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Stephenie L. Pyle
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OCAN021201

February 3, 2012

U. S. Nuclear Regulatory Commission
Attn.: Document Control Desk
Director, Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety and Safeguards
Washington, DC 20555-0001

SUBJECT: HI-STORM 100 Cask System
Thermal Validation Test Using Air Mass Flow Rate
Arkansas Nuclear One – Units 1 and 2
Docket Nos. 50-313, 50-368 and 72-13
License Nos. DPR-51 and NPF-6

Dear Sir or Madam:

Section 9, Special Requirements of First Systems in Place, of Amendment 5 of the Holtec HI-STORM 100 System Certificate of Compliance (CoC) (Certificate Number 1014) requires a report summarizing the results of the thermal validation test and analysis. Specifically the CoC states:

The air mass flow rate through the cask system will be determined by direct measurements of air velocity in the overpack cooling passages for the first HI-STORM Cask Systems placed into service by any user with a heat load equal to or greater than 20 kW. The velocity will be measured in the annulus formed between the MPC shell and the overpack inner shell. An analysis shall be performed that demonstrates the measurements validate the analytic models and thermal performance predicted by the licensing-basis thermal models in Chapter 4 of the FSAR.

A cask system meeting the decay heat threshold of this CoC requirement was loaded at Arkansas Nuclear One (ANO) on April 20, 2009. This cask system is comprised of Multi-Purpose Canister (MPC) serial number MPC-24-052 and HI-STORM 100S Version C overpack serial number 105. Decay heat calculations indicate a total decay heat at the time of loading of 23.208 kW.

The results and analysis of the testing are contained in Attachment 1, Holtec Report, HI-2114925, "HI-STORM 100 Cask System Thermal Performance Validation Using Air Flow Test Data for ANO". The results indicate that the air mass flow rate predicted by the thermal

Attachment 1 to this letter contains proprietary information – Attachment 1 is withheld from public disclosure per 10 CFR 2.390.

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model utilizing the licensing-basis analysis methodology (and the geometry of the tested case system) is lower than the corresponding value based on measurements from the actual loaded cask. This demonstrates the overall conservatism of the licensing-basis analysis methodology, confirms the suitability of the methodology for demonstrating the thermal-hydraulic safety of the HI-STORM 100 cask system, and satisfies the requirements stipulated by the CoC.

The information contained in Attachment 1 is considered proprietary to Holtec International (Holtec) in its entirety, and therefore, a nonproprietary version is not being provided. Holtec requests that the proprietary information be withheld from public disclosure in accordance with 10 CFR 2.390. Holtec has provided Entergy with authorization to provide the proprietary information. An affidavit by the information owner, Holtec, supporting the request for non-disclosure is provided in Attachment 2 as part of Holtec Document ID 2010-4R1. Therefore, Entergy requests that Attachment 1 of this submittal be withheld from public disclosure in accordance with 10 CFR 2.390.

There are no commitments contained in this submittal.

Should you have any questions concerning this issue, please contact me.

Sincerely,



SLP/rwc

- Attachments:
1. Holtec Report, "HI-Storm 100 Cask System Thermal Performance Validation Using Air Flow Test Data," Report Number HI-2114925 (Proprietary)
 2. Holtec Document ID 2010-4R1

cc: Mr. Elmo E. Collins
Regional Administrator
U. S. Nuclear Regulatory Commission, Region IV
1600 East Lamar Boulevard
Arlington, TX 76011-4511

NRC Senior Resident Inspector
Arkansas Nuclear One
P.O. Box 310
London, AR 72847

U. S. Nuclear Regulatory Commission
Attn: Mr. Kaly Kalyanam
MS O-8 B1
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

Attachment 2 to

OCAN021201

Holtec Document ID 2010-4R1



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

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January 30, 2012

Ms. Suzanne LeBlang
Dry Fuel Storage Manager
1340 Echelon Parkway
M-ECH-36
P.O. Box 31995
Jackson, MS 39211

Document ID: 2010-4R1

Subject: Transmittal of Affidavit pursuant to 10CFR2.390

Dear Ms. LeBlang:

Holtec is pleased to approve the release of the following information to the United States Nuclear Regulatory Commission (USNRC):

Attachment 1: Holtec Report HI-2114925, "HI-STORM 100 Cask System Thermal Performance Validation Using Air Flow Test Data for ANO"

We require that you include this letter along with the attached affidavit pursuant to 10CFR2.390 when submitting Attachment 1 to the USNRC.

Please do not hesitate to contact me at 856-797-0900 x 772 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Lawrence Rossi".

Lawrence Rossi
Project Manager
Holtec International

AFFIDAVIT PURSUANT TO 10 CFR 2.390

I, Lawrence J. Rossi, 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 Holtec report HI-2114925 contained in Attachment 1 to Holtec letter Document ID 2010-4R1, 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 disclosures to third parties, including any required transmittals to the NRC, have

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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.

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Document ID 2010-4R1
Non-Proprietary Attachment


AFFIDAVIT PURSUANT TO 10 CFR 2.390

STATE OF NEW JERSEY)
) ss:
COUNTY OF BURLINGTON)

Lawrence J. Rossi, being duly sworn, deposes and says:

That she has read the foregoing affidavit and the matters stated therein are true and correct to the best of her knowledge, information, and belief.

Executed at Marlton, New Jersey, this 30th day of January 2012.


Lawrence J. Rossi
Holtec International

Subscribed and sworn before me this 30th day of January, 2012.



MARIA C. MASSI
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires April 25, 2015