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10 CFR 50.90

HDI-IPEC-22-057

August 2, 2022

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

Indian Point Nuclear Generating Unit No. 2
Docket Nos. 50-247
Renewed Facility License DPR-26

Subject: License Amendment Request to Revise Indian Point Nuclear Generating Unit No. 2 Permanently Defueled Technical Specifications to Modify Staffing Requirements following Transfer of Spent Fuel to Dry Storage

Reference:

1. Entergy Letter to NRC, "Certifications of Permanent Cessation of Power Operations and Permanent Removal of Fuel from the Reactor Vessel, Indian Point Nuclear Generating Unit No. 2," (Letter NL-20-042) (ADAMS Accession No. ML20133J902), dated May 12, 2020

In accordance with Title10 of the Code of Federal Regulations (10 CFR) 50.90, "Application for amendment of license, construction permit,or early site permit," Holtec Decommissioning International, LLC (HDI), on behalf of Holtec Indian Point 2, LLC (IP2), requests an amendment to Renewed Facility License No. DPR-26. Following removal of all spent fuel from the IP2 Spent Fuel Pit (SFP) and its transfer to dry storage within an Independent Spent Fuel Storage Installation (ISFSI), the proposed License Amendment would: 1) Modify the IP2 staffing requirements in Appendix A, "Permanently Defueled Technical Specifications" (PDTS); 2) Revise the 10 CFR Part 50 Facility License (FL) and Appendix C, "Inter – Unit Fuel Transfer Technical Specifications," (Appendix C TS) to prohibit the transfer of Holtec Indian Point 3, LLC (IP3) spent fuel to the IP2 SFP; and 3) Incorporate a prohibition against the storage of spent fuel in the IP2 SFP in the Appendix A, PDTS.

In Reference 1, Entergy certified to the NRC, in accordance with 10 CFR 50.82(a)(1)(i), that power operations ceased at IP2 on April 30, 2020. In addition,Entergy certified in accordance with 10 CFR 50.82(a)(1)(ii), that the fuel was permanently removed from the IP2 reactor vessel and placed in the IP2 SFP on May 12, 2020.

HDI expects that transfer of the spent fuel from the IP2 SFP to dry storage within an ISFSI will be completed in February 2023. HDI is requesting the proposed revisions to the IP2 FL, PDTS, and Appendix C TS to modify the IP2 staffing requirements to be commensurate with the hazards associated with a permanently shutdown and defueled facility that has transferred all spent fuel from its SFP to dry storage within an ISFSI. HDI requests review and approval of the proposed license amendments by February 1, 2023, and a thirty-day implementation period after the effective date of the License Amendment.

The Enclosure to this letter provides a description and evaluation of the proposed changes to the FL, PDTS, and Appendix C TS. The evaluation includes the regulatory evaluation, the no

significant hazards consideration determination, and the environmental considerations.

Attachment 1 to the Enclosure contains a markup of the FL, PDTS pages, and Appendix C TS pages.

Attachment 2 to the Enclosure contains the retyped FL, PDTS pages, and Appendix C TS pages.

As required by 10 CFR 50.91, “Notice for public comment; State consultation,” paragraph (b) copies of this application, with the enclosure, are being provided to the New York State Department of Public Service.

This letter contains no new regulatory commitments. Should you have any questions or require additional information, please contact Mr. Walter Wittich, IPEC Licensing at 914-254-7212 or myself at 856-797-0900, ext. 3578.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 2, 2022.

Sincerely,

Jean A. Fleming

Digitally signed by Jean A. Fleming
Date: 2022.08.02 11:00:21 -04'00'

Jean A. Fleming
Vice President, Licensing, Regulatory Affairs, and PSA
Holtec Decommissioning International, LLC

Enclosure: Description and Evaluation of Proposed Changes - License Amendment Request to Revise Indian Point Nuclear Generating Unit No. 2 Permanently Defueled Technical Specifications to Modify IP2 Staffing Requirements following Transfer of Spent Fuel to Dry Storage

Attachment 1: Markup of the FL, PDTS, and Appendix C TS Pages

Attachment 2: Retyped FL and PDTS Pages

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

HDI-IPEC-22-057

Enclosure

Description and Evaluation of Proposed Changes

License Amendment Request to Revise Indian Point Nuclear Generating Unit No. 2
Permanently Defueled Technical Specifications to
Modify IP2 Staffing Requirements following Transfer of Spent Fuel to Dry Storage

(12 Pages)

Enclosure

DESCRIPTION AND EVALUATION OF PROPOSED CHANGES

1.0 SUMMARY DESCRIPTION

In accordance with Title10 of the Code of Federal Regulations (10 CFR) 50.90, “Application for amendment of license, construction permit,or early site permit,” Holtec Decommissioning International, LLC (HDI), on behalf of Holtec Indian Point 2, LLC (IP2), requests an amendment to Renewed Facility License No. DPR-26. Following removal of all spent fuel from the IP2 Spent Fuel Pit (SFP) and its transfer to dry storage within an Independent Spent Fuel Storage Installation (ISFSI), the proposed License Amendment would: 1) Modify the IP2 staffing requirements in Appendix A, “Permanently Defueled Technical Specifications” (PDTS); 2) Revise the 10 CFR Part 50 Facility License (FL) and Appendix C, “Inter – Unit Fuel Transfer Technical Specifications,” (Appendix C TS) to prohibit the transfer of Holtec Indian Point 3, LLC (IP3) spent fuel to the IP2 SFP; and 3) Incorporate a prohibition against the storage of spent fuel in the IP2 SFP in the Appendix A, PDTS.

In Reference 1, Entergy certified to the NRC, in accordance with 10 CFR 50.82(a)(1)(i), that power operations ceased at IP2 on April 30, 2020. In addition,Entergy certified in accordance with 10 CFR 50.82(a)(1)(ii), that the fuel was permanently removed from the IP2 reactor vessel and placed in the IP2 SFP on May 12, 2020.

HDI expects that transfer of the spent fuel from the IP2 SFP to dry storage within an ISFSI will be completed in February 2023. HDI is requesting the proposed revisions to the IP2 FL, PDTS, and Appendix C TS to modify the IP2 staffing requirements to be commensurate with the hazards associated with a permanently shutdown and defueled facility that has transferred all spent fuel from its SFP to dry storage within an ISFSI. HDI requests review and approval of the proposed license amendments by February 1, 2023, and a thirty-day implementation period after the effective date of the License Amendment.

The existing FL, PDTS, and Appendix C TS contain requirements that provide for appropriate staffing for when spent fuel is stored in the IP2 SFP. As such, the existing FL, PDTS, and Appendix C TS provide a level of control in excess of that needed for safe storage and management of spent fuel stored within an ISFSI. The proposed FL, PDTS, and Appendix C TS revisions reflect the staffing requirements following the removal of all spent fuel from the IP2 SFP and will become applicable only after the last spent fuel assembly has been removed from the IP2 SFP and stored in an ISFSI.

HDI will be submitting another License Amendment Request (LAR) to fully convert the PDTS to an ISFSI-only configuration at a later date.

<u>Pending Licensing Actions under NRC Review</u>

There are no pending LARs that impact this LAR.

2.0 PROPOSED CHANGES

The proposed License Amendment would modify the FL, PDTS, and Appendix C TS to modify the IP2 staffing requirements to be commensurate with the hazards associated with a permanently shutdown and defueled facility that has transferred all spent fuel from its SFP to dry storage within an ISFSI. The PDTS revision includes a new SFP design requirement which prevents storage of spent fuel in the IP2 SFP. The FL and Appendix C TS are revised to eliminate the provisions for transferring spent fuel from IP3 to the IP2 SFP.

3.0 TECHNICAL EVALUATION

General Analysis Applicable to the Proposed Changes

The proposed License Amendment would modify the PDTS by modifying IP2 staffing requirements that are no longer commensurate with the hazards existing at a facility where no spent fuel is stored in the IP2 SFP, and all spent fuel is stored in approved dry casks within an ISFSI. In addition, the proposed License Amendment adds a prohibition on storing spent fuel in the IP2 SFP and modifies the FL and Appendix C TS to eliminate the allowance to transfer IP3 spent fuel to the IP2 SFP. This proposed License Amendment will be implemented after NRC approval and within 30 days following HDI's notification to the NRC that all spent fuel assemblies have been transferred out of the IP2 SFP and placed in dry storage within an ISFSI.

HDI uses a decommissioning method in which most fluid systems are drained and the plant is left in a stable condition until final dismantlement. Administrative controls that are required to be in place when decontamination or dismantling activities of radioactive systems, structures, and components are being performed, are designed to minimize the likelihood of an off-normal or accident event, and thereby the consequences of such an event. The proposed changes to the existing FL, PDTS, and Appendix C TS do not have an adverse impact on these remaining decommissioning activities or any of their postulated radiological consequences.

Spent fuel will be stored in dry casks within an ISFSI, until it is shipped off site consistent with the schedules described in the Post Shutdown Decommissioning Activities Report (Reference 3) and the irradiated Fuel Loading Plan (Reference 4).

During decommissioning with all spent fuel in dry storage within an ISFSI, there are no installed plant systems relied upon for the safe storage of spent fuel. In this condition, there are no credible accidents at IP2 whose prevention or mitigation would need to be addressed by the PDTS. In addition, the NRC approved spent fuel storage casks and canisters used for spent fuel storage are subject to their own Certificate of Compliance and Cask Technical Specifications (CTS).

Section 6 of the IP2 Defueled Safety Analysis Report (DSAR) (Reference 5) describes the design basis accidents (DBAs) related to the IP2 SFP. Postulated accidents were predicated on spent fuel being stored in the IP2 SFP. With the removal of the spent fuel from the IP2 SFP, there are no remaining spent fuel assemblies to be monitored in the IP2 SFP and there are no credible accidents at IP2 that require the actions of a Certified Fuel Handler, Shift Manager, or a Non-certified Operator to prevent occurrence or mitigate the consequences of an accident.

Once all the IP2 spent fuel is in dry storage within an ISFSI, the IP3 Shift Manager will be responsible for the Indian Point Energy Center (IPEC) site on a continuous 24-hour-per-day basis. The IP3 Shift Manager will be the senior management position at IPEC during off-hours

and will be responsible for monitoring facility conditions and managing the activities at IPEC. If an abnormal condition or event occurs, the IP3 Shift Manager shall assess the condition; make an emergency declaration, if appropriate; and assume the position of Emergency Director in accordance with the IPEC Permanently Defueled Emergency Plan, with the overall responsibility to direct and control the emergency response.

Detailed Discussion

A discussion of each section in the FL, PDTS, and Appendix C TS that are proposed to be changed, the proposed changes, and the basis for each change are provided below. Changes to the existing FL, PDTS, and Appendix C TS are identified in the markups shown in Attachment 1 to this Enclosure. Retyped pages showing the revised FL and PDTS are provided in Attachment 2 to this Enclosure. No retyped pages are provided for the Appendix C TS, because they are eliminated in their entirety.

A change to the PDTS Table of Contents is proposed to reflect the removal of a section that will be eliminated in this LAR. This proposed change is administrative, and no further justification is required.

Proposed Changes to the Facility License

License Condition 2.C.(2)

This License Condition provides a generic discussion of the Technical Specifications in Appendices A, B, and C. It is modified to eliminate the reference to the Appendix C TS and to update the reference License Amendment number. Following the transfer of all of the spent fuel from the IP2 SFP to dry storage within an ISFSI, inter-unit transfer of spent fuel from IP3 to IP2 will no longer be permitted. Thus, License Condition 2.P and the Appendix C TS are no longer necessary, and their elimination is acceptable.

License Condition 2.P

This License Condition permits the transfer of IP3 spent fuel to the IP2 SFP subject to the conditions listed in the Appendix C TS. Additionally, the License Condition permits the transfer of IP3 spent fuel into approved dry storage casks for onsite storage.

Following the transfer of all the spent fuel from the IP2 SFP to dry storage within an ISFSI, inter-unit transfer of spent fuel from IP3 to IP2 will no longer be permitted. In addition, the capability for IP3 to store spent fuel in onsite dry storage is permitted by the general license conditions defined in 10 CFR 72. Thus, License Condition 2.P and the Appendix C TS are no longer necessary, and their elimination is acceptable.

Attachments

The list of attachments in the FL is modified by eliminating the reference to the Appendix C TS. Following the transfer of all the spent fuel from the IP2 SFP to dry storage within an ISFSI, inter-unit transfer of spent fuel from IP3 to IP2 will no longer be permitted. Thus, the Appendix C TS are no longer necessary, and its elimination is acceptable.

Proposed Changes to Appendix A – Permanently Defueled Technical Specifications

PDTS Section 1 .1, “Definitions”

The terms Certified Fuel Handler and Non-certified Operator are proposed to be eliminated. The proposed changes to other PDTS sections as reflected in this submittal, either eliminate or relocate the information that references these terms. These terms will no longer be needed after all the spent fuel has been transferred from the IP2 SFP to dry storage within an ISFSI. Thus, it is acceptable to delete these definitions from the PDTS.

PDTS Section 4.3, “Fuel Storage”

PDTS 4.3 and its subsections describe design features associated with spent fuel storage in the SFP.

Limiting Condition for Operation (LCO) 3.7.11 provides a limit regarding the SFP water level. It is only applicable during movement of irradiated fuel assemblies in the SFP.

LCO 3.7.12 provides a limit regarding the SFP boron concentration. It is only applicable when fuel assemblies are stored in the SFP.

LCO 3.7.13 provides limits regarding the storage of fuel assemblies in the SFP. It is only applicable whenever any fuel assembly is stored in the SFP.

HDI proposes to modify PDTS 4.3 to eliminate the existing SFP protection requirements and to replace them with a new prohibition against the storage of spent fuel in the IP2 SFP. The new prohibition will state: “Spent fuel shall not be stored in the Spent Fuel Pit.” This new prohibition will permanently preclude storage of fuel in the SFP after the spent fuel is removed during the final off-load campaign. This is acceptable, because the requirements of PDTS 4.3, LCO 3.7.11, LCO 3.7.12, and LCO 3.7.13 are no longer applicable following the permanent removal of all spent fuel from the IP2 SFP.

PDTS Section 5.1, “Responsibility”

PDTS 5.1.2 requires the Shift Manager to be responsible for the shift command function. This requirement is proposed to be eliminated.

As described in the existing PDTS 5.1.2, the IP2 shift command function is focused on operations involving the storage or movement of spent nuclear fuel within the IP2 SFP. After all spent fuel is permanently removed from the IP2 SFP, the need for the IP2 Shift Manager and the shift command function for spent fuel management no longer exists. The position of Shift Manager described in PDTS 5.1.2 is a holdover from the control room function of supervising multiple functions of an operating nuclear power plant.

With the removal of the spent fuel from the IP2 SFP, there are no remaining spent fuel assemblies to be monitored in the IP2 SFP and there are no credible accidents at IP2 that require the actions of a Certified Fuel Handler, Shift Manager, or a Non-certified Operator to prevent occurrence or mitigate the consequences of an accident. With the limited requirements for supervision of the passive dry fuel storage system utilized within the ISFSI or with respect to

the decommissioning of the former IP2 power generation facility, the IP2 Shift Manager position and shift command function are no longer required; therefore, the proposed deletion of PDTS 5.1.2 is acceptable.

The IP3 Shift Manager will be responsible for the IPEC site on a continuous 24-hour-per-day basis. The IP3 Shift Manager will be the senior management position at IPEC during off-hours and will be responsible for monitoring facility conditions and managing the activities at IPEC. If an abnormal condition or event occurs, the IP3 Shift Manager shall assess the condition; make an emergency declaration, if appropriate; and assume the position of Emergency Director in accordance with the IPEC Permanently Defueled Emergency Plan, with the overall responsibility to direct and control the emergency response.

PDTS Section 5.2.1, "Onsite and Offsite Organizations"

PDTS 5.2.1.d requires that the individuals who train the Certified Fuel Handlers and the individuals that carry out health physics or perform quality assurance functions have organization freedom from the onsite manager to ensure their ability to perform their assigned functions. The requirement is proposed to be modified as follows:

> "The individuals who train the ~~CERTIFIED FUEL HANDLERS,~~ *individuals that* carry out health physics~~,~~ or perform quality assurance functions may report to the appropriate onsite manager; however, these individuals shall have sufficient organizational freedom to ensure their ability to perform their assigned functions.

With the removal of the spent fuel from the IP2 SFP, there are no remaining spent fuel assemblies to be monitored in the IP2 SFP and there are no credible accidents at IP2 that require the actions of a Certified Fuel Handler, Shift Manager, or a Non-certified Operator to prevent occurrence or mitigate the consequences of an accident. After all spent fuel is transferred from the IP2 SFP to dry storage within an ISFSI, storage of spent fuel in the IP2 SFP is prohibited, and inter-unit spent fuel transfer from IP3 to the IP2 SFP is no longer permitted, there will no longer be an organizational need for Certified Fuel Handlers or the associated training program. Therefore, this change will have no impact on continued safe storage and maintenance of spent fuel stored in the ISFSI.

PDTS 5.2.2, "Facility Staff"

PDTS 5.2.2 is proposed to be deleted in its entirety. These administrative controls pertain to the facility staff organization and requirements when spent fuel is stored or moved within the IP2 SFP. With the removal of the spent fuel from the IP2 SFP, there are no remaining spent fuel assemblies to be monitored in the IP2 SFP and there are no credible accidents at IP2 that require the actions of a Certified Fuel Handler, Shift Manager, or a Non-certified Operator to prevent occurrence or mitigate the consequences of an accident. After all spent fuel is transferred from the IP2 SFP to dry storage within an ISFSI, storage of spent fuel in the IP2 SFP is prohibited, and inter-unit spent fuel transfer from IP3 to the IP2 SFP is no longer permitted, it is unnecessary to retain these spent fuel handling administrative controls. Therefore, the deletion of PDTS 5.2.2 after the fuel has been moved from the IP2 SFP to the ISFSI will have no impact on safe storage and maintenance of spent fuel in the ISFSI and is acceptable.

The IP3 Shift Manager will be responsible for the IPEC site on a continuous 24-hour-per-day basis. The IP3 Shift Manager will be the senior management position at IPEC during off-hours and will be responsible for monitoring facility conditions and managing the activities at IPEC. If an abnormal condition or event occurs, the IP3 Shift Manager shall assess the condition; make an emergency declaration, if appropriate; and assume the position of Emergency Director in accordance with the IPEC Permanently Defueled Emergency Plan, with the overall responsibility to direct and control the emergency response.

PDTS 5.3, “Facility Staff Qualifications”

PDTS 5.3.2 requires that an NRC approved training and retraining program for Certified Fuel Handlers to be maintained. As described in the existing PDTS 5.3.2, the IP2 shift command function is focused on operations involving the storage or movement of spent nuclear fuel within the IP2 SFP. With the removal of the spent fuel from the IP2 SFP, there are no remaining spent fuel assemblies to be monitored in the IP2 SFP and there are no credible accidents at IP2 that require the actions of a Certified Fuel Handler, Shift Manager, or a Non-certified Operator to prevent occurrence or mitigate the consequences of an accident. Following the transfer of all spent fuel from the IP2 SFP to dry storage within an ISFSI, storage of spent fuel in the IP2 SFP and transfers of spent fuel from IP3 to the IP2 SFP will be prohibited upon implementation of this License Amendment, thus there will no longer be a need for Certified Fuel Handlers or the associated training programs. Therefore, this proposed deletion will have no impact on safe storage and maintenance of spent fuel in the ISFSI and is acceptable.

The IP3 Shift Manager will be responsible for the IPEC site on a continuous 24-hour-per-day basis. The IP3 Shift Manager will be the senior management position at IPEC during off-hours and will be responsible for monitoring facility conditions and managing the activities at IPEC. If an abnormal condition or event occurs, make an emergency declaration, if appropriate; and assume the position of Emergency Director in accordance with the IPEC Permanently Defueled Emergency Plan, with the overall responsibility to direct and control the emergency response.

PDTS 5.7.2, “High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation”

PDTS 5.7.2.a.1 requires that the door and gate keys for high radiation areas be maintained under the control of the IP2 Shift Supervisor or the RP Manager. This PDTS is proposed to be revised by replacing the reference to the “IP2 Shift Supervisor” with a reference to the IP3 Shift Manager. This is an administrative change to reflect that there will no longer be a shift supervisor specifically for IP2 following the transfer of all spent fuel from the IP2 SFP to dry storage within an ISFSI.

Proposed Changes to Appendix C - Inter – Unit Fuel Transfer Technical Specifications

The Appendix C TS defined requirements that permitted the transfer of spent fuel from IP3 to the IP2 SFP. The Appendix C TS are proposed to be deleted in their entirety.

Following the transfer of all the spent fuel from the IP2 SFP to dry storage within an ISFSI, inter-unit transfer of spent fuel from IP3 to IP2 will no longer be permitted. Thus, the Appendix C TS will be unnecessary, and their elimination is acceptable.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

10 CFR 50.36. Technical Specifications

In 10 CFR 50.36, the Commission established its regulatory requirements related to the content of TS. In doing so, the Commission placed emphasis on those matters related to the prevention of accidents and mitigation of accident consequences; the Commission noted that applicants were expected to incorporate into their TS “those items that are directly related to maintaining the integrity of the physical barriers designed to contain radioactivity.” Pursuant to 10 CFR 50.36, TS are required to include items in the following five categories: (1) safety limits, limiting safety system settings, and limiting control settings; (2) LCOs; (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls. However, the rule does not specify the particular requirements to be included in a plant's TS.

Addressing administrative controls, 10 CFR 50.36(c)(5) states that they " ... are the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner." The particular administrative controls to be included in the TS, therefore, are the provisions that the Commission deems essential for the safe operation of the facility that are not already covered by other regulations.

10 CFR 50.36(c)(6), “Decommissioning,” applies only to nuclear power reactor facilities that have submitted the certifications required by 10 CFR 50.82(a)(1). For such facilities, TS involving safety limits, limiting safety system settings, and limiting control system settings; limiting conditions for operation; surveillance requirements; design features; and administrative controls will be developed on a case-by-case basis.

Section 6 of the IP2 DSAR describes the DBAs related to the IP2 SFP. Postulated accidents were predicated on spent fuel being stored in the IP2 SFP. With the removal of the spent fuel from the IP2 SFP, there are no remaining spent fuel assemblies to be monitored in the IP2 SFP and there are no credible accidents at IP2 that require the actions of a Certified Fuel Handler, Shift Manager, or a Non-certified Operator to prevent occurrence or mitigate the consequences of an accident.

The IP3 Shift Manager will be responsible for the IPEC site on a continuous 24-hour-per-day basis. The IP3 Shift Manager will be the senior management position at IPEC during off-hours and will be responsible for monitoring facility conditions and managing the activities at IPEC. If an abnormal condition or event occurs, the IP3 Shift Manager shall assess the condition; make an emergency declaration, if appropriate; and assume the position of Emergency Director in accordance with the IPEC Permanently Defueled Emergency Plan, with the overall responsibility to direct and control the emergency response.

10 CFR 50.51. Continuation of License

10 CFR 50.51 (b) states: “Each license for a facility that has permanently ceased operations, continues in effect beyond the expiration date to authorize ownership and possession of the production or utilization facility, until the Commission notifies the licensee in writing that the license is terminated. During such period of continued effectiveness, the licensee shall:

(1) Take actions necessary to decommission and decontaminate the facility and continue to maintain the facility, including, where applicable, the storage, control and maintenance of the spent fuel, in a safe condition, and

(2) Conduct activities in accordance with all other restrictions applicable to the facility in accordance with the NRC regulations and the provisions of the specific 10 CFR part 50 license for the facility."

10 CFR 50.82. Termination of License

10 CFR 50.82(a)(2) states: "Upon docketing of the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel, or when a final legally effective order to permanently cease operations has come into effect, the 10 CFR part 50 license no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel."

5.0 No Significant Hazards Consideration Determination

In Reference 1, Entergy certified to the NRC, in accordance with 10 CFR 50.82(a)(1)(i), that power operations ceased at IP2 on April 30, 2020. In addition, Entergy certified in accordance with 10 CFR 50.82(a)(1)(ii), that the fuel was permanently removed from the IP2 reactor vessel and placed in the IP2 Spent Fuel Pit (SFP) on May 12, 2020.

HDI expects that the transfer of the spent fuel from the IP2 SFP to the Independent Spent Fuel Storage Installation (ISFSI) will be completed in February 2023. A revision to the IP2 Facility License (FL), Appendix A Permanently Defueled Technical Specifications (PDTS), and Appendix C "Inter – Unit Fuel Transfer Technical Specifications," (Appendix C TS) is proposed to modify the IP2 staffing requirements to be commensurate with the hazards associated with a permanently shutdown and defueled facility that has transferred all spent fuel from its SFP to dry storage within an ISFSI. With the removal of the spent fuel from the IP2 SFP, there are no remaining spent fuel assemblies to be monitored in the IP2 SFP and there are no credible accidents at IP2 that require the actions of a Certified Fuel Handler, Shift Manager, or a Noncertified Operator to prevent occurrence or mitigate the consequences of an accident.

The IP3 Shift Manager will be responsible for the Indian Point Energy Center (IPEC) site on a continuous 24-hour-per-day basis. The IP3 Shift Manager will be the senior management position at IPEC during off-hours and will be responsible for monitoring facility conditions and managing the activities at IPEC. If an abnormal condition or event occurs, the IP3 Shift Manager shall assess the condition; make an emergency declaration, if appropriate; and assume the position of Emergency Director in accordance with the IPEC Permanently Defueled Emergency Plan (Reference 2), with the overall responsibility to direct and control the emergency response.

In accordance with 10 CFR 50.92, HDI has reviewed the proposed changes and concludes that the changes do not involve a significant hazards consideration because the proposed changes satisfy the criteria in 10 CFR 50.92(c). These criteria require that operation of the facility in accordance with the proposed License Amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The discussion below addresses each of these criteria and demonstrates that the proposed License Amendment for IP2 does not constitute a significant hazard.

1. Does the proposed License Amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   Section 6 of the IP2 Defueled Safety Analysis Report (DSAR) described the design basis accidents (DBAs) related to the IP2 SFP. These postulated accidents are predicated on spent fuel being stored in the IP2 SFP. With the removal of the spent fuel from the IP2 SFP, there are no remaining spent fuel assemblies to be monitored in the IP2 SFP and there are no credible accidents at IP2 that require the actions of a Certified Fuel Handler, Shift Manager, or a Non-certified Operator to prevent occurrence or mitigate the consequences of an accident.

   The proposed changes modify the IP2 staffing commensurate with the hazards associated with a permanently shutdown and defueled facility that has transferred all spent fuel from its SFP to dry storage within an ISFSI. After the removal of the spent fuel from the IP2 SFP and transfer to the ISFSI, no spent fuel assemblies will remain in the IP2 SFP. Coupled with a prohibition against storage of fuel in the IP2 SFP and the elimination of the allowance to transfer IP3 spent fuel to the IP2 SFP, the potential for fuel related accidents is removed.

   The proposed changes do not have an adverse impact on the remaining decommissioning activities or any of their postulated consequences. The proposed changes related to the relocation of certain administrative requirements do not affect operating procedures or administrative controls that have the function of preventing or mitigating any accidents applicable to the safe management of spent fuel or decommissioning of the facility. Therefore, the proposed License Amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed License Amendment create the possibility of a new or different kind of accidentfrom any accident previously evaluated?

   Response: No.

   With the removal of the spent fuel from the IP2 SFP, there are no remaining spent fuel assemblies to be monitored in the IP2 SFP and there are no credible accidents at IP2 that require the actions of a Certified Fuel Handler, Shift Manager, or a Non-certified Operator to prevent occurrence or mitigate the consequences of an accident.

   The proposed changes modify the IP2 staffing commensurate with the hazards associated with a permanently shutdown and defueled facility that has transferred all spent fuel from its SFP to dry storage within an ISFSI. After the removal of the spent fuel from the IP2 SFP and transfer to the ISFSI, no spent fuel assemblies will remain in the IP2 SFP. Coupled with a prohibition against storage of fuel in the IP2 SFP and the elimination of the allowance to transfer IP3 spent fuel to the IP2 SFP, the potential for fuel related accidents is removed.

The proposed changes do not involve installation of new equipment or modification of existing equipment that could create the possibility of a new or different kind of accident. Hence, the proposed changes do not result in a change to the way the facility or equipment is operated in a manner which could cause a new or different kind of accident initiator to be created.

Therefore, the proposed License Amendment does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed License Amendment involve a significant reduction in a margin of safety?

Response: No.

The proposed changes modify the IP2 staffing commensurate with the hazards associated with a permanently shutdown and defueled facility.

The proposed changes modify the IP2 staffing commensurate with the hazards associated with a permanently shutdown and defueled facility that has transferred all spent fuel from its SFP to dry storage within an ISFSI. After the removal of the spent fuel from the IP2 SFP and transfer to the ISFSI, no spent fuel assemblies will remain in the IP2 SFP. Coupled with a prohibition against storage of fuel in the IP2 SFP and the elimination of the allowance to transfer IP3 spent fuel to the IP2 SFP, the potential for fuel related accidents is removed.

The design basis and accident assumptions within the IP2 DSAR, PDTS, and Appendix C TS relating to safe management and safety of spent fuel in the IP2 SFP are no longer applicable. The proposed changes do not affect remaining plant operations, systems, or components supporting decommissioning activities.

Therefore, the proposed License Amendment does not involve a significant reduction in a margin of safety.

Based on the above, HDI concludes that the proposed changes to the IP2 PDTS present no significant hazards consideration under the standards set forth in 10 CFR 50.92(c) and, accordingly, a finding of “no significant hazards consideration” is justified.

5.1 Precedent

This proposed License Amendment is consistent, in part, with recently approved License Amendments issued for Kewaunee Power Station on June 7, 2017 (Reference 6), Vermont Yankee Power Station on August 15, 2018 (Reference 7), Crystal River Nuclear Plant on June 27, 2017 (Reference 8), and Fort Calhoun Station on December 11, 2019 (Reference 9). These License Amendments addressed the ISFSI only configuration in toto, while this LAR only deals with modifications to the IP2 staffing requirements commensurate with the hazards in a permanently shutdown and defueled facility that transferred all of the spent fuel from the IP2 SFP to dry storage within an ISFSI and establishes prohibitions from storing spent fuel in the IP2 SFP and transferring spent fuel from IP3 to the IP2 SFP.

5.2 Conclusion

Based on the analyses and considerations described above: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATIONS

This LAR meets the eligibility criteria for categorical exclusion from environmental review set forth in 10 CFR 51.22(c)(9) as follows:

(i) The License Amendment involves no significant hazard consideration.

As described in Section 5.2 of this evaluation, the proposed License Amendment involves nosignificant hazards consideration.

(ii) There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

The proposed License Amendment does not involve any physical alterations to the configuration that could lead to a change in the type or amount of effluent release offsite.

(iii) There is no significant increase in individual or cumulative occupational radiation exposure.

The proposed License Amendment does not involve a significant increase in individual or cumulativeoccupational radiation exposure.

Based on the above, HDI concludes that the proposed License Amendment meets the eligibility criteria for categorical exclusion as set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this License Amendment.

7.0 REFERENCES

1. Letter, Entergy to NRC, “Certifications of Permanent Cessation of Power Operations and Permanent Removal of Fuel from the Reactor Vessel, Indian Point Nuclear Generating Unit No. 2,” (Letter NL-20-042) (ADAMS Accession No. ML20133J902), dated May 12, 2020

2. Holtec Decommissioning International, LLC (HDI) letter to U.S. NRC, “Revision to Holtec Decommissioning International, LLC (HDI) License Amendment Request to Revise the Emergency Plan and Emergency Action Level Scheme to Address the Permanently Defueled Condition,” (Letter HDI-IPEC-22-018) (ADAMS Accession No. ML22035A121) dated February 4, 2022

3. Indian Point Energy Center, Indian Point Units 1, 2 and 3, Post Shutdown Decommissioning Activities Report, Revision 0, December 2019 as amended by HDI

Letter to U.S. NRC, “Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations – Holtec Decommissioning International, LLC,” (Letter HDI-IPEC-22-029) (ADAMS Accession No. ML22084A059) dated March 25, 2022

4. HI-2210651, Revision 6, “Fuel Loading Plan for Indian Point Unit 2 and Unit 3,” dated July 8, 2022

5. IP2 Defueled Safety Analysis Report, Revision 0, 2020

6. Letter, USNRC to Dominion Energy Kewaunee, Inc., “Kewaunee Power Station Issuance of Amendment for Proposed Changes to License and Technical Specifications to Reflect Permanent Removal of Spent Fuel from Spent Fuel Pool (CAC No. L53079),” dated June 7, 2017(ML17123A031)

7. Letter, USNRC to Entergy Nuclear Operations, Inc, “Vermont Yankee Nuclear Power Station - Issuance of Amendment to Change the Permanently Defueled Technical Specifications to Reflect Permanent Removal of Spent Fuel from the Spent Fuel Pool (EPID NO. L-2017-LLA-0125),” dated August 15, 2018, (ML8156A179)

8. Letter, USNRC to Crystal River Nuclear Plant, “Crystal River Unit 3 Nuclear Generating Plant - Issuance of Amendment 255 for the License and Permanently Defueled Technical Specifications to Reflect Permanent Removal of Spent Fuel from the Spent Fuel Pools (TAC No. L53146),” dated June 27, 2017 (ML17027A160)

9. Letter, USNRC to Omaha Public Power District, “Fort Calhoun Station, Unit No. 1- Issuance of Amendment to Revise the Permanently Defueled Technical Specifications to Align the Requirements for Permanent Removal of Spent Fuel from the Spent Fuel Pool (EPID NO. L-2018- LLA-0274),” dated December 11, 2019 (ML19297D677)

HDI-IPEC-22-057

Enclosure - Attachment 1

Markup of the FL, PDTS, and Appendix C TS Pages

(53 Pages)

(3) HDI pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use, at any time any byproduct, source and special nuclear material as sealed neutron sources that were used for reactor startup, sealed sources that were used for reactor instrumentation and are used in the calibration of radiation monitoring equipment, and that were used as fission detectors in amounts as required;

(4) HDI pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components;

(5) HDI pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials that were produced by the operation of the facility.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Deleted per Amendment No. 294.

(2) Technical Specifications

and

The Technical Specifications contained in Appendices A, B, ~~and C~~, as revised through Amendment No. ~~295~~, are hereby incorporated in the renewed license. HDI shall maintain the facility in accordance with the Technical Specifications.

(3) Deleted per Amendment No. 294.

Deleted per Amendment No. XXX

(c) Actions to minimize release to include consideration of:
1. Water spray scrubbing
2. Dose to onsite responders

O. Deleted per Amendment No. 294.

P. ~~HDI may transfer IP3 spent fuel to the IP2 spent fuel pit subject to the conditions listed in Appendix C. HDI is further authorized to transfer IP3 spent fuel into NRC approved storage casks for onsite storage by HDI and Holtec Indian Point 3, LL~~C.

Q. License Renewal License Conditions

(1) The information in the UFSAR supplement, submitted pursuant to 10 CFR 54.21(d) and as revised during the license renewal application review process, and licensee commitments as listed in Appendix A of the "Safety Evaluation Report Related to the License Renewal of Indian Point Nuclear Generating Units 2 and 3," (SER) and supplements to the SER, are collectively the "License Renewal UFSAR Supplement." The UFSAR Supplement is henceforth part of the UFSAR, which will be updated in accordance with 10 CFR 50.71(e). As such, the licensee may make changes to the programs, activities, and commitments described in the UFSAR Supplement, provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59, "Changes, Tests, and Experiments," and otherwise complies with the requirements in that section.

(2) The License Renewal UFSAR Supplement, as defined in license condition Q(1) above, describes certain programs to be implemented and activities to be completed prior to the period of extended operation (PEO).

a. The licensee shall implement those new programs and enhancements to existing programs no later than the date specified in the License Renewal UFSAR Supplement.

b. The licensee shall complete those activities no later than the date specified in the License Renewal UFSAR Supplement.

c. The licensee shall notify the NRC in writing within 30 days after having accomplished item (2)a above and include the status of those activities that have been or remain to be completed in item (2)b above.

3. Deleted

(a) Deleted

(b) Provisional Trust:

(i) The provisional trust agreement must be in a form acceptable to the NRC.

(ii) Investments in the securities or other obligations of Holtec International or its affiliates, subsidiaries, successors, or assigns are and shall be prohibited. Except for investments tied to market indexes or other non-nuclear-sector mutual funds, investments in any entity owning one or more nuclear power plants are and shall be prohibited.

(iii) The provisional trust agreement must provide that no disbursements or payments from the trust, other than for ordinary administrative expenses, shall be made by the trustee unless the trustee has first given the Director of the Office of Nuclear Reactor Regulation 30 days prior written notice of payment. The provisional trust agreement shall further contain a provision that no disbursements or payments from the trust shall be made if the trustee receives prior written notice of objection from the NRC.

(iv) The provisional trust agreement must provide that the agreement cannot be amended in any material respect, or terminated, without 30 days prior written notification to the Director of the Office of Nuclear Reactor Regulation.

(v) The appropriate section of the provisional trust agreement shall state that the trustee, investment advisor, or anyone else directing the investments made in the trust shall adhere to a "prudent investor" standard, as specified in 18 CFR 35.32(a)(3) of the Federal Energy Regulatory Commission's regulations.

(vi) Use of assets in the provisional trust, in the first instance, shall be limited to the expenses related to decommissioning IP2 or IP1 as defined by the NRC in its regulations and issuances, and as provided in this license and any amendments thereto.

(c) Deleted

4. Deleted

5. Deleted

6. This renewed license is effective as of the date of issuance, and until the Commission notifies the licensee in writing that the license is terminated.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Attachments:
Appendix A – Permanently Defueled Technical Specifications
Appendix B – Environmental Technical Specification Requirements
~~Appendix C – Inter-Unit Fuel Transfer Technical Specifications~~

Date of Issuance: September 17, 2018

APPENDIX A

TO

FACILITY LICENSE DPR-26

FOR

HOLTEC INDIAN POINT 2, LLC AND
HOLTEC DECOMMISSIONING INTERNATIONAL, LLC

INDIAN POINT NUCLEAR GENERATING PLANT UNIT NO. 2

DOCKET NO. 50-247

PERMANENTLY DEFUELED TECHNICAL SPECIFICATIONS AND BASES

Table of Contents

1.0 USE AND APPLICATION

1.1 Definitions

----------NOTE----------
The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

Term	Definition
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
~~CERTIFIED FUEL HANDLER~~	~~A CERTIFIED FUEL HANDLER is an individual who complies with the provisions of the CERTIFIED FUEL HANDLER Training and Retraining Program required by TS 5.3.2.~~
~~NON CERTIFIED OPERATOR~~	~~A NON CERTIFIED OPERATOR is a non licensed operator who complies with the qualification requirements of Specification 5.3.1, but is not a CERTIFIED FUEL HANDLER.~~

4.0 DESIGN FEATURES

4.1 Site Location

Indian Point 2 is located on the East bank of the Hudson River at Indian Point, Village of Buchanan, in upper Westchester County, New York. The site is approximately 24 miles north of the New York City boundary line. The nearest city is Peekskill which is 2.5 miles northeast of Indian Point.

The minimum distance from the reactor center line to the boundary of the site exclusion area and the outer boundary of the low population zone, as defined in 10 CFR 100.3, is 520 meters and 1100 meters, respectively. For the purpose of satisfying 10 CFR Part 20, the "Restricted Area" is the same as the "Exclusion Area" shown in the Defueled Safety Analysis Report (DSAR), Figure 2.2-2.

4.2 Deleted

4.3 Fuel Storage

~~4.3.1~~ ~~Criticality~~

~~4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:~~

Spent fuel shall not be stored in the Spent Fuel Pit.

4.0 DESIGN FEATURES

~~4.3 Fuel Storage (continued)~~

~~a. Fuel assemblies having a maximum U-235 enrichment of 5.0 weight percent, and poisons, if necessary, to meet the limit for k_{eff},~~

~~b. $k_{eff} \leq 0.95$ when flooded with borated water, $k_{eff} < 1.0$ if fully flooded with unborated water, and~~

~~c. Each fuel assembly categorized based on initial enrichment, burnup, cooling time, averaged assembly peaking factor, and number of Integral Fuel Burnable Absorbers (IFBA) rods with individual fuel assembly storage location within the spent fuel storage rack restricted as required by Technical Specification 3.7.13.~~

~~4.3.2 Drainage~~

~~The spent fuel pit is designed and shall be maintained to prevent inadvertent draining of the pit below a nominal elevation of 88 feet, 6 inches.~~

~~4.3.3 Capacity~~

~~The spent fuel pit is designed and shall be maintained with a storage capacity limited to no more than 269 fuel assemblies in Region I and 1105 fuel assemblies in Region II.~~

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibility

5.1.1 The plant manager shall be responsible for overall facility operation and shall delegate in writing the succession to this responsibility during his absence.

The plant manager or his designee shall approve, prior to implementation, each proposed test, experiment or modification to systems or equipment that affect nuclear safety.

~~5.1.2 The Shift manager (SM) shall be responsible for the shift command function.~~

5.0 ADMINISTRATIVE CONTROLS

5.2 Organization

5.2.1 Onsite and Offsite Organizations

Onsite and offsite organizations shall be established for facility staff and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting safety of the nuclear fuel.

a. Lines of authority, responsibility, and communication shall be defined and established throughout highest management levels, intermediate levels, and all decommissioning organization positions. These relationships shall be documented and updated, as appropriate, in organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements including the facility-specific titles of those personnel fulfilling the responsibilities of the positions delineated in these Technical Specifications shall be documented in the DSAR,

b. The plant manager shall be responsible for overall safe maintenance of the facility and shall have control over those onsite activities necessary for storage and maintenance of nuclear fuel.

c. The corporate officer with direct responsibility for IP2 shall have corporate responsibility for the safe storage and handling of nuclear fuel and shall take any measures needed to ensure acceptable performance of the staff in maintaining and providing technical support to the facility to ensure safe management of nuclear fuel, and

individuals that

d. The individuals who train the ~~CERTIFIED FUEL HANDLERS~~, carry out health physics~~,~~ or perform quality assurance functions may report to the appropriate onsite manager; however, these individuals shall have sufficient organizational freedom to ensure their ability to perform their assigned functions.

~~5.2.2~~ ~~Facility Staff~~

~~The facility staff organization shall include the following:~~

~~a. Each duty shift shall be composed of at least one shift manager and one NON-CERTIFIED OPERATOR. The NON-CERTIFIED OPERATOR position may be filled by a CERTIFIED FUEL HANDLER.~~

5.2 Organization

~~5.2.2 Facility Staff (continued)~~

~~At least one person qualified to stand watch in the control room (NON-CERTIFIED OPERATOR or CERTIFIED FUEL HANDLER) shall be present in the control room when nuclear fuel is stored in the spent fuel pool.~~

~~b. Shift crew composition may be less than the minimum requirement of 5.2.2.a for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements and all of the following conditions are met:~~

~~1) No fuel movements are in progress;~~

~~2) No movement of loads over fuel are in progress; and~~

~~3) No unmanned shift positions during shift turnover shall be permitted while the shift crew is less than the minimum.~~

~~c. An individual qualified in radiation protection procedures shall be on site during fuel handling operations and during movement of heavy loads over the fuel storage racks. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.~~

~~d. Not Used.~~

~~e. The shift manager shall be a CERTIFED FUEL HANDLER.~~

~~f. Deleted.~~

5.0 ADMINISTRATIVE CONTROLS

5.3 Facility Staff Qualifications

5.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI/ANS 3.1-1978 for comparable positions with exceptions specified in the HDI Quality Assurance Program Manual (QAPM).

~~5.3.2 An NRC approved training and retraining program for CERTIFIED FUEL HANDLERS shall be maintained.~~

5.7 High Radiation Area

5.7.1 High Radiation Areas with Dose Rates Not Exceeding 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation (continued)

4. A self-reading dosimeter (e.g., pocket ionization chamber or electronic dosimeter) and,

   (i) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring device that continuously displays radiation dose rates in the area; who is responsible for controlling personnel exposure within the area, or

   (ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with individuals in the area who are covered by such surveillance.

e. Except for individuals qualified in radiation protection procedures, or personnel continuously escorted by such individuals, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them. These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination, knowledge, and pre-job briefing does not require documentation prior to initial entry.

5.7.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation

a. Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked or continuously guarded door or gate that prevents unauthorized entry, and, in addition:

1. All such door and gate keys shall be maintained under the administrative control of the ~~shift supervisor~~, radiation protection manager, or his or her designee. IP3 Shift Manager

2. Doors and gates shall remain locked except during periods of personnel or equipment entry or exit.

APPENDIX C

TO

FACILITY LICENSE FOR

HOLTEC INDIAN POINT 2, LLC (HOLTEC IP2) AND

HOLTEC DECOMMISSIONING INTERNATIONAL, LLC (HDI)

INDIAN POINT NUCLEAR

GENERATING UNIT No. 2

INTER-UNIT FUEL TRANSFER TECHNICAL SPECIFICATIONS

PART I: SPENT FUEL TRANSFER CANISTER AND TRANSFER CASK SYSTEM

FACILITY LICENSE NO. DPR-26

DOCKET NO. 50-247

SPENT FUEL SHIELDED TRANSFER CANISTER AND TRANSFER CASK SYSTEM

1.0 DESCRIPTION

The spent fuel transfer system consists of the following components: (1) a spent fuel shielded transfer canister (STC), which contains the fuel; (2) a transfer cask (HI-TRAC 100D) (hereafter referred to as HI-TRAC), which contains the STC during transfer operations; and (3) a bottom missile shield.

The STC and HI-TRAC are designed to transfer irradiated nuclear fuel assemblies from the Indian Point 3 (IP3) spent fuel pit to the Indian Point 2 (IP2) spent fuel pit. A fuel basket within the STC holds the fuel assemblies and provides criticality control. The shielded transfer canister provides the confinement boundary, water retention boundary, gamma radiation shielding, and heat rejection capability. The HI-TRAC provides a water retention boundary, protection of the STC, gamma and neutron radiation shielding, and heat rejection capability. The STC contains up to 12 fuel assemblies.

The STC is the confinement system for the fuel. It is a welded, multi-layer steel and lead cylinder with a welded base plate and bolted lid. The inner shell of the canister forms an internal cylindrical cavity for housing the fuel basket. The outer surface of the canister inner shell is buttressed with lead and steel shells for radiation shielding. The minimum thickness of the steel, lead and steel shells relied upon for shielding starting with the innermost shell are ¾ inch steel, 2 ¾ inch lead and ¾ inch steel, respectively. The canister closure incorporates two O-ring seals to ensure its confinement function. The confinement system consists of the canister inner shell, bottom plate, top flange, top lid, top lid O-ring seals, vent port seal and cover plate, and drain port seal and coverplate. The fuel basket, for the transfer of 12 Pressurized Water Reactor (PWR) fuel assemblies, is a fully welded, stainless steel, honeycomb structure with neutron absorber panels attached to the individual storage cell walls under stainless steel sheathing. The maximum gross weight of the fully loaded STC is 40 tons.

The HI-TRAC is a multi-layer steel and lead cylinder with a bolted bottom (or pool) and top lid. For the fuel transfer operation the HI-TRAC is fitted with a solid top lid, an STC centering assembly, and a bottom missile shield. The inner shell of the transfer cask forms an internal cylindrical cavity for housing the STC. The outer surface of the cask inner shell is buttressed with intermediate lead and steel shells for radiation shielding. The minimum thickness of the steel, lead and steel shells relied upon for shielding starting with the innermost shell are ¾ inch steel, 2 ⅞ inch lead and 1 inch steel, respectively. An outside shell called the “water jacket” contains water for neutron shielding, with a minimum thickness of 5”. The HI-TRAC bottom and top lids incorporate a gasket seal design to ensure its water confinement function. The water confinement system consists of the HI-TRAC inner shell, bottom lid, top lid, top lid seal, bottom lid seal, vent port seal, vent port cap and bottom drain plug.

The HI-TRAC provides a water retention boundary, protection of the STC, gamma and neutron radiation shielding, and heat rejection capability. The bottom missile shield is attached to the bottom of the HI-TRAC and provides tornado missile protection of the pool lid bolted joint. The HI-TRAC can withstand a tornado missile in other areas without the need for additional shielding. The STC centering assembly provides STC position control within the HI-TRAC and also acts as an internal impact limiter in the event of a non-mechanistic tipover accident.

2.0 CONDITIONS

2.1 OPERATING PROCEDURES

Written operating procedures shall be prepared for cask handling, loading, movement, surveillance, maintenance, and recovery from off normal conditions such as crane hang-up. The written operating procedures shall be consistent with the technical basis described in Chapter 10 of the Licensing Report (Holtec International Report HI-2094289).

2.2 ACCEPTANCE TESTS AND MAINTENANCE PROGRAM

Written cask acceptance tests and maintenance program shall be prepared consistent with the technical basis described in Chapter 8 of the Licensing Report (Holtec International Report HI-2094289).

2.3 PRE-OPERATIONAL TESTING AND TRAINING EXERCISE

A training exercise of the loading, closure, handling/transfer, and unloading, of the equipment shall be conducted prior to the first transfer. The training exercise shall not be conducted with irradiated fuel. The training exercise may be performed in an alternate step sequence from the actual procedures, but all steps must be performed. The training exercise shall include, but is not limited to the following:

a) Moving the STC into the IP3 spent fuel pool.
b) Preparation of the HI-TRAC for STC loading.
c) Selection and verification of specific fuel assemblies and non-fuel hardware to ensure type conformance.
d) Loading specific assemblies and placing assemblies into the STC (using a single dummy fuel assembly), including appropriate independent verification.
e) Remote installation of the STC lid and removal of the STC from the spent fuel pool.
f) Placement of the STC into the HI-TRAC with the STC centering assembly.
g) STC closure, establishment of STC water level with steam, verification of STC water level, STC leakage testing, and operational steps required prior to transfer, as applicable.
h) Establishment and verification of HI-TRAC water level.
i) Installation of the HI-TRAC top lid.
j) HI-TRAC closure, leakage testing, and operational steps required prior to transfer, as applicable.
k) Movement of the HI-TRAC with STC from the IP3 fuel handling building to the IP2 fuel handling building along the haul route with designated devices.
l) Moving the STC into the IP2 spent fuel pool.
m) Manual crane operations for bare STC movements including demonstration of recovery from a crane hang-up with the STC suspended from the crane.

APPENDIX C

TO

FACILITY LICENSE

FOR

ENTERGY NUCLEAR INDIAN POINT 2, LLC (ENIP2)

AND

ENTERGY NUCLEAR OPERATIONS, INC. (ENO)

INDIAN POINT NUCLEAR

GENERATING UNIT No. 2

INTER-UNIT FUEL TRANSFER TECHNICAL SPECIFICATIONS

PART II: TECHNICAL SPECIFICATIONS

FACILITY LICENSE NO. DPR-26

DOCKET NO. 50-247

TABLE OF CONTENTS

1.0 USE AND APPLICATION

1.1 Definitions

NOTE

The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

Term	Definition
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
INTACT FUEL ASSEMBLIES	INTACT FUEL ASSEMBLIES are fuel assemblies without known or suspected cladding defects greater than pinhole leaks or hairline cracks, and which can be handled by normal means. Fuel assemblies without fuel rods in fuel rod locations shall not be classified as INTACT FUEL ASSEMBLIES unless dummy fuel rods are used to displace an amount of water greater than or equal to that displaced by the original fuel rod(s).
LOADING OPERATIONS	LOADING OPERATIONS include all licensed activities on an STC while it is being loaded with fuel assemblies and while the STC is being placed in the HI-TRAC. LOADING OPERATIONS begin when the first fuel assembly is placed in the STC and end when the HI-TRAC is suspended from or secured on the TRANSPORTER.
NON-FUEL HARDWARE (NFH)	NFH is defined as Burnable Poison Rod Assemblies (BPRAs), Thimble Plug Devices (TPDs), Wet Annular Burnable Absorbers (WABAs), Rod Cluster Control Assemblies (RCCAs), Neutron Source Assemblies (NSAs), Hafnium Flux Suppressors, and Instrument Tube Tie Rods (ITTRs).
TRANSFER OPERATIONS	TRANSFER OPERATIONS include all licensed activities performed on a HI-TRAC loaded with one or more fuel assemblies when it is being moved after LOADING OPERATIONS or before UNLOADING OPERATIONS. TRANSFER OPERATIONS begin when the HI-TRAC is first suspended from or secured on the TRANSPORTER and end when the TRANSPORTER is at its destination and the HI-TRAC is no longer secured on or suspended from the TRANSPORTER.
TRANSPORTER	TRANSPORTER is the device or vehicle which moves the HI-TRAC. The TRANSPORTER can either support the HI-TRAC from underneath or the HI-TRAC can be suspended from it.

(continued)

1.1 Definitions (continued)

Term	Definition
UNLOADING OPERATIONS	UNLOADING OPERATIONS include all licensed activities on an STC or HI-TRAC while it is being unloaded of the contained fuel assemblies. UNLOADING OPERATIONS begin when the HI-TRAC is no longer suspended from or secured on the TRANSPORTER and end when the last fuel assembly is removed from the STC.
ZR	ZR means any zirconium-based fuel cladding authorized for use in a commercial nuclear power plant reactor.

1.0 USE AND APPLICATION

1.2 Logical Connectors

PURPOSE	The purpose of this section is to explain the meaning of logical connectors. Logical connectors are used in Technical Specifications (TS) to discriminate between, and yet connect, discrete Conditions, Required Actions, Completion Times, Surveillances, and Frequencies. The only logical connectors that appear in TS are AND and OR. The physical arrangement of these connectors constitutes logical conventions with specific meanings.
BACKGROUND	Several levels of logic may be used to state Required Actions. These levels are identified by the placement (or nesting) of the logical connectors and by the number assigned to each Required Action. The first level of logic is identified by the first digit of the number assigned to a Required Action and the placement of the logical connector in the first level of nesting (i.e., left justified with the number of the Required Action). The successive levels of logic are identified by additional digits of the Required Action number and by successive indentions of the logical connectors. When logical connectors are used to state a Condition, Completion Time, Surveillance, or Frequency, only the first level of logic is used, and the logical connector is left justified with the statement of the Condition, Completion Time, Surveillance, or Frequency.

(continued)

1.2 Logical Connectors (continued)

EXAMPLES

The following examples illustrate the use of logical connectors.

EXAMPLE 1.2-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 VERIFY . . . AND A.2 Restore . . .	

In this example the logical connector AND is used to indicate that when in Condition A, both Required Actions A.1 and A.2 must be completed.

(continued)

1.2 Logical Connectors (continued)

EXAMPLES (continued)

EXAMPLE 1.2-2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Stop . . . OR A.2.1 Verify . . . AND A.2.2.1 Reduce . . . OR A.2.2.2 Perform . . . OR A.3 Remove . . .	

This example represents a more complicated use of logical connectors. Required Actions A.1, A.2, and A.3 are alternative choices, only one of which must be performed as indicated by the use of the logical connector OR and the left justified placement. Any one of these three ACTIONS may be chosen. If A.2 is chosen, then both A.2.1 and A.2.2 must be performed as indicated by the logical connector AND. Required Action A.2.2 is met by performing A.2.2.1 or A.2.2.2. The indented position of the logical connector OR indicates that A.2.2.1 and A.2.2.2 are alternative choices, only one of which must be performed.

1.0 USE AND APPLICATION

1.3 Completion Times

PURPOSE	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
BACKGROUND	Limiting Conditions for Operation (LCOs) specify the lowest functional capability or performance levels of equipment required for safe operation of the facility. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Times(s).
DESCRIPTION	The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation (e.g., equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the Spent Fuel Shielded Transfer Canister and Transfer Cask System is in a specified condition stated in the Applicability of the LCO. Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the Spent Fuel Shielded Transfer Canister and Transfer Cask System is not within the LCO Applicability. Once a Condition has been entered, subsequent subsystems, components, or variables expressed in the Condition, discovered to be not within limits, will not result in separate entry into the Condition unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition.

(continued)

1.3 Completion Times (continued)

EXAMPLES

The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

EXAMPLE 1.3-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Perform Action B.1 AND B.2 Perform Action B.2	12 hours 36 hours

Condition B has two Required Actions. Each Required Action has its own separate Completion Time. Each Completion Time is referenced to the time that Condition B is entered.

The Required Actions of Condition B are to complete action B.1 within 12 hours AND complete action B.2 within 36 hours. A total of 12 hours is allowed for completing action B.1 and a total of 36 hours (not 48 hours) is allowed for completing action B.2 from the time that Condition B was entered. If action B.1 is completed within 6 hours, the time allowed for completing action B.2 is the next 30 hours because the total time allowed for completing action B.2 is 36 hours.

(continued)

1.3 Completion Times (continued)

EXAMPLES (continued)

EXAMPLE 1.3-2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One system not within limit.	A.1 Restore system to within limit.	7 days
B. Required Action and associated Completion Time not met.	B.1 Complete action B.1. AND B.2 Complete action B.2.	12 hours 36 hours

When a system is determined not to meet the LCO, Condition A is entered. If the system is not restored within 7 days, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start. If the system is restored after Condition B is entered, Conditions A and B are exited, and therefore, the Required Actions of Condition B may be terminated.

(continued)

1.3 Completion Times (continued)

EXAMPLES (continued)

EXAMPLE 1.3-3

ACTIONS

NOTE
Separate Condition entry is allowed for each component.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Restore compliance with LCO.	4 hours
B. Required Action and associated Completion Time not met.	B.1 Complete action B.1. AND B.2 Complete action B.2.	6 hours 12 hours

The Note above the ACTIONS table is a method of modifying how the Completion Time is tracked. If this method of modifying how the Completion Time is tracked was applicable only to a specific Condition, the Note would appear in that Condition rather than at the top of the ACTIONS Table.

The Note allows Condition A to be entered separately for each component, and Completion Times tracked on a per component basis. When a component is determined to not meet the LCO, Condition A is entered and its Completion Time starts. If subsequent components are determined to not meet the LCO, Condition A is entered for each component and separate Completion Times start and are tracked for each component.

IMMEDIATE COMPLETION TIME

When "Immediately" is used as a Completion Time, the Required Action should be pursued without delay and in a controlled manner.

1.0 USE AND APPLICATION

1.4 Frequency

PURPOSE	The purpose of this section is to define the proper use and application of Frequency requirements.
DESCRIPTION	Each Surveillance Requirement (SR) has a specified Frequency in which the Surveillance must be met in order to meet the associated Limiting Condition for Operation (LCO). An understanding of the correct application of the specified Frequency is necessary for compliance with the SR. The "specified Frequency" is referred to throughout this section and each of the Specifications of Section 3.0, Surveillance Requirement (SR) Applicability. The "specified Frequency" consists of the requirements of the Frequency column of each SR. Situations where a Surveillance could be required (i.e., its Frequency could expire), but where it is not possible or not desired that it be performed until sometime after the associated LCO is within its Applicability, represent potential SR 3.0.4 conflicts. To avoid these conflicts, the SR (i.e., the Surveillance or the Frequency) is stated such that it is only "required" when it can be and should be performed. With an SR satisfied, SR 3.0.4 imposes no restriction.

(continued)

1.4 Frequency (continued)

EXAMPLES

The following examples illustrate the various ways that Frequencies are specified.

EXAMPLE 1.4-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify pressure within limit	12 hours

Example 1.4-1 contains the type of SR most often encountered in the Technical Specifications (TS). The Frequency specifies an interval (12 hours) during which the associated Surveillance must be performed at least one time. Performance of the Surveillance initiates the subsequent interval. Although the Frequency is stated as 12 hours, an extension of the time interval to 1.25 times the interval specified in the Frequency is allowed by SR 3.0.2 for operational flexibility. The measurement of this interval continues at all times, even when the SR is not required to be met per SR 3.0.1 (such as when the equipment or variables are outside specified limits, or the facility is outside the Applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the facility is in a condition specified in the Applicability of the LCO, the LCO is not met in accordance with SR 3.0.1.

If the interval as specified by SR 3.0.2 is exceeded while the facility is not in a condition specified in the Applicability of the LCO for which performance of the SR is required, the Surveillance must be performed within the Frequency requirements of SR 3.0.2 prior to entry into the specified condition. Failure to do so would result in a violation of SR 3.0.4.

(continued)

1.4 Frequency (continued)

EXAMPLES (continued)

EXAMPLE 1.4-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify flow is within limits.	Once within 12 hours prior to starting activity AND 24 hours thereafter

Example 1.4-2 has two Frequencies. The first is a one time performance Frequency, and the second is of the type shown in Example 1.4-1. The logical connector "AND" indicates that both Frequency requirements must be met. Each time the example activity is to be performed, the Surveillance must be performed within 12 hours prior to starting the activity.

The use of "once" indicates a single performance will satisfy the specified Frequency (assuming no other Frequencies are connected by "AND"). This type of Frequency does not qualify for the 25% extension allowed by SR 3.0.2.

"Thereafter" indicates future performances must be established per SR 3.0.2, but only after a specified condition is first met (i.e., the "once" performance in this example). If the specified activity is canceled or not performed, the measurement of both intervals stops. New intervals start upon preparing to restart the specified activity.

2.0 NOT USED

This section is intentionally left blank

3.0 LIMITING CONDITIONS FOR OPERATION (LCO) APPLICABILITY

LCO 3.0.1	LCOs shall be met during specified conditions in the Applicability, except as provided in LCO 3.0.2.
LCO 3.0.2	Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5. If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required, unless otherwise stated.
LCO 3.0.3	Not applicable.
LCO 3.0.4	When an LCO is not met, entry into a specified condition in the Applicability shall not be made except when the associated ACTIONS to be entered permit continued operation in the specified condition in the Applicability for an unlimited period of time. This Specification shall not prevent changes in specified conditions in the Applicability that are required to comply with ACTIONS or that are related to the unloading of an STC.
LCO 3.0.5	Equipment removed from service or not in service in compliance with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate it meets the LCO or that other equipment meets the LCO. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing.

3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

SR 3.0.1	SRs shall be met during the specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on equipment or variables outside specified limits.
SR 3.0.2	The specified Frequency for each SR is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met. For Frequencies specified as “once,” the above interval extension does not apply. If a Completion Time requires periodic performance on a “once per...” basis, the above Frequency extension applies to each performance after the initial performance. Exceptions to this Specification are stated in the individual Specifications.
SR 3.0.3	If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is less. This delay period is permitted to allow performance of the Surveillance. If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered. When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.
SR 3.0.4	Entry into a specified condition in the Applicability of an LCO shall not be made unless the LCO's Surveillances have been met within their specified Frequency. This provision shall not prevent entry into specified conditions in the Applicability that are required to comply with Actions or that are related to the unloading of an STC.

3.1 INTER-UNIT FUEL TRANSFER

3.1.1 Boron Concentration

LCO 3.1.1 The boron concentration of the water in the Spent Fuel Pit and the STC shall be ≥ 2000 ppm.

APPLICABILITY: Whenever one or more fuel assemblies are in the STC.

---NOTE---
Only applicable to the spent fuel pit when the STC is in the spent fuel pit
---

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Boron concentration not within limit.	A.1 Suspend LOADING OPERATIONS or UNLOADING OPERATIONS.	Immediately
	AND	
	A.2 Suspend positive reactivity additions.	Immediately
	AND	
	A.3 Initiate action to restore boron concentration to within limit.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
---NOTE--- This surveillance is only required to be performed if the STC is submerged in water in the spent fuel pool or if water is added to, or recirculated through, the STC when the STC is in the HI-TRAC. Any added water must meet the boron concentration requirement of LCO 3.1.1. ---	Once, within 4 hours prior to entering the Applicability of this LCO. AND
SR 3.1.1.1 Verify the boron concentration is within limit using two separate measurements.	Once per 48 hours thereafter.

3.1 INTER-UNIT FUEL TRANSFER

3.1.2 Shielded Transfer Canister (STC) Loading

LCO 3.1.2 INTACT FUEL ASSEMBLIES placed into the Shielded Transfer Canister (STC) shall be classified in accordance with Table 3.1.2-1 based on initial enrichment and burnup and shall be restricted based on the following:

a. INTACT FUEL ASSEMBLIES classified as Type 2 may be placed in the STC basket (see Figure 3.1.2-1) with the following restrictions:

1. Post-irradiation cooling time, initial enrichment, and allowable average burnup shall be within the limits for the cell locations as specified in Table 3.1.2-3;
2. Decay heat including NON FUEL HARDWARE ≤ 1.2 kW (any cell);
3. Total STC Decay heat from all cell locations including NON FUEL HARDWARE ≤ 9.621 kW;
4. Post-irradiation cooling time and the maximum average burnup of NON FUEL HARDWARE shall be within the cell locations and limits specified in Table 3.1.2-2. In accordance with Table 3.1.2-2 RCCAs and Hafnium Flux Suppressors cannot be placed in locations 5, 6, 7, 8, 9, 10, 11, 12 of the STC basket.

- NOTE -

If one or more Type 1 fuel assemblies are in the STC, cells 1, 2, 3, AND 4 must be empty, with a cell blocker installed that prevents inserting fuel assemblies and/or NON FUEL HARDWARE.

---

b. INTACT FUEL ASSEMBLIES classified as Type 1 or Type 2 may be placed in locations 5, 6, 7, 8, 9, 10, 11, 12 of the STC basket (see Figure 3.1.2-1) with the following restrictions:

1. Post-irradiation cooling time, initial enrichment, and allowable average burnup shall be within the limits for the cell locations as specified in Table 3.1.2-3;
2. Decay heat including NON FUEL HARDWARE ≤ 1.2 kW;
3. Post-irradiation cooling time and the maximum average burnup of NON FUEL HARDWARE shall be within the cell locations and limits specified in Table 3.1.2-2. In accordance with Table 3.1.2-2 RCCAs and Hafnium Flux Suppressors cannot be placed in locations 5, 6, 7, 8, 9, 10, 11, 12 of the STC basket.

c. Only INTACT FUEL ASSEMBLIES with initial average enrichment ≤ 4.4 wt% U-235 and discharged prior to IP3 Cycle 12 shall be placed in the STC basket. IP3 fuel assemblies V43 and V48 shall not be selected for transfer.

APPLICABILITY: Whenever one or more fuel assemblies are in the STC.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more fuel assemblies or NON FUEL HARDWARE in the STC do not meet the LCO limits.	A.1.1 Initiate action to restore compliance with LCO 3.1.2. OR A.1.2 Initiate action to move fuel to the IP3 spent fuel pit in accordance with IP3 Appendix A Technical Specification LCO 3.7.16.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.1.2.1 Verify by administrative means that the fuel assembly and NON FUEL HARDWARE meets the requirements specified in the LCO for placement in the STC.	Prior to placing the fuel assembly in the STC.
SR 3.1.2.2 Verify by visual inspection that a cell blocker which prevents inserting fuel assemblies and/or NON-FUEL HARDWARE into cells 1, 2, 3, and 4 of the STC is installed.	Prior to placing a Type 1 fuel assembly in the STC.

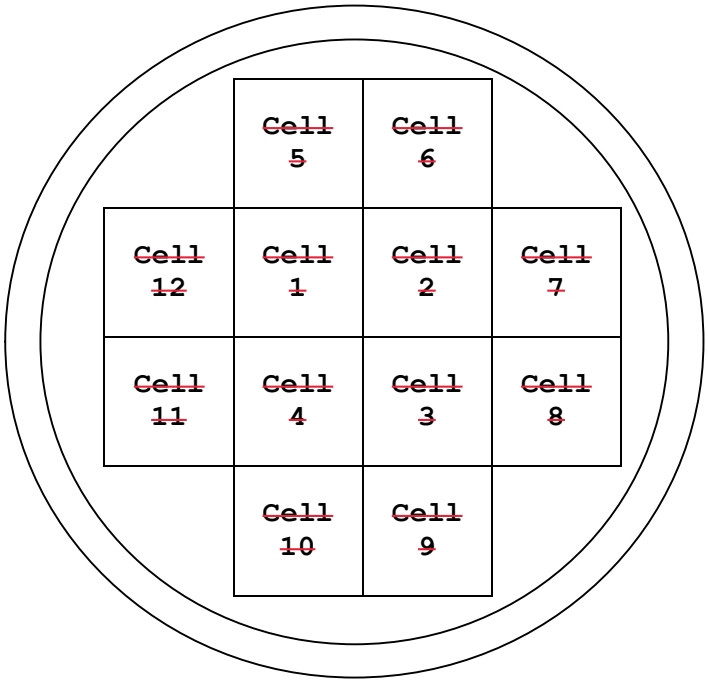

Figure 3.1.2-1
Shielded Transfer Canister Layout
(Top View)

Table 3.1.2-1
Minimum Burnup Requirements at Varying Initial Enrichments[a]

Maximum Assembly Initial Enrichment[f][g] (wt% U235)	Configuration A[c] Minimum Assembly Average Burnup (MWD/MTU)[b]	Configuration B[d] Minimum Assembly Average Burnup (MWD/MTU)[b]
2.0	5,400	6,000
2.5	13,800	18,800
3.0	22,100	28,600
3.5	30,000	37,300
4.0	36,900	44,600
4.5	42,700	52,500
5.0	48,700	Note (c)

(a) Fuel that does not meet the minimum assembly average burnup at a given initial enrichment is classified as Type 1 fuel. Fuel that meets the minimum assembly average burnup at a given initial enrichment is classified as Type 2 fuel.

(b) Linear interpolation between enrichment levels to determine minimum burnup requirements is permitted.

(c) Assemblies that have not been located in any cycle under a control rod bank that was permitted to be inserted during full power operation or where it can be shown that the insertion did not exceed 8 inches below the top of the active fuel.

(d) Assemblies that have been located under a control rod bank that was permitted to be inserted during full power operation and where the insertion was more than 8 inches below the top of the active fuel. This configuration also applies to fuel assemblies that have contained a Hafnium Flux Suppressor.

(e) Configuration B assemblies with enrichment greater than 4.5 are classified as Type 1 fuel.

(f) Natural or enriched uranium blankets are not considered in determining the fuel assembly average enrichment for comparison to the maximum allowed initial average enrichment.

(g) Rounding to one decimal place to determine initial enrichment is not permitted.

Table 3.1.2-2

NON-FUEL HARDWARE[a] Post-Irradiation Cooling Times and Allowable Average Burnup

Post-irradiation Cooling Time (years)	Maximum Burnup (MWD/MTU)			
	BPRAs and WABAs[b, d]	TPDs[b][c]	RCCAs	Hafnium Flux Suppressors
≥ 6	≤ 20000	N/A	≤ 630000	≤ 20000
≥ 7	-	≤ 20000	-	-
≥ 8	≤ 30000	-	-	≤ 30000
≥ 9	≤ 40000	≤ 30000	-	-
≥ 10	≤ 50000	≤ 40000	-	-
≥ 11	≤ 60000	≤ 45000	-	-
≥ 12	-	≤ 50000	-	-
≥ 13	-	≤ 60000	-	-
≥ 14	-	-	-	-
≥ 15	-	≤ 90000	-	-
≥ 16	-	≤ 630000	-	-
≥ 20	-	-	-	-
Allowed Quantity and Location	Up to twelve (12) per transfer in any location	Up to twelve (12) per transfer in any location	Up to four (4) per transfer in Cells 1, 2, 3, and/or 4	Up to four (4) per transfer in Cells 1, 2, 3, and/or 4

(a) NON-FUEL HARDWARE burnup and cooling time limits are not applicable to Instrument Tube Tie Rods (ITTRs), since they are installed post-irradiation. NSAs are not authorized for loading in the STC.

(b) Linear interpolation between points is only permitted for BPRAs, WABAs, and TPDs, with the exception that interpolation is not permitted for TPDs with burnups greater than 90 GWd/MTU and cooling times greater than 15 years.

(c) N/A means not authorized for loading at this cooling time.

(d) Burnup and Cooling time limits in this column are only applicable to Loading Patterns 1-6 in Table 3.1.2-3. For Loading Patterns 7-12 in Table 3.1.2-3, the burnup and cooling time limits for a BPRA are the same as those for the fuel assembly they are located in.

Table 3.1.2-3 (Sheet 1 of 2)

Allowable STC Loading Configurations

Configuration[c]	Cells 1, 2, 3, 4[a][b]	Cells 5, 6, 7, 8, 9, 10, 11, 12[a][b]
1	Burnup ≤ 55,000 MWD/MTU Cooling time ≥ 10 years Initial Enrichment ≥ 3.4 wt% U-235	Burnup ≤ 40,000 MWD/MTU Cooling time ≥ 25 years Initial Enrichment ≥ 2.3 wt% U-235
2	Burnup ≤ 45,000 MWD/MTU Cooling time ≥ 10 years Initial Enrichment ≥ 3.2 wt% U-235	Burnup ≤ 45,000 MWD/MTU Cooling time ≥ 20 years Initial Enrichment ≥ 3.2 wt% U-235
3	Burnup ≤ 55,000 MWD/MTU Cooling time ≥ 10 years Initial Enrichment ≥ 3.4 wt% U-235	Burnup ≤ 45,000 MWD/MTU Cooling time ≥ 20 years Initial Enrichment ≥ 3.2 wt% U-235
4	Burnup ≤ 45,000 MWD/MTU Cooling time ≥ 10 years Initial Enrichment ≥ 3.6 wt% U-235	Burnup ≤ 40,000 MWD/MTU Cooling time ≥ 12 years Initial Enrichment ≥ 3.2 wt% U-235
5	Burnup ≤ 45,000 MWD/MTU Cooling time ≥ 14 years Initial Enrichment ≥ 3.4 wt% U-235	Burnup ≤ 40,000 MWD/MTU Cooling time ≥ 12 years Initial Enrichment ≥ 3.2 wt% U-235
6	Burnup ≤ 45,000 MWD/MTU Cooling time ≥ 20 years Initial Enrichment ≥ 3.2 wt% U-235	Burnup ≤ 40,000 MWD/MTU Cooling time ≥ 20 years Initial Enrichment ≥ 2.3 wt% U-235

Table 3.1.2-3 (Sheet 2 of 2)

Allowable STC Loading Configurations

Configuration[c]	Cells 1, 2, 3, 4[a][b]	Cells 5, 6, 7, 8, 9, 10, 11, 12[a][b]
7	Burnup ≤ 45,000 MWD/MTU Cooling time ≥ 10 years Initial Enrichment ≥ 3.2 wt% U-235	Burnup ≤ 45,000 MWD/MTU Cooling time ≥ 12 years Initial Enrichment ≥ 3.2 wt% U-235
8	Burnup ≤ 55,000 MWD/MTU Cooling time ≥ 10 years Initial Enrichment ≥ 3.4 wt% U-235	Burnup ≤ 55,000 MWD/MTU Cooling time ≥ 15 years Initial Enrichment ≥ 3.4 wt% U-235
9	Burnup ≤ 55,000 MWD/MTU Cooling time ≥ 11 years Initial Enrichment ≥ 3.4 wt% U-235	Burnup ≤ 45,000 MWD/MTU Cooling time ≥ 12 years Initial Enrichment ≥ 3.2 wt% U-235
10	Burnup ≤ 45,000 MWD/MTU Cooling time ≥ 10 years Initial Enrichment ≥ 3.2 wt% U-235	Burnup ≤ 55,000 MWD/MTU Cooling time ≥ 15 years Initial Enrichment ≥ 3.4 wt% U-235
11	Burnup ≤ 45,000 MWD/MTU Cooling time ≥ 6 years Initial Enrichment ≥ 3.2 wt% U-235	Burnup ≤ 45,000 MWD/MTU Cooling time ≥ 14 years Initial Enrichment ≥ 3.2 wt% U-235
12	Burnup ≤ 60,000 MWD/MTU Cooling time ≥ 9 years Initial Enrichment ≥ 4.2 wt% U-235	Burnup ≤ 50,000 MWD/MTU Cooling time ≥ 14 years Initial Enrichment ≥ 3.6 wt% U-235

(a) Initial enrichment is the assembly average enrichment. Natural or enriched uranium blankets are not considered in determining the fuel assembly average enrichment for comparison to the minimum allowed initial average enrichment.

(b) Rounding to one decimal place to determine initial enrichment is permitted.

(c) Fuel with five middle Inconel spacers are limited to cells 1, 2, 3, and 4 for all loading configurations except loading configuration 6 which allows fuel with Inconel spacers in all cells.

3.1 INTER-UNIT FUEL TRANSFER

3.1.3 Shielded Transfer Canister (STC) Initial Water Level

LCO 3.1.3 The established water level in the STC shall be 9.0+0.5/-1.5 inches below the bottom of the STC lid.

APPLICABILITY: Prior to TRANSFER OPERATIONS when the STC is in the HI-TRAC and the STC lid has been installed.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. STC water level not within limit.	----------NOTE---------- Water used for level restoration must meet the boron concentration requirement of LCO 3.1.1. ---------- A.1 Initiate action to restore STC water level.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.3.1	Verify the initial STC water level is within limit by verifying the following during STC water level establishment: a. steam is emitted from the STC drain tube; and b. the volume of water removed is ≥ 35.4 gallons and ≤ 47.9 gallons.	Once prior to TRANSFER OPERATIONS.

3.1 INTER-UNIT FUEL TRANSFER

3.1.4 Shielded Transfer Canister (STC) Pressure Rise

LCO 3.1.4 The pressure rise in the STC cavity shall be ≤ 0.2 psi/hr averaged over a rolling 4 hour period.

APPLICABILITY: Over a 24 hour period after successful completion of LCO 3.1.3 and prior to TRANSFER OPERATIONS when the STC is in the HI-TRAC and the STC lid has been installed.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Rate of STC cavity pressure rise not within limit.	A.1.1 Establish a vent path on the STC. AND ----------NOTE---------- Water used for recirculation must meet the boron concentration requirement of LCO 3.1.1. ---------- A.1.2 Begin circulation of borated water in the STC to establish and maintain the STC water exit temperature ≤ 180°F. AND A.1.3 Begin actions to determine the reason for exceeding the pressure rise limit.	Immediately

(continued)

ACTIONS (continued)

CONDITION		REQUIRED ACTION		COMPLETION TIME
B.	Required Action A.1.3 indicates a fuel misload.	B.1.1	Return the STC to the spent fuel pool and remove the STC lid. AND	12 hours
		B.1.2	Return any misloaded fuel to the IP3 spent fuel pit in accordance with IP3 Appendix A Technical Specification LCO 3.7.16.	24 hours
C.	Required Action A.1.3 does not indicate a fuel misload.	C.1	Develop and initiate corrective actions necessary to return the STC to compliance with LCO 3.1.3 and LCO 3.1.4.	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.4.1	----------NOTE---------- Pressure measurements shall be taken once upon establishing required water level AND hourly thereafter for 24 hours. Pressure may initially drop during pressure stabilization. ---------- Verify by direct measurement that the rate of STC cavity pressure rise is within limit.	Once prior to TRANSFER OPERATIONS.
SR 3.1.4.2	Verify that an ASME code compliant pressure relief valve or rupture disc and two channels of pressure instrumentation with a range of at least 0.1 psia to 15 psia and calibrated to within 1% accuracy within the past 12 months are installed on the STC.	During performance of SR 3.1.4.1.

3.1 INTER-UNIT FUEL TRANSFER

3.1.5 Shielded Transfer Canister (STC) Unloading

---NOTE---

1. Only IP3 spent fuel assemblies are permitted to be in the STC.
2. Once each IP3 spent fuel assembly removed from the STC has been placed in an IP2 spent fuel rack location and disconnected from the spent fuel pit bridge crane, it may not be returned to the STC.

LCO 3.1.5 IP3 spent fuel assemblies transferred to IP2 via the STC must be either in an approved IP2 spent fuel pit storage rack location per IP2 Appendix A Technical Specification LCO 3.7.13, in their authorized STC fuel basket cell, or be in transit between these two locations.

APPLICABILITY: Whenever the STC is in the Unit 2 spent fuel pit.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more fuel assemblies not in the required location.	A.1 Initiate action to restore compliance with LCO 3.1.5	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.5.1	Verify by administrative means that a fuel assembly returned to the STC has been re-loaded into the same STC cell from which it was removed.	Once, after each re-loaded fuel assembly is returned to the STC.

4.0 DESIGN FEATURES

4.1 Inter-Unit Fuel Transfer

4.1.1 Fuel Assemblies

Fuel assemblies selected for inter-unit transfer of fuel shall meet the fuel characteristics specified in Table 4.1.1-1.

4.1.2 Criticality

4.1.2.1 The Shielded Transfer Canister (STC) is designed and shall be maintained with:

a. Fuel assemblies having a maximum U-235 enrichment of 5.0 weight percent;

b. k_{eff} ≤ 0.95 if fully flooded with unborated water;

c. A nominal 9.218 inch center-to-center distance between fuel assemblies placed in the STC basket;

d. Basket cell ID: 8.79 in. (nominal);

e. Basket cell wall thickness: 0.28 in. (nominal);

f. B_4C in the Metamic neutron absorber: ≥ 31.5 wt.% and ≤ 33.0 wt.%;

g. The B_4C in the Metamic neutron absorber will contain boron with an isotopic B-10 content of at least 18.4%;

h. Metamic panel thickness: ≥ 0.102 in.;

i. The size and location of the neutron absorber panels shall be in accordance with drawing 6015, revision 6, which can be found in the Licensing Report (Holtec International Report HI-2094289).

4.1.2.2 Drainage

The STC is designed and shall be maintained to prevent inadvertent draining.

4.1.2.3 Capacity

The STC is designed and shall be maintained with a capacity of no more than 12 fuel assemblies.

(continued)

4.0 DESIGN FEATURES (continued)

4.1.3 Codes and Standards

The American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), 2004 Edition, is the governing Code for the STC, as clarified below, except for Code Sections V and IX. The latest effective editions of ASME Code Sections V and IX, including addenda, may be used for activities governed by those sections, provided a written reconciliation of the later edition against the 2004 Edition, is performed. Table 4.1.3-1 lists approved alternatives to the ASME Code for the design of the STC.

4.1.4 Geometric Arrangements and Process Variables

The following are geometric arrangements and process variables that require a one time verification as part of each inter-unit fuel transfer operation:

1. LOADING OPERATIONS, TRANSFER OPERATIONS, and UNLOADING OPERATIONS shall only be conducted with working area ambient temperatures ≥ $0^{o}F$.

2. LOADING OPERATIONS shall only be conducted when the spent fuel pit water temperature and the fuel handling building ambient temperatures are both ≤ $100^{o}F$.

3. LOADING OPERATIONS shall only be conducted when the IP3 spent fuel pit contains no unirradiated fuel assemblies.

4. LOADING OPERATIONS shall only be conducted when the irradiated fuel assemblies in the IP3 spent fuel pit have been subcritical for at least 90 days.

5. TRANSFER OPERATIONS shall only be conducted when the outside air temperature is ≤ $100^{o}F$.

6. TRANSFER OPERATIONS shall only be conducted when the STC trunnions are offset from the HI-TRAC trunnions in the azimuthal direction by at least 30 degrees.

7. TRANSFER OPERATIONS shall only be conducted after STC seal leak tests have demonstrated no detected leakage when tested to a sensitivity of $1x10^{-3}$ ref-cm^3/s in accordance with the "pre-shipment" test requirements of ANSI N14.5.

8. Prior to installing the HI-TRAC lid the HI-TRAC water level shall be verified by two separate inspections to be within +0/-1 inch of the top of the STC lid.

(continued)

4.0 DESIGN FEATURES (continued)

9. TRANSFER OPERATIONS shall only be conducted after the combined leak rate through the HI-TRAC top lid and vent port cover seals are confirmed to be water tight using an acceptable leak test from ANSI N14.5 and the pool lid seal is verified to be water tight by visual inspection.

10. TRANSFER OPERATIONS shall not occur with a TRANSPORTER that contains > 50 gallons of diesel fuel.

Table 4.1.1-1

Fuel Assembly Characteristics

Fuel Assembly Class	15x15[(a)]
No. of Fuel Rod Locations	204
Cladding Type	ZR
Guide/Instrument Tube Type	ZR
Design Initial U (kg/assembly)	≤ 473
Fuel Rod Clad O.D. (in)	≥ 0. 422
Fuel Rod Clad I.D. (in)	≤ 0. 3734
Fuel Pellet Diameter (in)	≤ 0. 3659
Fuel Rod Pitch (in)	≤ 0.563
Active Fuel Length (in)	≤ 144
Fuel Assembly Length (in)	≤ 160
Fuel Assembly Width (in)	≤ 8.54
No. of Guide and/or Instrument Tubes	21
Guide/Instrument Tube Thickness (in)	≥ 0. 017
Axial Blanket Enrichment (wt % U-235) [(b)]	≤ 3.2
Axial Blanket Length (in) [(b)]	≥ 6

(a) All dimensions are design nominal values. Maximum and minimum dimensions are specified to bound variations in design nominal values among fuel assemblies within the 15x15 class.

(b) Applicable only if axial blankets are present.

(continued)

4.0 DESIGN FEATURES (continued)

Table 4.1.3-1 (page 1 of 2)

List of ASME Code Alternatives for the STC

Component	**Reference ASME Code Section/Article**	**Code Requirement**	**Alternative, Justification & Compensatory Measures**
STC Confinement Boundary	ND-1000	Statement of requirements for Code stamping of components.	Cask confinement boundary is designed, and will be fabricated in accordance with ASME Code, Section III, Subsection ND to the maximum practical extent, but Code stamping is not required.
STC Confinement Boundary	ND-2000	Requires materials to be supplied by ASME-approved material supplier.	Holtec approved suppliers will supply materials with CMTRs per ND-2000.
STC and STC basket assembly	ND-3100 NG-3100	Provides requirements for determining design loading conditions, such as pressure, temperature, and mechanical loads.	These requirements are not applicable. The Licensing Report, serving as the Design Specification, establishes the service conditions and load combinations for fuel transfer.
STC Confinement Boundary	ND-7000	Vessels are required to have overpressure protection.	No overpressure protection is provided. Function of cask vessel is as a radionuclide confinement boundary under normal and hypothetical accident conditions. Cask is designed to withstand maximum internal pressure and maximum accident temperatures.
STC Confinement Boundary	ND-8000	States requirement for name, stamping and reports per NCA-8000	STC to be marked and identified in accordance with drawing 6013[(a)]. Code stamping is not required. QA data package prepared in accordance with Holtec's approved QA program.

4.0 DESIGN FEATURES (continued)

Table 4.1.3-1 (page 2 of 2)

List of ASME Code Alternatives for the STC

Component	Reference ASME Code Section/Article	Code Requirement	Alternative, Justification & Compensatory Measures
STC Basket Assembly	NG-4420	NG-4427(a) requires a fillet weld in any single continuous weld may be less than the specified fillet weld dimension by not more than 1/16 inch, provided that the total undersize portion of the weld does not exceed 10 percent of the length of the weld. Individual undersize weld portions shall not exceed 2 inches in length.	Modify the Code requirement (intended for core support structures) with the following text prepared to accord with the geometry and stress analysis imperatives for the fuel basket: For the longitudinal STC basket fillet welds, the following criteria apply: 1) The specified fillet weld throat dimension must be maintained over at least 92 percent of the total weld length. All regions of undersized weld must be less than 3 inches long and separated from each other by at least 9 inches. 2) Areas of undercuts and porosity beyond that allowed by the applicable ASME Code shall not exceed 1/2 inch in weld length. The total length of undercut and porosity over any 1-foot length shall not exceed 2 inches. 3) The total weld length in which items (1) and (2) apply shall not exceed a total of 10 percent of the overall weld length. The limited access of the STC basket panel longitudinal fillet welds makes it difficult to perform effective repairs of these welds and creates the potential for causing additional damage to the basket assembly (e.g., to the neutron absorber and its sheathing) if repairs are attempted. The acceptance criteria provided in the foregoing have been established to comport with the objectives of the basket design and preserve the margins demonstrated in the supporting stress analysis. From the structural standpoint, the weld acceptance criteria are established to ensure that any departure from the ideal, continuous fillet weld seam would not alter the primary bending stresses on which the design of the fuel baskets is predicated. Stated differently, the permitted weld discontinuities are limited in size to ensure that they remain classifiable as local stress elevators ("peak stress", F, in the ASME Code for which specific stress intensity limits do not apply).
STC Basket Assembly	NG-8000	States requirements for nameplates, stamping and reports per NCA-8000.	STC basket to be marked and identified in accordance with drawing 6015[(a)]. No Code stamping is required. The STC basket data package is to be in conformance with Holtec's QA program.

(a) Holtec International Report HI-2094289

5.0 PROGRAMS

The following programs shall be established, implemented and maintained.

5.1 Transport Evaluation Program

a. For lifting of the loaded STC or loaded HI-TRAC using equipment which is integral to a structure governed by 10 CFR Part 50 regulations, 10 CFR 50 requirements apply.

b. This program is not applicable when the loaded HI-TRAC is in the fuel building or is being handled by equipment providing support from underneath (e.g., on air pads).

c. The loaded HI-TRAC may be lifted to any height necessary during TRANSFER OPERATIONS provided the lifting equipment is designed in accordance with items 1, 2, and 3 below.

1. The metal body and any vertical columns of the lifting equipment shall be designed to comply with stress limits of ASME Section III, Subsection NF, Class 3 for linear structures. All vertical compression loaded primary members shall satisfy the buckling criteria of ASME Section III, Subsection NF.

2. The horizontal cross beam and any lifting attachments used to connect the load to the lifting equipment shall be designed, fabricated, operated, tested, inspected, and maintained in accordance with applicable sections and guidance of NUREG-0612, Section 5.1. This includes applicable stress limits from ANSI N14.6.

3. The lifting equipment shall have redundant drop protection features which prevent uncontrolled lowering of the load.

d. The lift height of the loaded HI-TRAC above the transport route surface or other supporting surface shall be limited to 6 inches, except as provided in Specification 5.1.c.

5.2 Metamic Coupon Sampling Program

A coupon surveillance program shall be implemented to maintain surveillance of the Metamic neutron absorber material under the radiation, chemical, and thermal environment of the STC.

The surveillance program will be implemented to monitor the performance of Metamic by installing a minimum of four bare coupons near the maximum gamma flux elevation (mid height) at no less than four circumferential downcomer areas around the STC fuel basket. At any time during its use the STC must have a minimum of one coupon installed in each quadrant. Metamic coupons used for testing must have been installed during the entire fuel loading history of the STC.

The following specifications apply:

(i) Coupon size will be nominally 4" x 6". Each coupon will be marked with a unique identification number.

(continued)

5.0 PROGRAMS (continued)

(ii) Pre-characterization testing: Before installation, each coupon will be measured and weighed. The measurements shall be taken at locations pre-specified in the test program. Each coupon shall be tested by neutron attenuation before installation in the STC. The weight, length, width, thickness, and results of the neutron attenuation testing shall be documented and retained.

(iii) Four coupons shall be tested at the end of each inter-unit fuel transfer campaign. A campaign shall not last longer than two years. The coupons shall be measured and weighed and the results compared with the pre-characterization testing data. The results shall be documented and retained.

(iv) The coupons shall be examined for any indication of swelling, delamination, edge degradation, or general corrosion. The results of the examination shall be documented and retained.

(v) The coupons shall be tested by neutron attenuation and the results compared with the pre-characterization testing data. The results of the testing shall be documented and retained. Results are acceptable if the measured value is within +/-2.5% of the value measured for the same coupon at manufacturing.

(vi) The coupons shall be returned to their locations in the STC unless anomalous material behavior is found. If the results indicate anomalous material behavior, evaluation and corrective actions shall be pursued.

5.3 Technical Specifications (TS) Bases Control Program

This program provides a means for processing changes to the Bases of these Technical Specifications.

a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.

b. Licensees may make changes to Bases without prior NRC approval provided the changes do not involve either of the following:

1. a change in the TS incorporated in the license; or
2. a change to the updated FSAR or Bases that requires NRC approval pursuant to 10 CFR 50.59.

c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the UFSAR.

d. Proposed changes that do not meet the criteria of Specification 5.3.b above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).

(continued)

5.0 PROGRAMS (continued)

5.4 Radiation Protection Program

5.4.1 The radiation protection program shall appropriately address STC loading and unloading conditions, including transfer of the loaded TRANSFER CASK outside of facilities governed by 10 CFR Part 50. The radiation protection program shall include appropriate controls for direct radiation and contamination, ensuring compliance with applicable regulations, and implementing actions to maintain personnel occupational exposures As Low As Reasonably Achievable (ALARA). The actions and criteria to be included in the program are provided below.

5.4.2 Total (neutron plus gamma) measured dose rates shall not exceed the following:

a. 1400 mrem/hr on the top of the STC (with lid in place).

b. 5 mrem/hr on the side of the TRANSFER CASK

5.4.3 The STC and TRANSFER CASK surface neutron and gamma dose rates shall be measured as described in Section 5.4.6 for comparison against the limits established in Section 5.4.2.

5.4.4 If the measured surface dose rates exceed the limits established in Section 5.4.2, then:

a. Administratively verify that the correct contents were loaded in the correct fuel basket cell locations.

b. Perform a written evaluation to determine whether TRANSFER OPERATIONS can proceed without exceeding the dose limits of 10 CFR 72.104 or 10 CFR 20.1301.

5.4.5 If the verification and evaluation performed pursuant to Section 5.4.4 show that the fuel is loaded correctly and the dose rates from the STC and TRANSFER CASK will not cause the dose limits of 10 CFR 72.104 or 10 CFR 20.1301 to be exceeded, TRANSFER OPERATIONS may occur. Otherwise, TRANSFER OPERATIONS shall not occur until appropriate corrective action is taken to ensure the dose limits are not exceeded.

5.4.6 STC and TRANSFER CASK surface dose rates shall be measured at approximately the following locations:

a. The dose rate measurement shall be taken at the approximate center of the STC top lid. Two (2) additional measurements shall be taken on the STC lid approximately 180 degrees apart and 12 to 18 inches from the center of the lid, avoiding the areas around the inlet and outlet ports. The measurements must be taken when the STC is in the HI-TRAC after the steam space is established and prior to HI-TRAC lid installation.

(continued)

5.0 PROGRAMS (continued)

b. A minimum of four (4) dose rate measurements shall be taken on the side of the TRANSFER CASK approximately at the cask mid-height plane. The measurement locations shall be approximately 90 degrees apart around the circumference of the cask. Dose rates shall be measured between the radial ribs of the water jacket.

HDI-IPEC-22-057

Enclosure - Attachment 2

Retyped FL and PDTS Pages

(12 Pages)

(3) HDI pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use, at any time any byproduct, source and special nuclear material as sealed neutron sources that were used for reactor startup, sealed sources that were used for reactor instrumentation and are used in the calibration of radiation monitoring equipment, and that were used as fission detectors in amounts as required.

(4) HDI pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components.

(5) HDI pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials that were produced by the operation of the facility.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect.
and is subject to the additional conditions specified or incorporated below:

(1) Deleted per Amendment No. 294.

(2) Technical Specifications

The Technical Specifications contained in Appendices A, and B, as revised through Amendment No. XXX, are hereby incorporated in the renewed license. HDI shall maintain the facility in accordance with the Technical Specifications.

(3) Deleted per Amendment No. 294.

(c) Actions to minimize release to include consideration of:
1. Water spray scrubbing
2. Dose to onsite responders

O. Deleted per Amendment No. 294.

P. HDI is authorized to transfer IP3 spent fuel into NRC approved storage casks for onsite storage by HDI and Holtec Indian Point 3, LLC.

Q. License Renewal License Conditions

(1) The information in the UFSAR supplement, submitted pursuant to 10 CFR 54.21(d) and as revised during the license renewal application review process, and licensee commitments as listed in Appendix A of the "Safety Evaluation Report Related to the License Renewal of Indian Point Nuclear Generating Units 2 and 3," (SER) and supplements to the SER, are collectively the "License Renewal UFSAR Supplement." The UFSAR Supplement is henceforth part of the UFSAR, which will be updated in accordance with 10 CFR 50.71(e). As such, the licensee may make changes to the programs, activities, and commitments described in the UFSAR Supplement, provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59, "Changes, Tests, and Experiments," and otherwise complies with the requirements in that section.

(2) The License Renewal UFSAR Supplement, as defined in license condition Q(1) above, describes certain programs to be implemented and activities to be completed prior to the period of extended operation (PEO).

a. The licensee shall implement those new programs and enhancements to existing programs no later than the date specified in the License Renewal UFSAR Supplement.

b. The licensee shall complete those activities no later than the date specified in the License Renewal UFSAR Supplement.

c. The licensee shall notify the NRC in writing within 30 days after having accomplished item (2)a above and include the status of those activities that have been or remain to be completed in item (2)b above.

3. Deleted

(a) Deleted

(b) Provisional Trust:

(i) The provisional trust agreement must be in a form acceptable to the NRC.

(ii) Investments in the securities or other obligations of Holtec International or its affiliates, subsidiaries, successors, or assigns are and shall be prohibited. Except for investments tied to market indexes or other non-nuclear-sector mutual funds, investments in any entity owning one or more nuclear power plants are and shall be prohibited.

(iii) The provisional trust agreement must provide that no disbursements or payments from the trust, other than for ordinary administrative expenses, shall be made by the trustee unless the trustee has first given the Director of the Office of Nuclear Reactor Regulation 30 days prior written notice of payment. The provisional trust agreement shall further contain a provision that no disbursements or payments from the trust shall be made if the trustee receives prior written notice of objection from the NRC.

(iv) The provisional trust agreement must provide that the agreement cannot be amended in any material respect, or terminated, without 30 days prior written notification to the Director of the Office of Nuclear Reactor Regulation.

(v) The appropriate section of the provisional trust agreement shall state that the trustee, investment advisor, or anyone else directing the investments made in the trust shall adhere to a "prudent investor" standard, as specified in 18 CFR 35.32(a)(3) of the Federal Energy Regulatory Commission's regulations.

(vi) Use of assets in the provisional trust, in the first instance, shall be limited to the expenses related to decommissioning IP2 or IP1 as defined by the NRC in its regulations and issuances, and as provided in this license and any amendments thereto.

(c) Deleted

4. Deleted

5. Deleted

6. This renewed license is effective as of the date of issuance, and until the Commission notifies the licensee in writing that the license is terminated.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Attachments:
Appendix A – Permanently Defueled Technical Specifications
Appendix B – Environmental Technical Specification Requirements

Date of Issuance: September 17, 2018

APPENDIX A

TO

FACILITY LICENSE DPR-26

FOR

HOLTEC NUCLEAR INDIAN POINT 2, LLC AND
HOLTEC DECOMMSSIONING INTERNATIONAL, LLC

INDIAN POINT NUCLEAR GENERATING PLANT UNIT NO. 2

DOCKET NO. 50-247

PERMANENTLY DEFUELED TECHNICAL SPECIFICATIONS AND BASES

Table of Contents

1.0 USE AND APPLICATION

1.1 Definitions

----------NOTE----------
The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

Term	Definition
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.

4.0 DESIGN FEATURES

4.1 Site Location

Indian Point 2 is located on the East bank of the Hudson River at Indian Point, Village of Buchanan, in upper Westchester County, New York. The site is approximately 24 miles north of the New York City boundary line. The nearest city is Peekskill which is 2.5 miles northeast of Indian Point.

The minimum distance from the reactor center line to the boundary of the site exclusion area and the outer boundary of the low population zone, as defined in 10 CFR 100.3, is 520 meters and 1100 meters, respectively. For the purpose of satisfying 10 CFR Part 20, the “Restricted Area” is the same as the “Exclusion Area” shown in the Defueled Safety Analysis Report (DSAR), Figure 2.2-2.

4.2 Deleted

4.3 Fuel Storage

Spent fuel shall not be stored in the Spent Fuel Pit.

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibility

5.1.1 The plant manager shall be responsible for overall facility operation and shall delegate in writing the succession to this responsibility during his absence.

The plant manager or his designee shall approve, prior to implementation, each proposed test, experiment or modification to systems or equipment that affect nuclear safety.

5.2 Organization

5.2.1 Onsite and Offsite Organizations

Onsite and offsite organizations shall be established for facility staff and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting safety of the nuclear fuel.

a. Lines of authority, responsibility, and communication shall be defined and established throughout highest management levels, intermediate levels, and all decommissioning organization positions. These relationships shall be documented and updated, as appropriate, in organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements including the facility-specific titles of those personnel fulfilling the responsibilities of the positions delineated in these Technical Specifications shall be documented in the DSAR,

b. The plant manager shall be responsible for overall safe maintenance of the facility and shall have control over those onsite activities necessary for storage and maintenance of nuclear fuel.

c. The corporate officer with direct responsibility for IP2 shall have corporate responsibility for the safe storage and handling of nuclear fuel and shall take any measures needed to ensure acceptable performance of the staff in maintaining and providing technical support to the facility to ensure safe management of nuclear fuel, and

d. The individuals who train the individuals that carry out health physics, or perform quality assurance functions may report to the appropriate onsite manager; however, these individuals shall have sufficient organizational freedom to ensure their ability to perform their assigned functions.

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibility

5.1.1 The plant manager shall be responsible for overall facility operation and shall delegate in writing the succession to this responsibility during his absence.

The plant manager or his designee shall approve, prior to implementation, each proposed test, experiment or modification to systems or equipment that affect nuclear safety.

5.3 Facility Staff Qualifications

5.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI/ANS 3.1-1978 for comparable positions with exceptions specified in the IPEC Quality Assurance Program Manual (QAPM).

5.7 High Radiation Area

5.7.1 High Radiation Areas with Dose Rates Not Exceeding 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation (continued)

4. A self-reading dosimeter (e.g., pocket ionization chamber or electronic dosimeter) and,

(i) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring device that continuously displays radiation dose rates in the area; who is responsible for controlling personnel exposure within the area, or

(ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with individuals in the area who are covered by such surveillance.

e. Except for individuals qualified in radiation protection procedures, or personnel continuously escorted by such individuals, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them. These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination, knowledge, and pre-job briefing does not require documentation prior to initial entry.

5.7.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation

a. Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked or continuously guarded door or gate that prevents unauthorized entry, and, in addition:

1. All such door and gate keys shall be maintained under the administrative control of the IP3 shift manager, radiation protection manager, or his or her designee.

2. Doors and gates shall remain locked except during periods of personnel or equipment entry or exit.