



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

Telephone (856) 797-0900

Fax (856) 797-0909

May 4, 2007

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

Reference: 1. USNRC Docket No. 72-1014 (HI-STORM 100), TAC L23850
 2. Holtec Project 5014
 3. Teleconference between SFST (multiple individuals) and Holtec (multiple
 individuals), on 7 March 2007.
 4. Holtec Letter 5014614, dated 31 January 2007.

Subject: License Amendment Request #3 to HI-STORM 100 CoC

Dear Sir:

Via telephone (Reference 3), the NRC Staff described a concern about the vacuum drying analyses we had previously submitted (Reference 4) in support of our third request to amend the Certificate of Compliance for our HI-STORM 100 cask system. Specifically, the Staff was concerned about the boundary condition applied to the outside of the MPC shell, which was a constant temperature corresponding to the maximum saturation (boiling) temperature of water in the gap between the HI-TRAC transfer cask and the MPC. The Staff suggested that a mixed convection/radiation boundary condition might be more appropriate.

We believe that, under expected conditions onsite during vacuum drying, the water in the annular gap between the HI-TRAC transfer cask and the MPC will be boiling. The operating procedures for the HI-TRAC in Chapter 8 of the HI-STORM FSAR require makeup to prevent lowering of the water level in this gap.

However, to address the Staff's concern, we have performed an alternate vacuum drying calculation for the limiting (i.e., highest peak cladding temperature) vacuum drying condition wherein we have applied a theoretically lower-bound convection heat transfer coefficient and an upper-bound convection sink temperature. The convection heat transfer coefficient is set such that it is equivalent to conduction through water only, which is the lower bound on convection (i.e., no water motion). The convection sink temperature is set to the boiling temperature of 212°F, as higher temperatures cannot occur when water is present in the annular gap. Using these limiting boundary conditions, we have recomputed the temperature field for the limiting vacuum drying case. The results of this analysis are presented in the table below and compared to our design basis (i.e., boiling) condition.

Document ID: 5014622

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Boundary Condition	Peak Clad Temperature	Clad Temperature Limit
Limiting Convection without Boiling (alternate calculation)	1047.5°F	1058°F
Boiling (design-basis)	1047.7°F	1058°F

Both analyses yield peak cladding temperatures below the allowable limit. The similarity of the results is not surprising, as the radiation-dominated heat transfer within the MPC makes peak temperatures therein insensitive to small changes in MPC surface temperature.

We herein submit our calculations performed to address the Staff's concern, including the computer data files for the new evaluation. These materials contain information considered Holtec Proprietary. Withholding from public disclosure is requested for these items, and an affidavit pursuant to 10 CFR 2.390 is attached. We note that the NRC has previously held earlier versions of this Holtec document and files from public disclosure.

The following attachments are provided:

Attachment 1: Affidavit Pursuant to 10CFR2.390

Attachment 2: Proprietary Thermal Calculation Package HI-2043317, Revision 6, Appendix I

Attachment 3: Proprietary Data Files from Appendix I (Attachment 2)

Please contact us if you have any questions.

Sincerely,

Evan Rosenbaum, P.E.
Project Manager, LAR 1014-3

Approval:

Stefan Anton, Dr.-Ing.
Licensing Manager

cc: Mr. Christopher Regan, NRC

AFFIDAVIT PURSUANT TO 10 CFR 2.390

I, Stefan Anton, being duly sworn, depose and state as follows:

- (1) I am the Holtec International Licensing Manager and 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 Attachments 2 and 3 to Holtec letter Document ID 5014622, containing 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 and 4.b, 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

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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 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.

