



Holtec Center, One Holtec Drive, Marlton, NJ 08053

Telephone (856) 797-0900

Fax (856) 797-0909

August 22, 2016

Yen Chen, Project Manager – Licensing Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety and Safeguards

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

Docket No. 72-1032, Certificate of Compliance (CoC) No. 1032

Reference: 1. Holtec Letter 5014802, “Holtec International HI-STORM FW Multipurpose Canister Storage System Amendment Request 1032-3,” from K. Manzione (Holtec) to M. Lombard (NRC), dated December 18, 2016
 2. NRC Letter, “Amendment No. 3 to Certificate of Compliance No. 1032 for the HI-STORM Flood/Wind Multipurpose Canister Storage System – Second Request for Additional Information,” from Y. Chen (NRC) to K. Manzione (Holtec), dated July 28, 2016

Subject: HI-STORM FW Amendment 3 Response to Second Request for Additional Information

Dear Ms. Chen:

Holtec submitted an amendment request for the HI-STORM FW CoC, Reference [1]. Subsequently, NRC staff sent Requests for Additional Information (RAIs), Reference [2]. Holtec is pleased to submit responses to those RAIs in Attachment 1 to this letter. Since information in those responses is considered proprietary, a non-proprietary version of the responses is contained in Attachment 2. Since Attachments 1 is considered proprietary information, Attachment 3 contains an affidavit in accordance with 10 CFR 2.390 requesting the information be withheld from public disclosure.

Please contact me at (856)797-0900 Extension 3951 if you have any questions or require any additional information.



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Telephone (856) 797-0900

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Sincerely,

Kimberly Manzione
Licensing Manager,
Holtec International

cc:

Mark Lombard (NRC)
John McKirgan (NRC)

Attachments:

Attachment 1: HI-STORM FW Amendment 3 RAI Responses (proprietary)

Attachment 2: HI-STORM FW Amendment 3 RAI Responses (non-proprietary)

Attachment 3: Affidavit in Accordance with 10 CFR 2.390

AFFIDAVIT PURSUANT TO 10 CFR 2.390

I, Kimberly Manzione, being duly sworn, depose and state as follows:

- (1) I have reviewed the information described in paragraph (2) which is sought to be withheld, and am authorized to apply for its withholding.
- (2) The information sought to be withheld is information provided in Attachment 1 to Holtec letter 5018047. These attachments contain Holtec Proprietary information.
- (3) In making this application for withholding of proprietary information of which it is the owner, Holtec International relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC Sec. 552(b)(4) and the Trade Secrets Act, 18 USC Sec. 1905, and NRC regulations 10CFR Part 9.17(a)(4), 2.390(a)(4), and 2.390(b)(1) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential commercial information", and some portions also qualify under the narrower definition of "trade secret", within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, Critical Mass Energy Project v. Nuclear Regulatory Commission, 975F2d871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704F2d1280 (DC Cir. 1983).

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(4) Some examples of categories of information which fit into the definition of proprietary information are:

- a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by Holtec's competitors without license from Holtec International constitutes a competitive economic advantage over other companies;
- b. Information which, if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product.
- c. Information which reveals cost or price information, production, capacities, budget levels, or commercial strategies of Holtec International, its customers, or its suppliers;
- d. Information which reveals aspects of past, present, or future Holtec International customer-funded development plans and programs of potential commercial value to Holtec International;
- e. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.

The information sought to be withheld is considered to be proprietary for the reasons set forth in paragraphs 4.a, 4.b and 4.e above.

(5) The information sought to be withheld is being submitted to the NRC in confidence. The information (including that compiled from many sources) is of a sort customarily held in confidence by Holtec International, and is in fact so held. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by Holtec International. No public disclosure has been made, and it is not available in public sources. All disclosures to third parties, including any required transmittals to the NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for

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maintenance of the information in confidence. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in paragraphs (6) and (7) following.

- (6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge. Access to such documents within Holtec International is limited on a "need to know" basis.
- (7) The procedure for approval of external release of such a document typically requires review by the staff manager, project manager, principal scientist or other equivalent authority, by the manager of the cognizant marketing function (or his designee), and by the Legal Operation, for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside Holtec International are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.
- (8) The information classified as proprietary was developed and compiled by Holtec International at a significant cost to Holtec International. This information is classified as proprietary because it contains detailed descriptions of analytical approaches and methodologies not available elsewhere. This information would provide other parties, including competitors, with information from Holtec International's technical database and the results of evaluations performed by Holtec International. A substantial effort has been expended by Holtec International to develop this information. Release of this information would improve a competitor's position because it would enable Holtec's competitor to copy our technology and offer it for sale in competition with our company, causing us financial injury.

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- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to Holtec International's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of Holtec International's comprehensive spent fuel storage technology base, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the extensive physical database and analytical methodology, and includes development of the expertise to determine and apply the appropriate evaluation process.

The research, development, engineering, and analytical costs comprise a substantial investment of time and money by Holtec International.

The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

Holtec International's competitive advantage will be lost if its competitors are able to use the results of the Holtec International experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions.

The value of this information to Holtec International would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive Holtec International of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing these very valuable analytical tools.

Response to Second Request for Additional Information
Holtec International
Docket Number 72-1032, Amendment 3
HI-STORM FW Storage System

NRC RAI 6-1

Clarify the request for:

- a) adding intact 16x16A fuel assemblies in all 37 locations as authorized contents of the MPC-37 for the HI-STORM FW, Amendment No.3, and
- b) increasing the concentration of boron for undamaged 14x14 and 16x16 fuel assemblies with a maximum initial enrichment of 5.0% U-235.

In the previous RAI 6-1, the staff requested the applicant to provide justification and supporting analyses for increasing the concentration of boron for undamaged 14x14 and 16x16 fuel assemblies with a maximum initial enrichment of 5.0% U-235. In the applicant's response to previous RAI 6-1, the applicant noted that the purpose for requesting the increase of the boron concentration in the contents requested for the Model No. HI-STORM FW, Amendment No.3, was to support the option of loading intact fuel assembly class 16x16A in damaged fuel containers (DFCs) in all 37 locations of the MPC-37 basket in the application for HI-STORM FW, Amendment No.2. The applicant further states that "the application for HI-STORM FW, Amendment No.2, did not properly include the update to the CoC Appendix A to match the FSAR table, and so it was included in this amendment (Amendment No. 3) for completeness."

In the amendment request for HI-STORM FW, Amendment No.2, the applicant stated the following:

"Storage of intact fuel in DFCs in the HI-STORM FW system is not permitted; accordingly, the HI-STORM FW CoC 1032 has not been modified for this change."

The staff notes that there is no need for increasing the boron concentration because loading of intact 16x16A fuel assemblies in DFC's in all 37 basket locations is not currently allowed in the HI-STORM FW. It is unclear whether or not the applicant intended to include this change in Amendment No.3. The staff requests clarification from the applicant on whether it wants to add intact 16x16A fuel assemblies in DFCs in all 37 locations as authorized contents in Model No. HI-STORM FW, Amendment 3, or if it just wishes to increase the boron concentration.

The staff needs this information to determine compliance with 10 CFR 72.11 (a).

Holtec Response to RAI 6-1

Holtec apologizes for the confusion; there is no request to include intact fuel in DFCs in the HI-STORM FW System. Accordingly, no change has been made to the approved contents information in the CoC to allow intact fuel in DFCs in the HI-STORM FW.

However, Holtec did determine that the difference between the FSAR Table 6.1.1 which stated 1600ppm for certain 16x16 fuel types and the 1500ppm required by the HI-STORM FW CoC provided some confusion for users, and therefore the CoC boron concentration requirement was increased to the more conservative value of 1600ppm.

NRC RAI 6-2

Justify and explain the rationale for using the data of the 15x15H, 15x15B, and 16x16A as representative assembly classes for the burn up credit analyses. Include at least the following information as part of your response:

- a) charts, graphs, and/or a narrative description that show the k-eff's evaluated at the burnup from the generated polynomial fits (for regionalized and uniform loading) as a function of enrichment bounding all assembly classes at a range of burnups/enrichments and not exceeding the upper subcriticality limit; and
- b) an explanation about how the data for flat burnup help to demonstrate the representative assembly classes are appropriate.

In the previous RAI 6-2, the staff asked for additional information to justify the use of the 15x15H, 15x15B, and 16x16A as the representative assembly classes for creating the allowable loading using burnup credit. In response to RAI 6-2, the applicant directed the staff to document HI-2156424, "Criticality Evaluation of HI-STAR 190," submitted as part of the HI-STAR 190 application. The applicant cited tables from this document as justification for selecting the representative fuel assembly classes. The staff was able to identify 15x15H, 15x15B, and 16x16A assembly classes as the most reactive for the conditions in Table 6.0.1. However, it is unclear to the staff to interpret the information presented in the tables cited as part of the applicant's justification (i.e., Tables 6.8.23(c), 6.8.23(d), and 6.1.1). These tables appear to include reactivity evaluations for all assembly classes using burnup calculated with:

- 1) the polynomial fits as a function of enrichment for a burnup profile and
- 2) flat profile for both cooling times for the regionalized loading configuration.

As such, the staff is not able to reach a conclusion based on how this information is presented and understand why this data is presented for both a flat burn up and a profiled burnup.

The staff requests that the applicant explain how the data demonstrate that the representative assembly classes are appropriate.

The staff needs this information to determine compliance with 10 CFR 72.236(c).

Holtec Response to RAI 6-2

We recognize there is a somewhat extensive amount of information in HI-2156424 to support the conclusions that the established loading curves bound all expected conditions, including all assembly classes. As may be seen from the report, we are using a highly automated process to perform such extensive and complicated sets of calculations, in order to ensure correctness, accuracy, quality, etc. In some cases that may in fact lead to a larger number of calculations than strictly needed, but we prefer such systematic approach over any smaller "hand-picked" set of calculations.

[REMAINDER OF RESPONSE PROPRIETARY INFORMATION WITHHELD PER 10CFR2.390]
