Progress Energy

Christopher L. Burton
Vice President
Harris Nuclear Plant
Progress Energy Carolinas, Inc.

Serial: HNP-09-087
10 CFR 50.90

JAN 18 2010

U.S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
SECOND RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING AMENDMENT TO REMOVE CREDIT FOR BORAFLEX IN THE BOILING WATER REACTOR SPENT FUEL POOL STORAGE RACKS (TAC NO. ME0012)

References:

1. Letter from C. L. Burton to the Nuclear Regulatory Commission (Serial: HNP-08-075), "Technical Specifications 5.6.1.3.a and 5.6.1.3.b – Incorporation of Updated Criticality Analyses to Reflect Removal of Credit For Boraflex in BWR Spent Fuel Pool Storage Racks," dated September 29, 2008 (ML082800400)

2. Letter from C. L. Burton to the Nuclear Regulatory Commission (Serial: HNP-09-007), "Supplement to Technical Specifications 5.6.1.3.a and 5.6.1.3.b – Incorporation of Updated Criticality Analyses to Reflect Removal of Credit For Boraflex in BWR Spent Fuel Pool Storage Racks," dated January 16, 2009 (ML090230341)

3. Letter from M. Vaaler, Nuclear Regulatory Commission, to C. L. Burton, "Shearon Harris Nuclear Power Plant, Unit 1 – Request for Additional Information Regarding Amendment to Remove Credit for Boraflex in the Boiling Water Reactor Spent Fuel Pool Storage Racks (TAC NO. ME0012)," dated June 5, 2009 (ML091270238)

4. Letter from C. L. Burton to the Nuclear Regulatory Commission (Serial: HNP-09-081), "Response to Request for Additional Information Regarding Amendment to Remove Credit for Boraflex in the Boiling Water Reactor Spent Fuel Pool Storage Racks (TAC NO. ME0012)," dated August 12, 2009 (ML092310549)

Ladies and Gentlemen:

On June 5, 2009, the Harris Nuclear Plant (HNP) received a request from the NRC (Reference 3) for additional information needed to facilitate the review of the License Amendment Request to

P.O. Box 165
New Hill, NC 27562

T> 919.362.2502
F> 919.362.2095

A001
NRR

revise HNP Technical Specifications to incorporate an updated criticality analyses reflecting the removal of credit for Boraflex in BWR spent fuel pool storage racks. This original request was submitted as Serial: HNP-08-075 (Reference 1) and supplemented via Serial: HNP-09-007 (Reference 2).

On August 12, 2009, HNP submitted its response (Reference 4) to the chemistry request for additional information (# 8, Reference 3). As per discussions with Marlayna Vaaler, NRC Project Manager for HNP, HNP is now submitting its responses for the remainder of the questions.

HNP proposes implementation of this Amendment within 180 days of its approval.

In accordance with 10 CFR 50.91(b), HNP is providing the state of North Carolina with a copy of this response.

This document contains no regulatory commitments.

Please refer any questions regarding this submittal to Mr. Dave Corlett, Supervisor – Licensing/Regulatory Programs, at (919) 362-3137.

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

JAN 18 2010

Sincerely,

Christopher L. Burton

Christopher L. Burton
Vice President
Harris Nuclear Plant

CLB/kms

Enclosures:
1. Second Response to Request for Additional Information
2. Supplement to License Amendment Request to Remove Credit for Boraflex in the Boiling Water Reactor Spent Fuel Pool Storage Racks

cc:
Mr. J. D. Austin, NRC Sr. Resident Inspector, HNP
Mr. L. A. Reyes, NRC Regional Administrator, Region II
Ms. M. G. Vaaler, NRC Project Manager, HNP
Mr. W. L. Cox, N. C. Department of Environment and Natural Resources

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
SECOND RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Summary

By letter dated September 29, 2008, as supplemented by letter dated January 16, 2009, Carolina Power & Light Company, now doing business as Progress Energy Carolinas, Inc., submitted a proposed amendment for the Shearon Harris Nuclear Power Plant, Unit 1.

The proposed amendment would modify Technical Specification (TS) Sections 5.6.1.3.a and 5.6.1.3.b to incorporate the results of a new criticality analysis. Specifically the TSs would be revised to add new requirements for the Boiling Water Reactor (BWR) spent fuel storage racks containing Boraflex in Spent Fuel Pools A and B. The requirements for the BWR spent fuel racks as currently contained in TS 5.6.1.3 would be revised to specify applicability to the spent fuel storage racks containing Boral in Spent Fuel Pool B.

The U.S. Nuclear Regulatory Commission staff has determined that it needs responses to the following questions in order to continue its review of the subject document.

Request 1: Code validation -MCNP4a

Appendix A of Holtec Report No. HI-2043321 , Revision 4, "Criticality Safety Analyses of BWR [Boiling Water Reactor] Fuel Without Credit for Boraflex in the Racks at the Harris Nuclear Power Station," discusses the validation of the MCNP4a code used in criticality calculations. To allow the staff to evaluate the adequacy of the validation, please provide the following additional information:

a) Please identify the cross section library and energy group used in the MCNP4a calculations.

b) Please identify the cross section library and energy group used in the benchmark calculations.

c) Please identify any known problems associated with the libraries that may adversely affect the analysis.

d) Please document and justify the area of applicability for the benchmarks.

e) How did the analyses associated with the license amendment application account for the measurement uncertainties for the benchmarks?

Response: Holtec International has updated Appendix A of Holtec Licensing Report HI-2043321 with additional text and descriptions to address the additional information which was requested. Additionally, specific responses to the above sub-questions are as follows:

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
SECOND RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

a) ENDF/B-V data was used whenever possible. However, some fission product isotopes that were available in the CASMO N-library were not available in ENDF/B-V. In these cases, ENDF/B-VI cross-sections were used. No energy group data was used because MCNP4a calculations use continuous energy cross-section data.

b) The cross-section library used in the MCNP4a benchmark was ENDF/B-V. No energy group data was used because MCNP4a calculations are performed with continuous energy cross-section data.

c) Holtec is not aware at this time of any issues with the ENDF/B-V and ENDF/B-VI cross-section data that may affect the analysis.

d) Appendix A of HI-2043321 has been updated with a discussion on the Area of Applicability.

e) Appendix A of HI-2043321 has been updated with a discussion on the experimental uncertainty of the benchmark experiments.

Request 2: Code validation - CASM04

Please discuss why there is not a need to apply any methodology uncertainties associated with using the CASM04 code to determine the relative reactivity differences for temperature variation, manufacturing tolerances, and depletion uncertainty.

Response: CASMO-4 has previously been used in the same capacity for Harris spent fuel criticality analysis and has been previously reviewed and approved by the NRC. Although this previous approval of CASMO-4 without the need for a benchmark provides precedence for the Harris plant, Holtec has validated CASMO-4 code against selected benchmark experiments for the purposes of addressing this RAI. Additionally, Holtec addressed how the code bias and bias uncertainty would be applied to the CASMO-4 differential calculations. The CASMO-4 benchmark information has been incorporated into the updated HI-2043321 report as a reference.

Request 3: Depletion parameters

The following questions pertain to the licensee's response to Question 5 in Letter HNP-09-007, dated January 16, 2009:

a) The application, as supplemented, cites NUREG/CR-6760 to conclude that not modeling Gadolinium is conservative for BWR fuel. However, it is not clear that any conclusions from NUREG/CR-6760 directly pertain to BWR scenarios. Please provide quantitative

justification showing that neglecting Gadolinium is conservative for BWR operating conditions.

b) The assumed fuel temperature (1038°F) appears to be somewhat low for a maximum value. Please provide evidence that the assumed fuel temperature is indeed the maximum for BWR fuel stored at the Shearon Harris Nuclear Power Plant, Unit 1 (HNP).

c) The assumed void fraction (40 percent) appears to be a core average value. The void fraction at the upper part of a typical BWR could be significantly higher. Please provide evidence that the assumed void fraction is indeed the maximum for BWR fuel stored at HNP.

d) Please provide evidence to demonstrate that assuming no control rods during depletion is conservative.

Response:

a) Additional calculations, as documented in Attachment 1 to this enclosure, have been performed to confirm that neglecting the Gd_2O_3 is conservative for BWR fuel.

b) The calculations have been updated using a maximum core planar average fuel temperature of 1260 °F (reference Table 2a in Holtec Report No. HI-2043321, Rev. 6).

c) The calculations have been updated with the maximum void content of 77% (reference Table 2a in Holtec Report No. HI-2043321, Rev. 6).

d) The calculations were updated to include the presence of control rods. The geometrical and material properties of the control rods are provided in Table 2b in Holtec Report No. HI-2043321, Rev. 6). Since the control rod operating strategy at Brunswick for GE 13 fuel did not allow fresh fuel to be placed in a core location that would have planned control rod insertion, control rod insertion is limited to once and twice burned fuel assemblies. Typical fuel is controlled for 3 GWD/MTU intervals then uncontrolled for 3 GWD/MTU intervals. Therefore, to conservatively bound any control rod insertion, fuel assemblies are modeled with an initial interval of 12 GWD/MTU (i.e., first cycle) of uncontrolled operation, followed by intervals of 3 GWD/MTU controlled and uncontrolled operation. This is conservative since the fuel is not actually controlled for 3 GWD/MTU as the flux suppression of the control rod blade significantly decreases exposure accumulation.

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
SECOND RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Request 4: Axial burnup profile

The volume weighted relative burnup values (accounting for the different nodal length of the top node), indicate about 2 percent more burnup than expected, which appears to be non-conservative.

Please describe and justify how the application, as supplemented, determines the relative burnup values in Table 6 of the January 16, 2009, submittal.

Response: The axial burnup profiles used in the analysis were originally based on an active fuel height of 150 inches. Because the active fuel height of the actual BWR assemblies is only 146 inches, the axial burnup distributions were modified to account for this discrepancy in length. The axial burnup distributions have been corrected to agree with the original input data and the fuel height is modeled as 150 inches, rather than the previously modeled 146 inches. This is conservative as it models more fuel (longer active fuel length) than actually present.

Request 5: Soluble boron calculations

Please demonstrate that the effect of soluble boron on the biases and uncertainties for the borated normal and accident cases are conservative.

Response: Given the relatively small amount of soluble boron credited under normal (300 ppm maximum) and accident (325 ppm maximum) conditions, the effect of soluble boron on the biases and uncertainties would be negligible. Additionally, there is significant additional soluble boron in the spent fuel that is not credited that would easily offset any small positive reactivity effect if it existed.

Request 6: BWR rack interface

Please demonstrate the acceptability of the interface configurations as applied to the BWR racks in the HNP spent fuel pools.

Response: The rack interface between the BWR racks analyzed in this licensing submittal and other racks in the Harris spent fuel pool has been addressed in Framatome ANP Document No. 77-5069740-00, as previously reviewed and approved by the NRC.

The PWR Boraflex Rack Criticality Analysis performed by Framatome ANP (77-5069740-00, as submitted to the NRC via Serial: HNP-05-103) previously analyzed the impact of the BWR Boraflex racks on adjacent PWR Boraflex racks. The BWR Boraflex racks were conservatively modeled with no Boraflex and with a design basis BWR fuel assembly. The Framatome ANP analysis design basis BWR fuel assembly is a GE13 9x9 assembly uniformly loaded at 1.5

weight percent enrichment with no burnup, integral absorbers, axial blankets, or part length rods. The design basis BWR fuel assembly used in the Framatome ANP Criticality Analysis has an equivalent reactivity of a typical BWR assembly with higher enrichment and burnup shipped to HNP.

The interface criteria on BWR fuel assembly properties become operative when Boraflex credit is removed from the BWR rack analyses. The Holtec analysis for removing Boraflex credit for BWR spent fuel racks concludes that a minimum boron concentration of 300 ppm with a burnup credit curve for BWR fuel is adequate to maintain k_{eff} below 0.95. Therefore, the PWR soluble boron requirements, as documented in the HNP Owner's Review of the Framatome ANP Criticality Analysis 77-5069740-00, are bounding.

As identified in the Owners Review of Framatome ANP Criticality Analysis 77-5069740-00, the following criteria apply to the BWR racks when the BWR Boraflex analysis and Technical Specifications are modified to support credit for soluble boron:

1. Irradiated design basis BWR fuel assembly must have a $K_{95/95} \leq 0.99$ when placed in the BWR rack with 100% Boraflex degradation.

   The Holtec BWR Boraflex Criticality Analysis demonstrates that for the irradiated design basis BWR fuel assembly, the k_{eff} will be maintained less than 0.99 for all assemblies that meet the Burnup Credit Curve, satisfying Requirement 1.

2. A minimum of 350 ppm soluble boron is required during operations without fuel movement, 475 ppm soluble boron during movement of the design basis fresh fuel, and 350 ppm soluble boron during movement of the design basis irradiated fuel assembly.

   HNP Technical Specification 3.7.14 requires the boron concentration for spent fuel pools that contain nuclear fuel to be $\geq$ 2000 ppm. Thus Requirement 2 is currently satisfied by HNP Technical Specifications.

3. No restrictions on placement of spent BWR racks adjacent to either PWR rack.

Since the assumptions in the referenced Framatome ANP analysis are still valid, all interface conditions are currently addressed in the existing analysis.

Request 7: BWR flow channel

Please discuss the effect of the flow channel on the calculated reactivity for the BWR racks in the HNP spent fuel pools. Will the channel always be present during storage? How are the manufacturing tolerances for the flow channel addressed in determination of the maximum k-eff value? Consider the presence of boron in the spent fuel pool when

determining the reactivity effect.

Response: The criticality calculations include the presence of a channel for all assemblies. Additional calculations have been performed to confirm this effect (reference Attachment 1 to this enclosure). If assemblies were to be stored without a channel, this would reduce the reactivity of the spent fuel in the storage racks compared to the calculated reactivity. Therefore, BWR fuel assemblies may be stored either with or without the fuel channel. No manufacturing tolerances are considered for the channel since the channel is conservatively modeled as thicker than the average thickness. The effect of soluble boron on the reactivity effect of the fuel channel would be negligible due to the small amount of soluble boron credited (300 ppm) and the much higher soluble boron level specified in the Harris spent fuel pool Technical Specification (2000 ppm).

Request 8: Since the Boraflex monitoring program will be discontinued as a result of this proposed license amendment request, please explain how HNP will be able to identify and mitigate any degradation of the Boraflex that may impede other plant operations. Examples may include excessive silica levels impacting the spent fuel pool chemistry or an unforeseen damage mechanism to the Boraflex cladding that may impact safe fuel handling.

Response: Response provided in Serial: HNP-09-081, dated August 12, 2009.

Request 9: Technical Specifications

a) Please propose a limiting condition for operation (LCO) and a surveillance requirement (SR) for Spent Fuel Storage, equivalent in intent to the Westinghouse Owners Group (WOG) Standard Technical Specification (STS) 3.7.17.

b) The proposed TS 5.6.1.3.b should specify the enrichment and k-inf limit for the BWR fuel to be stored in the Boral racks for Pools "A" and "B." Please revise this specification accordingly.

Response:

a) HNP is proposing to incorporate a new LCO 3.7.15, associated SR 4.7.15.1 and TS Bases, equivalent in intent to the WOG STS 3.7.17 (reference Enclosure 2 to this submittal).

b) The proposed TS 5.6.1.3.b has been revised to incorporate a maximum planar average enrichment of less than 3.2 weight percent U^{235} as acceptable for storage of BWR assemblies in the BWR Boral storage racks in Pools "A" and "B". However, since the licensing basis upon which HNP obtained approval for storage of BWR spent fuel

assemblies in Pools "A" and "B" was based on enrichment values, rather than a k-inf limit, HNP does not have a k-inf value to add to the proposed TS 5.6.1.3.b.

Attachments:

1. Reactivity Effect of Gadolinium and Fuel Channel
2. Holtec Affidavit for Withholding of Proprietary Information
3. Holtec Report No. HI-2043321, Revision 6 (Proprietary)
4. Holtec Report No. HI-2043321, Revision 6 (Non-Proprietary)

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
SECOND RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

ATTACHMENT 1
REACTIVITY EFFECT OF GADOLINIUM AND FUEL CHANNEL
(2 Pages)

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
SECOND RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Introduction

This attachment demonstrates that it is conservative to neglect the gadolinium absorber that is integral with the fuel. It also demonstrates that including the channel in the storage rack model is conservative.

Input Data

The basic assumption made is that neglecting gadolinium is a conservative assumption. This is based on previous studies for PWR fuel assemblies, but should also remain true for BWR assemblies, since they are composed of UO_2 in Zirconium rods. A representative Gadolinium loading and location of the Gadolinium rods were used.

Additionally, it is known from previous Holtec analyses that including the channel in the storage rack model is conservative. Calculations are performed to confirm this assumption.

Computer Codes

CASMO-4 was the only computer code used for this supplemental analysis.

Analysis and Results

A CASMO-4 calculation was performed with gadolinium rods and compared to the calculations without gadolinium rods. Table 1 shows the results of this comparison.

Table 1: Reactivity Effect of Gadolinium

Burnup	No Gad	Gad	Δk
0	1.3093	1.0465	-0.2628
10	1.2115	1.0704	-0.1441
20	1.1213	1.1085	-0.0128
30	1.0277	1.0199	-0.0078
40	0.9310	0.9261	-0.0049
50	0.8362	0.8341	-0.0021
55	0.7921	0.7910	-0.0011

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
SECOND RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

A CASMO-4 calculation was performed without the Zircaloy channel and compared to the calculations with the channel. Table 2 shows the results of this comparison.

Table 2: Reactivity Effect of No Channel

Burnup	With Channel	Without Channel	Δk
0	1.3093	1.2981	-0.0112
10	1.2115	1.2017	-0.0098
20	1.1213	1.1125	-0.0088
30	1.0277	1.0196	-0.0081
40	0.9310	0.9235	-0.0075
50	0.8362	0.8293	-0.0069
55	0.7921	0.7855	-0.0066

Summary

Since the results in Table 1 show that neglecting Gadolinium is conservative, all calculations assume no Gadolinium. Additionally, based on the Table 2 results indicating that including the channel in the storage rack model is conservative, all calculations assume a channel is present.

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
SECOND RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

ATTACHMENT 2
AFFIDAVIT FOR WITHHOLDING OF PROPRIETARY INFORMATION
For Holtec Report No. HI-2043321, Revision 6 (Proprietary)
(5 Pages)

HOLTEC INTERNATIONAL

Holtec Center, 555 Lincoln Drive West, Marlton, NJ 08053
Telephone (856) 797-0900
Fax (856) 797-0909

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk

AFFIDAVIT PURSUANT TO 10 CFR 2.390

I, Debabrata Mitra-Majumdar, being duly sworn, depose and state as follows:

(1) I am the Holtec International Project Manager for the Harris Nuclear Plant BWR Racks Criticality Analysis project 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 Holtec Report HI-2043321 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).

HOLTEC INTERNATIONAL

Holtec Center, 555 Lincoln Drive West, Marlton, NJ 08053
Telephone (856) 797-0900
Fax (856) 797-0909

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk

AFFIDAVIT PURSUANT TO 10 CFR 2.390

(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

HOLTEC INTERNATIONAL

Holtec Center, 555 Lincoln Drive West, Marlton, NJ 08053
Telephone (856) 797-0900
Fax (856) 797-0909

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk

AFFIDAVIT PURSUANT TO 10 CFR 2.390

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 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

HOLTEC
INTERNATIONAL

Holtec Center, 555 Lincoln Drive West, Marlton, NJ 08053
Telephone (856) 797-0900
Fax (856) 797-0909

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk

AFFIDAVIT PURSUANT TO 10 CFR 2.390

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.

(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.

HOLTEC
INTERNATIONAL

Holtec Center, 555 Lincoln Drive West, Marlton, NJ 08053
Telephone (856) 797-0900
Fax (856) 797-0909

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk

AFFIDAVIT PURSUANT TO 10 CFR 2.390

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.

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

Dr. 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 8th day of October, 2009.

Debabrata Mitra-Majumdar
Holtec International

Subscribed and sworn before me this 8th day of October, 2009.

Maria C. Massi

MARIA C. MASSI
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires April 25, 2010