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10 CFR 50.90

January 3, 2022

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

Indian Point Nuclear Generating Unit No. 3
Docket No. 50-286
Renewed Facility Operating License No. DPR-64

Subject: Response to Requests for Additional Information - License
Amendment Request to Revise the Indian Point Nuclear
Generating Unit No. 3 Licensing Basis to Incorporate the
Installation and Use of a New Auxiliary Lifting Device

References:

1. Entergy letter to U.S. Nuclear Regulatory Commission (NRC), "Proposed License Amendment to Revise the Indian Point Nuclear Generating Unit No. 3 Licensing Basis to Incorporate the Installation and use of a New Auxiliary Lifting Device," (ADAMS Accession No. ML20084U773), dated March 24, 2020
2. NRC Electronic Mail from R. Guzman (NRC) to A. Sterdis (Holtec Decommissioning International, LLC), " Indian Point Unit No. 3 - SUBSEQUENT REQUEST FOR ADDITIONAL INFORMATION: LAR to Revise Licensing Basis for New Auxiliary Lifting Device," (ADAMS Accession No. ML2337A295), dated December 3, 2021

In Reference 1, Entergy Nuclear Operations, Inc. (Entergy) submitted a request for a proposed amendment to Renewed Facility Operating License (FOL) DPR-64 for Indian Point Nuclear Generating Unit No. 3 (IP3). The proposed amendment requested U.S. Nuclear Regulatory Commission (NRC) approval to incorporate, into the IP3 Licensing Basis, the installation and use of a new single failure proof auxiliary lifting device (i.e., the Holtec International (Holtec) HI- LIFT) to handle a dry cask storage (DCS) transfer cask (i.e., the HI-TRAC) in the IP3 Fuel Storage Building (FSB).

In Reference 2, the NRC transmitted a subsequent request for additional information (RAI) concerning the proposed license amendment. The Enclosures to this letter are provided in response to the RAI.



Enclosure 1 provides a summary of the HDI response to the RAI. This enclosure is non-proprietary.

The following Enclosures provide design and procurement information referenced in the RAI response provided in Enclosure 1:

Enclosure 2: HI-2210873-R0, *Failure Modes and Effects Analysis (FMEA) for IP3 HI-LIFT Mechanical and Control Systems,*

Enclosure 3: HI-2188549-R3, *IPEC Unit 3 HI-LIFT Specification,*

Enclosure 4: HI-2188625-R4, *Structural Evaluation of HI-LIFT Device and Spent Fuel Building Walls at Indian Point Unit 3,*

Enclosure 5: DWG-11654-R5, *HI-LIFT Ancillary Lift Device Licensing Drawing*

The documents provided in these enclosures are design and procurement specifications. The information included in these documents is proprietary to Holtec International, and therefore these enclosures (Enclosures 2, 3, 4 and 5) are proprietary in their entirety and are supported by an affidavit included as the Attachment to this letter. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the NRC and addresses, with specificity, the considerations listed in paragraph (b)(4) of Section 2.390 of the Commission's regulations.

There are no new regulatory commitments in the RAI response enclosed in this letter.

Should you have any questions or require additional information, please contact Andrea Sterdis, HDI Decommissioning Vice President at (724)493-1833 or myself at 856-797-0900 ext. 3578.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), a copy of this application, with non-proprietary enclosure and attachments, is being provided to the designated State Officials.

I declare under penalty of perjury that the foregoing is true and correct. Executed on January 3, 2022.

Sincerely,

Jean A. Fleming
HDI Vice President, Regulatory and Environmental Affairs
Holtec Decommissioning International, LLC



Enclosures:

1. Response to Subsequent Request for Additional Information (RAI-9)
2. HI-2210873-R0, *Failure Modes and Effects Analysis (FMEA) for IP3 HI-LIFT Mechanical and Control Systems (Proprietary)*
3. HI-2188549-R3, *IPEC Unit 3 HI-LIFT Specification (Proprietary)*
4. HI-2188625-R4, *Structural Evaluation of HI-LIFT Device and Spent Fuel Building Walls at Indian Point Unit 3 (Proprietary)*
5. DWG-11654-R5, *HI-LIFT Ancillary Lift Device Licensing Drawing (Proprietary)*

Attachment: Affidavit Pursuant to 10 CFR 2.390

cc: NRC Senior Project Manager, NRC NRR DORL
NRC Senior Project Manager, NRC NMSS
NRC Region I Regional Administrator
NRC Senior Regional Inspector, Indian Point Energy Center
New York State Liaison Officer Designee, NYSERDA
New York State (NYS) Public Service Commission

HDI-IPEC-22-001

Enclosure 1

Response to Subsequent Request for Additional Information (RAI-9)

RAI 9 (SCPB-Plant Systems): Crane Stability following Component Failures

Regulatory Basis:

The Nuclear Regulatory Commission (NRC, or Commission) staff evaluates whether the licensee's request can be approved per Title 10 of the Code of Federal Regulations (10 CFR), Section 50.92, "Issuance of Amendment," which states in part that, "In determining whether to issue an amendment to a license, the Commission will be guided by the considerations which govern issuance of initial licenses...." Applicable regulations considered in issuing initial licenses include 10 CFR 50.34, "Contents of Applications; Technical Information," and applicable general design criteria (GDC) from Appendix A to 10

CFR Part 50. Specifically, 10 CFR 50.34(b)(2) requires, in part, that the safety analysis report contain a description and analysis of fuel handling systems, with emphasis upon performance requirements, the bases upon which such requirements have been established, and the evaluations required to show that safety functions will be accomplished. The description shall be sufficient to permit understanding of the system designs and their relationship to safety evaluations. In addition, 10 CFR 50.34(b)(6) requires, in part, that the safety analysis report include plans for preoperational testing and conduct of normal operations, including maintenance and testing. Finally, GDC 4 requires appropriate protection for SSCs important to safety (e.g., irradiated fuel) against dynamic effects, including the effects of missiles (e.g., falling heavy loads) that may result from equipment failures.

Request

Consistent with regulatory guidance in NUREG-0554, heavy load handling systems should be designed to stop and hold the load following a loss of power and equipment failure. This standard satisfies GDC 4 by providing appropriate protection for irradiated fuel contained within a fuel transfer cask or within the spent fuel pit. In order to satisfy regulatory requirements related to evaluations demonstrating safety functions will be accomplished and plans for preoperational testing and normal operation, additional information is necessary to define additional design features and conduct of preoperational tests, normal operations, and maintenance. Accordingly, please provide the following information:

1. Provide an update to HI-2188549, "IPEC Unit 3 HI-LIFT Specification," that includes:

a. Information establishing the maximum acceptable threshold regarding uneven operation of the hydraulic cylinders, where the HI-LIFT structure, in its most limiting orientation(s), remains capable of supporting its full rated load. This update should include key assumptions, the method of analysis, the loading condition, and the acceptance criteria established for the HI-LIFT components and the interfacing structures. [The information in the response to a request for additional information provided by letter dated May 20, 2021 (ADAMS Accession No. ML21140A451), is acceptable for this purpose.]

b. Information describing how the HI-LIFT would be prevented from exceeding this threshold considering credible single component failures and acceptable operating conditions that may affect the HI-LIFT response. This information may reference a separate failure modes and effects analysis to define credible failures and identify mitigating equipment. The response should specifically address:

(1) hydraulic swing cylinders;

(2) hydraulic system for movement of the swing cylinders, including valves;

- (3) control system for positioning swing cylinders;
- (4) instrumentation and actuation systems necessary to place the HI-LIFT in a safe state following credible malfunctions of the hydraulic control system;
- (5) operator actions; and
- (6) any equipment or design features necessary for the operator actions to be timely and effective.

c. Information describing the basic design and performance requirements for systems or components performing important to safety functions controlling cylinder position (as described in the response to (b.) above).

d. Preoperational and periodic test programs necessary to demonstrate that systems or components would be capable of performing important to safety functions in controlling cylinder position.

2. Provide a failure modes and effects analysis of the (a) hydraulic swing cylinders; (b) hydraulic system for movement of the swing cylinders, including valves; (c) control system for positioning swing cylinders; and (d) instrumentation and actuation systems necessary to place the HI-LIFT in a safe state following credible malfunctions of the hydraulic control system. To the extent necessary to support understanding of the design, failure mods, and mitigation strategies, also provide component descriptions and system drawings.

3. Provide an analysis demonstrating that the time available for any credited operator actions necessary to place the HI-LIFT in a safe configuration following credible failures affecting the hydraulic swing cylinders or the associated control system is adequate.

HDI Response:

The HDI response is provided in the following table. Enclosures 2, 3, 4 and 5 provide the detailed information in response to the RAI 9 requests. The table identifies where the response information is located in the Enclosures.

Table 1: HDI Response to NRC Subsequent Request for Additional Information Concerning the HI-LIFT License Amendment Request

NRC DRAFT RAI-9	Holtec Response
<p>1. Provide an update to HI-2188549, “IPEC Unit 3 HI-LIFT Specification,” that includes:</p>	<p>Revision 3 of the HI report HI-2188549 is now issued and submitted</p>
<p>a. Information establishing the maximum acceptable threshold regarding uneven operation of the hydraulic cylinders, where the HI-LIFT structure, in its most limiting orientation(s), remains capable of supporting its full rated load. This update should include key assumptions, the method of analysis, the loading condition, and the acceptance criteria established for the HI-LIFT components and the interfacing structures.</p> <p>[The information in the response to a request for additional information provided by letter dated May 20, 2021, is acceptable for this purpose.]</p>	<p>Description of the load case added to Section 3.2.2</p> <p>Evaluation added to structural report HI-2188625 Appendix. H</p>
<p>b. Information describing how the HI-LIFT would be prevented from exceeding this threshold considering credible single component failures and acceptable operating conditions that may affect the HI-LIFT response. This information may reference a separate failure modes and effects analysis to define credible failures and identify mitigating equipment. The response should specifically address</p> <ul style="list-style-type: none"> (1) hydraulic swing cylinders; (2) hydraulic system for movement of the swing cylinders, including valves; (3) control system for positioning swing cylinders; (4) instrumentation and actuation systems necessary to place the HI-LIFT in a safe state following credible malfunctions of the hydraulic control system, (5) operator actions, and (6) any equipment or design features necessary for the operator actions to be timely and effective. 	<ul style="list-style-type: none"> (1) Hydraulic swing cylinders, included in Table 12-3 (2) Hydraulic system for movement of swing cylinders, included in Table 12-4 (3) Manual operating controls added to HI-2188549 Section 3.7.4 (4) Visual Indication System added to HI-2188549 Section 3.5.7 <p>HI-Resolution Visual Indication System added to HI-2188549 Section 3.5.8</p> <p>Requirements for mechanical limit switch system added to 3.7.3.12 and Appendix F</p> <ul style="list-style-type: none"> (5) Operator actions established in 3.7.4 <p>Requirements for analysis of operator actions Added to Section 6.6.4</p> <p>Ongoing Inspections added to Table 6.1</p> <ul style="list-style-type: none"> (6) Equipment and design established in Section 3.7.4. <p>Requirements for analysis of operator actions Added to Section 6.6.4</p>

Table 1: HDI Response to NRC Subsequent Request for Additional Information Concerning the HI-LIFT License Amendment Request

	The relationship of leak rate to time limit is explained in Section 6.6.4
c. Information describing the basic design and performance requirements for systems or components performing important to safety functions controlling cylinder position (as described in the response to b. above).	Control system information consolidated into Section 3.7 (of HI-2188549): 3.7.1 Swing Cylinder Primary Controls 3.7.2 Strand Jack Primary Controls 3.7.3 Protection Control System 3.7.4 Manual Operations System The supervisory system is described in 3.7.3. The mechanical Position Differential Indication System is described in 3.7.3.12, and detailed in Appendix F.
d. Preoperational and periodic test programs necessary to demonstrate that systems or components would be capable of performing important to safety functions in controlling cylinder position.	Preoperational and periodic tests added to HI-2188549. Summaries in Table 6.1, descriptions in the body of Section 6. Load hold leak test added to 6.6 Testing programs in FMEA incorporated by reference.
2. Provide a failure modes and effects analysis of the	All included under Holtec document HI-2210873-R0
(1) hydraulic swing cylinders;	
(2) hydraulic system for movement of the swing cylinders , including valves;	
(3) control system for positioning swing cylinders;	
(4) instrumentation and actuation systems necessary to place the HI-LIFT in a safe state following credible malfunctions of the hydraulic control system.	
i. . To the extent necessary to support understanding of the design, failure mods, and mitigation strategies, also provide component descriptions and system drawings.	
3. Provide an analysis demonstrating that the time available for any credited operator actions necessary to place the HI-LIFT in a safe configuration following credible failures affecting the hydraulic swing cylinders or the associated control system is adequate.	Operator actions established in 3.7.4 Requirements for analysis of operator actions Added to Section 6.6.4

HDI-IPEC-22-001

Enclosure 2

HI-2210873-R0

**Failure Modes and Effects Analysis (FMEA) for IP3 HI-LIFT
Mechanical and Control Systems**

Proprietary

HDI-IPEC-22-001

Enclosure 3

**HI-2188549-R3
IPEC Unit 3 HI-LIFT Specification**

Proprietary

HDI-IPEC-22-001

Enclosure 4

HI-2188625-R4

**Structural Evaluation of HI-LIFT Device and Spent Fuel Building
Walls at Indian Point Unit 3**

Proprietary

HDI-IPEC-22-001

Enclosure 5

DWG-11654-R5

HI-LIFT Ancillary Lift Device Licensing Drawing

Proprietary

HDI-IPEC-22-001

Attachment

Affidavit Pursuant to 10 CFR 2.390

AFFIDAVIT PURSUANT TO 10 CFR 2.390

I, Jean A. Fleming, being duly sworn, depose and state as follows:

- 1) I have reviewed the information provided in HI-2210873-R0, *Failure Modes and Effects Analysis (FMEA) for IP3 HI-LIFT Mechanical and Control Systems*, HI-2188549-R3, *IPEC Unit 3 HI-LIFT Specification*, HI-2188625-R4, *Structural Evaluation of HI-LIFT Device and Spent Fuel Building Walls at Indian Point Unit 3*, and DWG-11654-R5, *HI-LIFT Ancillary Lift Device Licensing Drawing*, which is sought to be withheld, and am authorized to apply for its withholding.
- 2) The information sought to be withheld is in HI-2210873-R0, HI-2188549-R3, HI-2188625-R4 and DWG-11654-R5 is provided as Enclosures 2, 3, 4 and 5 to HDI Letter HDI-IPEC-22-01. These documents are design and procurement specifications and the information included in the documents is proprietary to Holtec International.
- 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 10 CFR 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).
- 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

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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, and 4.c 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 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.

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- 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.
- 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 decommissioning and 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

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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 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.

