of HSP-314 have not been met, and that the rusting is uniform across the full length of all basket welds.	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1036	0	1032	103	ECO	Screening Only	HI-TRAC VW for MPC-37 and MPC-89	<p>It is proposed to make the following changes to the HI-TRAC VW licensing drawings:</p> <p>DWG 6799R6, "HI-TRAC VW - MPC 89 - LICENSING DRAWING"</p> <p>[1] Sheet 2, C-1, DETAIL E: Delete weld symbol and weld size from Weld 7.</p> <p>[2] Sheet 3, C-5, SECTION J-J: Delete fillet weld symbol and weld size from Weld 10 and add the description "SEAL WELD" below weld 10.</p> <p>[3] Sheet 3, A-5, SECTION K-K: Delete fillet weld symbol and weld size from Weld 18 and add the description "SEAL WELD" below weld 18.</p> <p>DWG 6514R5, "HI-TRAC VW - MPC 37 - LICENSING DRAWING"</p> <p>[4] Sheet 2, C-1, DETAIL E: Delete weld symbol and weld size from Weld 7.</p> <p>[5] Sheet 3, C-5, SECTION J-J: Delete fillet weld symbol and weld size from Weld 10 and add the description "SEAL WELD" below weld 10.</p> <p>[6] Sheet 3, A-5, SECTION K-K: Delete fillet weld symbol and weld size from Weld 18 and add the description "SEAL WELD" below weld 18.</p>	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1038	0	1014	1026	SMDR	Screening Only	HI-TRAC 100D Pool Lid	The threaded holes in Item 35 for the pool lid attachment bolts (Dwg 4130, Sht.11,D-2) have been machined to a depth of 2.375". This results in the threaded holes breaking through Item 35 and protruding into Item 33, thereby exposing the parting line separating the two plates. During loading operations, contaminated water could get trapped between the two plates and would be almost impossible to decontaminate. It is proposed to install 1/2" long, carbon steel threaded plugs coated with THREADLOCKER 2432 sealant into the bottom of each hole in order to seal the parting line.	N/A
1040	0	1014	1024	SMDR	Screening Only	HI-STORM Lid	During an internal surveillance it was reported that three (3) HI-STORM lids were being filled with concrete using consolidation methods that are in violation of HSP-193, Section 6.6.3. The following practices were observed: 1. The vibrator was observed not being used vertically. The vibrator was being used in a fishing manner by tossing it out and dragging it back to the thrower. 2. Vibrator insertion was not conducted systematically or in an overlapping pattern based on radius of action required by HSP-193. 3. The vibrator was used to move placed concrete within the HI-STORM lids, a method that may cause separation of material. A shovel was used only to add or remove concrete to/from the filled lid after having been filled and vibrated. It is proposed to accept the affected HI-STORM lids as is.	N/A

72.48#	72.48 Rev.	CoC #	Holtec Project	ECO, Analysis, HPP, DWG or SMDR	72.48 Type	Affected Component	Description of Change, Test or Experiment	Summary of Evaluation (Full Evaluation)
1045	0	1014	1023	SMDR 9	Screening Only	MPC-32 Enclosure Vessel	The basket/shell for MPC-32 S/N 46 was rotated in the horizontal position to confirm the functionality of the anti-rotation bars (DWG 3753 Item 37). The four anti-rotation bars failed the functional test as it was found upon upending that the shell basket supports did not line up directly with the basket ribs. The basket supports at 270 degrees were off by 1/4", with the basket ribs. It is proposed to add two additional anti-rotation bars to support the basket and align it correctly with the enclosure vessel.	N/A