



~~PROPRIETARY~~

Nuclear Innovation
North America LLC
4000 Avenue F, Suite A
Bay City, Texas 77414

July 31, 2013
U7-C-NINA-NRC-130042
10 CFR 2.390

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

South Texas Project
Units 3 and 4
Docket Nos. 52-012 and 52-013
Submittal of Topical Report for the Spent Fuel Racks

- References:
1. Letter, Scott Head to Document Control Desk, "Notification of Vendor Change for Spent Fuel Racks," U7-C-NINA-NRC-120071, dated December 6, 2012 (ML12352A364)
 2. Letter, Scott Head to Document Control Desk, "Accelerated Date for Submittal of Topical Reports for the Spent Fuel Racks," U7-C-NINA-NRC-130032, dated May 14, 2013 (ML13155A274)

References 1 and 2 informed the NRC staff that Nuclear Innovation North America LLC (NINA) selected Holtec International (Holtec) as the vendor for fulfillment of Combined License (COL) Items related to the Units 3 and 4 Spent Fuel Racks (SFR) and the date for the submittal of a supporting Topical Report. Proprietary and nonproprietary versions of Topical Report, HI-2135462, "Licensing Report for South Texas Project Units 3 & 4 ABWR Spent Fuel Racks," Revision 1, are provided in Attachments 3 and 4, respectively.

Topical Report HI-2135462 provides detailed descriptions and the results of the analyses performed by Holtec that satisfy the requirements of the following COL Items:

COL License Information Item 9.3, as described in Part 2, Tier 2, Subsection 9.1.6.3, "Spent Fuel Storage Racks Criticality Analysis;"

COL License Information Item 9.4, as described in Part 2, Tier 2, Subsection 9.1.6.4, "Spent Fuel Racks Load Drop Analysis;" and,

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COL License Information Item 9.7, as described in Part 2, Tier 2, Subsection 9.1.6.7, "Spent Fuel Racks Structural Evaluation."

COL License Information Item 9.8, which is described in Part 2, Tier 2, Subsection 9.1.6.8, "Spent Fuel Racks Thermal-Hydraulic Analysis," requires that a confirmatory thermal-hydraulic analysis be prepared as required by Subsection 9.1.2.1.4, "Thermal-Hydraulic Design." Topical Report HI-2135462 includes thermal-hydraulic analyses performed by Holtec, as described in Part 2, Tier 2, Subsection 9.1.6.8, that demonstrate that the spent fuel rack design described in HI-2135462 is capable of satisfying ITAAC 2.5.6.4.

During development of Topical Report HI-2135462, NINA identified the need for changes to an existing departure, STD DEP 9.1-1, "Update of Fuel Storage and Handling Equipment." The changes to STD DEP 9.1-1 are provided in Attachment 1.

Topical Report HI-2135462 contains information proprietary to Holtec International as indicated by an affidavit signed by Holtec International, the owner of the information. Attachment 3 contains the Holtec International request that this information be withheld from public disclosure pursuant to 10 CFR 2.390 and an accompanying affidavit, AFFI-2294-001, "Affidavit Pursuant to 10 CFR 2.390 for Licensing Report for South Texas Project Units 3 & 4 ABWR Spent Fuel Racks." This affidavit sets forth the basis on which the information in HI-2135462 may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of Section 2.390 of the Commission's regulations. Accordingly, it is respectfully requested that the information that is proprietary to Holtec International (Attachment 4) be withheld from public disclosure in accordance with 10 CFR 2.390 of the Commission's regulations. Correspondence with respect to the proprietary aspects of the item listed above or the supporting Holtec International Affidavit should reference AFFI-2294-001 and should be addressed to Evrim Kalfazade, Project Manager, Holtec International, Holtec Center, 555 Lincoln Drive West, Marlton, NJ 08053.

When separated from the proprietary material in Attachment 4, this letter is not proprietary.

When a change to the COLA is indicated, the change will be incorporated into the next routine revision of the COLA following NRC acceptance of the RAI response.

There are no commitments in this letter.

If there are any questions, please contact me at (979) 316-3011, or Bill Mookhoek at (979) 316-3014.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 7/31/13



Scott Head
Manager, Regulatory Affairs
NINA STP Units 3 & 4

rhb

Attachments:

1. COLA Changes related to Standard Departure STD DEP 9.1-1, "Update of Fuel Storage and Handling Equipment"
2. Holtec International Affidavit AFFI-2294-01
3. HI-2135462, "Licensing Report for South Texas Project Units 3 & 4 ABWR Spent Fuel Racks," Revision 1 (Non-Proprietary)
4. HI-2135462, "Licensing Report for South Texas Project Units 3 & 4 ABWR Spent Fuel Racks," Revision 1 (Proprietary)

cc: w/o attachment except*
(paper copy)

(electronic copy)

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COLA Changes related to
Standard Departure STD DEP 9.1-1,
“Update of Fuel Storage and Handling Equipment”

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Attachment 1

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Attachment 1

COLA Changes related to
Standard Departure STD DEP 9.1-1,
“Update of Fuel Storage and Handling Equipment”

COLA Part 2, Tier 2, and COLA Part 7 Changes for Spent Fuel Rack Detailed Design

ABWR DCD 9.1.2, “Spent-Fuel Storage,” indicates that the spent fuel storage racks are vendor supplied equipment; therefore, detailed design for the spent fuel racks is not provided in the DCD. ABWR DCD 9.1.2 does provide design requirements for the spent fuel racks. Specifically, DCD 9.1.2.3.2, “Structural Design and Material Compatibility Requirements,” identifies specific design requirements for the spent fuel racks and DCD 9.1.3.3, “Safety Evaluation,” specifies that the thermal analysis for the Fuel Pool Cooling (FPC) System in the DCD assumes that the maximum capacity of the spent-fuel storage pool is 270% of a core (i.e., 2354 fuel assemblies).

Standard Departure STD DEP 9.1-1, Update of Fuel Storage and Handling Equipment, describes and justifies changes to both DCD 9.1.2.3.2 and 9.1.3.3, which were identified as necessary before completion of the STP 3 & 4 spent fuel storage rack design. The detailed design of the STP 3 & 4 spent fuel storage racks has been completed. During this process, an additional change to DCD 9.1.2.3.2 and the need for a clarification to an existing change to DCD 9.1.3.3 were identified. These changes to Standard Departure STD DEP 9.1-1 are provided below.

Changes to STD DEP 9.1-1 for DCD Section 9.1.2.3.2:

DCD 9.1.2.3.2, Item (5), specifies that “Lead-in guides at the top of the storage spaces provide guidance of the fuel during insertion.” This feature was typically installed for spent fuel rack cells with spaces between cells to ensure proper placement of the fuel assembly fuel assembly during insertion. Consistent with current industry practice, the STP 3 & 4 spent fuel rack cells are designed without intervening spaces between cells which eliminates the need for lead in guides. Therefore, the requirement for “lead in guides” in DCD 9.1.2.3.2, Item (5), is deleted.

COLA Part 2, Tier 2, Subsection 9.1.2.3.2, “Structural Design and Material Compatibility Requirements,” will be revised as follows:

9.1.2.3.2 Structural Design and Material Compatibility Requirements

- (5) ~~Lead-in guides at the top of the storage spaces provide guidance of the fuel during insertion.~~ Not Used.

COLA Part 7, “Departures Report,” STD DEP 9.1-1, Subsection 9.1.2.3.2, “Structural Design and Material Compatibility Requirements,” will be revised as follows:

9.1.2.3.2 Structural Design and Material Compatibility Requirements

Spent fuel rack anchoring/support details were updated to reflect current ABWR practice and the lead-in guides for the top of the storage spaces were eliminated due to adoption of an alternate design that is consistent with current industry practice.

Changes to STD DEP 9.1-1 for DCD Section 9.1.3.3:

ABWR DCD, Part 2, Tier 1, Section 2.5.6, “Fuel Storage Facility,” specifies that “spent fuel racks have a minimum storage capacity of 270% of the reactor core, which is equivalent to a minimum of 2354 fuel storage positions.” ABWR DCD, Part 2, Tier 2, Section 9.1, “Fuel Storage and Handling,” also specifies that “The spent-fuel pool storage capacity is 270% of the reactor core.” However, the Fuel Pool Cooling (FPC) analysis in Section 9.1.3.3 assumed that the ‘maximum’ spent-fuel pool storage capacity is 270% of the reactor core.

Standard Departure STD DEP 9.1-1, “Update of Fuel Storage and Handling Equipment,” included a reconciliation of the difference between DCD Tier 1 requirements that the ‘minimum’ spent fuel pool capacity is 270% of the reactor core (2354 fuel assemblies) and the DCD Subsection 9.1.3.3 assumption that the ‘maximum’ spent fuel pool capacity is 270% of the reactor core (2354 fuel assemblies). COLA Part 7, “Departures Report,” STD DEP 9.1-1, Subsections 9.1, “Fuel Storage and Handling,” and 9.1.2.1.2, “Storage Design” both provide the following description of how STD DEP 9.1-1 resolves the difference between the ABWR DCD Tier 1 requirement and ABWR DCD Tier 2, Section 9.1, assumptions related to minimum and maximum spent fuel pool capacity:

The spent fuel storage rack capacity was clarified to be a minimum of 270% to match the description provided in Tier 1 Subsection 2.5.6 and to be consistent with the response to NRC certification question 410.33. In Subsection 9.1.3.3, the maximum 270% has been clarified to be the capacity used for the bounding heat load evaluation. For a pool having a capacity larger than 270%, the additional capacity may not be utilized without revision to the bounding heat load evaluation.

STD DEP 9.1-1 included changes to COLA Part 2, Tier 2, Subsection 9.1.3.3 “Safety Evaluation,” consistent with the spent fuel pool loading restrictions described above. To improve the clarity of these restrictions in the Final Safety Analysis Report (FSAR), COLA Part 2, Tier 2, Subsection 9.1.3.3, “Safety Evaluation,” will be revised as follows:

9.1.3.3 Safety Evaluation

The maximum possible heat load for the FPC System upon closure of the fuel gates (21 days) is the decay heat of the full core load of fuel at the end of the fuel cycle plus the remaining decay heat of the spent fuel discharged at previous refuelings upon closure of the fuel gates ; the maximum capacity of the spent-fuel storage pool is taken as 270% of a core for the bounding heat load evaluation. For a spent fuel storage pool having a capacity greater than 270% (i.e., greater than 2354 fuel assemblies), the additional capacity may not be utilized without revision to the bounding heat load evaluation. The temperature of the fuel pool water may be permitted to rise to approximately 60°C under these conditions. During cold shutdown conditions, if it appears that the fuel pool temperature will exceed 52°C, the operator can connect the FPC System to the RHR System. Combining the capacities enables the two systems to keep the water temperature below 52°C. The RHR System will be used only to supplement the fuel pool cooling when the reactor is shut down. The reactor will not be started up whenever portions of the RHR System are needed to cool the fuel pool.



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Holtec International Document ID AFFI-2294-01

AFFIDAVIT PURSUANT TO 10 CFR 2.390

I, Debabrata Mitra-Majumdar, 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 within Holtec Report HI-2135462R1 which contains Holtec Proprietary information and is appropriately marked as such.
- (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 paragraph 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 been made, or must be made, pursuant to regulatory provisions or proprietary

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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.

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AFFIDAVIT PURSUANT TO 10 CFR 2.390

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

Mr. Debabrata Mitra-Majumdar, being duly sworn, deposes and says:


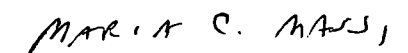
That he has read the foregoing affidavit and the matters stated therein are true and correct to the best of his knowledge, information, and belief.

Executed at Marlton, New Jersey, this 29th day of July, 2013.



Debabrata Mitra-Majumdar
Holtec International

Subscribed and sworn before me this 29th day of July, 2013.

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