



10 CFR 50.90

HDI-IPEC-22-016

February 3, 2022

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

Indian Point Nuclear Generating Unit Nos. 1, 2, and 3  
Docket Nos. 50-003, 50-247, and 50-286  
Provisional Operating License No. DPR-5  
Renewed Facility License No. DPR-26  
Renewed Facility Operating License No. DPR-64

Subject: Response to Requests for Additional Information –  
Related to Post Shutdown Decommissioning Activities  
Report for Indian Point Nuclear Generating Units 1, 2, and 3

References:

1. Holtec letter to U.S. Nuclear Regulatory Commission (NRC), "Post Shutdown Decommissioning Activities Report including Site-Specific Decommissioning Cost Estimate for Indian Point Nuclear Generating Units 1, 2 and 3," (ADAMS Accession No. ML19354A698), dated December 19, 2019
2. NRC Electronic Mail from Z. Cruz (NRC) to J. Fleming (Holtec Decommissioning International, LLC), "Request for Additional Information – HDI Indian Point Post-Shutdown Decommissioning Activities Report," (ADAMS Accession No. 22006A044 and 22006A045), dated January 5, 2022

In Reference 1, Holtec Decommissioning International, LLC (HDI), on behalf of Holtec Indian Point 2, LLC (IP1 & IP2) and Holtec Indian Point 3, LLC (IP3) collectively referred to as Indian Point Energy Center (IPEC) submitted a Post-Shutdown Decommissioning Activities Report (PSDAR) including site-specific Decommissioning Cost Estimate (DCE) for the IPEC. HDI submitted the PSDAR pursuant to Title 10 of the Code of Federal Regulations (10 CFR), Section 50.82(a)(4). HDI developed the IPEC PSDAR using Regulatory Guide 1.185, Revision 1, "Standard Format and Content for Post-Shutdown Decommissioning Activities Report" (ADAMS Accession No. ML13140A038).

In Reference 2, the NRC transmitted a subsequent request for additional information (RAI) concerning the proposed PSDAR. The Enclosure to this letter is provided in response to the RAI.



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

Should you have any questions, please contact me at 856-797-0900 ext. 3578.

Sincerely,

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

Enclosure: Response to Subsequent Request for Additional Information

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

**HDI-IPEC-22-016**

**Enclosure**

**Response to Subsequent Request for Additional Information (RAI)**

**12 pages not including this cover sheet**

## **Responses to RAIs for IPEC PSDAR - 01-31-22**

By letter dated December 19, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19354A698), Holtec Decommissioning International, LLC (HDI), submitted a Post-Shutdown Decommissioning Activities Report (PSDAR) and associated Decommissioning Cost Estimate (DCE) for the Indian Point Energy Center (IPEC), which consists of Indian Point Nuclear Generating Units 1, 2, and 3, to the U.S. Nuclear Regulatory Commission (NRC). HDI submitted the PSDAR pursuant to Title 10 of the Code of Federal Regulations (10 CFR), Section 50.82(a)(4). HDI developed the IPEC PSDAR using the Regulatory Guide 1.185, Revision 1, "Standard Format and Content for Post-Shutdown Decommissioning Activities Report" (ADAMS Accession No. ML13140A038). The NRC staff is reviewing the PSDAR and has determined that the following additional information is required to complete its review. The RAIs and HDI's responses are provided below. The NRC evaluates the environmental impacts of licensing actions using general evaluations which apply to all plants in Generic Environmental Impact Statements (GEIS). Any site-specific evaluations for specific issues are then evaluated in Supplemental Environmental Impact Statements (SEIS) for each site, for licensing actions such as license renewal. In the case of sites planning for decommissioning, the licensee evaluates the site-specific impacts, as identified by the NRC in the GEIS on Decommissioning of Nuclear Facilities, NUREG-0586, and provides them to the NRC for review and approval in their PSDAR.

Consistent with the environmental impact reviews performed for other nuclear facilities undergoing decommissioning, the GEIS for Decommissioning (Reference 1), in conjunction with the SEIS for License Renewal, Vol. 1, 4 and 5 (Reference 2, 3 and 4), was used to provide the additional information and evaluations presented below, in response to the RAIs.

### **RAI-PSDAR-1**

**A) Given that SEIS, Vol. 1 did not consider the environmental impacts associated with IPEC Unit 1 and reached conclusions related to applicable Category 1 decommissioning issues for IPEC Units 2 and 3 under the 1996 license renewal GEIS, provide a basis and supporting analysis, as appropriate, for concluding that the environmental impacts associated with site-specific decommissioning activities for IPEC Units 1, 2, and 3 will be bounded by appropriate previously issued environmental impact statements for the following environmental resources: radiation dose, waste management, air quality, water quality, ecological resources, and socioeconomic impacts.**

Response: Per the GEIS for Decommissioning (Reference 1), the environmental impacts of radiation dose, waste management, air quality, water quality and socioeconomic impacts have been determined to be SMALL. HDI has not identified any conditions which are outside of those considered in the GEIS for Decommissioning (Reference 1) and therefore concludes that impacts for these categories associated with decommissioning of Units 1, 2 and 3 are bounded by the GEIS for Decommissioning (Reference 1). These findings are further supported by the site-specific analyses of the impacts for these categories documented in the License Renewal SEIS, Vol. 1, 4 and 5 (Reference 2, 3 and 4). If site-specific activities were to be performed that are not within the bounds covered by the GEIS for Decommissioning (Reference 1), a site-specific analysis of the activities would be conducted prior to these activities being performed.

Regarding the impacts on aquatic ecology and terrestrial ecology (ecological resources), there are no planned decommissioning activities outside of the operational area as defined in the GEIS for Decommissioning (Reference 1). HDI is not aware of unique features or conditions that would lead to a conclusion concerning these impacts associated with the decommissioning of IPEC Units 1, 2 and 3, different than those reached in the GEIS for Decommissioning (Reference 1). Therefore, the impacts on aquatic and terrestrial ecology, from the decommissioning of Unit 1, as well as Units 2 and 3 are bounded by the GEIS for Decommissioning (Reference 1), which found the impacts from these categories to be SMALL. These findings conform with the analyses of similar impacts in the SEIS, Vol. 1 (Reference 2).

**B) The IPEC PSDAR discusses the use of the DECON decommissioning method for IPEC. However, for IPEC Unit 1, the SAFSTOR decommissioning method was selected when it was initially shutdown in October 1974. Some decommissioning work associated with spent fuel storage was performed from 1974 through 1978, and the NRC issued an order approving the SAFSTOR method in January 1996. However, the IPEC PSDAR does not address the environmental impacts of IPEC Unit 1 for the approximately 20 years it was in SAFSTOR.**

**Provide a discussion and evaluation that addresses the potential environmental impacts of IPEC Unit 1 for the approximately 20 years under the SAFSTOR decommissioning method for decommissioning activities associated with SAFSTOR vs. DECON and provide an envelope of the impacts that the staff can compare to prior to undertaking decommissioning activities.**

Response: In accordance with the decommissioning plan submitted in 1980 for Unit 1 (Reference 5) and the 1988 Supplemental Environmental Information in Support of Indian Point Unit No. 1 (Reference 6), many of the Unit 1 facilities remained in service for operation of Units 2 and 3 after shut-down of Unit 1. The Unit 1 components placed into SAFSTOR (termed "protective storage" at the time) consisted primarily of the reactor containment building and fuel pools located in the fuel handling building

In 1988, additional environmental information regarding Unit 1 was submitted to the NRC. The supplemental environmental information submitted in 1988 (Reference 6) specifically addressed potential impacts of radiological releases to the environment, radiological accidents, radiological dose to the public and on-site personnel, noise, traffic aesthetics, irreversible and irretrievable commitment of resources, and unavoidable adverse environmental impacts. This report concluded that there were no significant changes at the facility since submission of the 1980 decommissioning plan, no conditions existed that raised previously unevaluated environmental considerations, and implementation of the SAFSTOR alternative for Unit 1 continued to be the best means for assuring the health and safety of the public and on-site personnel pending final dismantlement of the Indian Point facility.

Because many of the Unit 1 facilities were integrated into the operation of Units 2 and 3, those components were addressed in the SEIS, Vol. 1, 4 and 5 for license renewal (Reference 2, 3

and 4) for those units. With the exception of the documented release of Unit 1 spent fuel pool water to groundwater evaluated in the SEIS Vol. 1 and Vol. 5 (Reference 2 and 4), the potential for environmental impacts associated with the Unit 1 components maintained in SAFSTOR were negligible, and because the Unit 1 SAFSTOR period is complete, the extent of environmental impacts is known and confirmed to be negligible, except as discussed below regarding groundwater contamination.

The supplemental environmental information submitted in 1988 (Reference 6) and the SEIS, Vol. 1, 4 and 5 (Reference 2, 3 and 4) bound the environmental impacts associated with the Unit 1 SAFSTOR decommissioning period, including the categories requiring site-specific evaluation. Additional information is provided below.

The GEIS for Decommissioning (Reference 1) found that for decommissioning using the SAFSTOR method, the environmental impacts of land use, water use, water quality (non-radiological), occupational and public radiation dose, radiological accidents, occupational issues, waste management, air quality, water quality, socioeconomics, aesthetics, noise and transportation impacts are SMALL. Therefore, HDI concludes that for these categories, the impacts associated with the SAFSTOR decommissioning period for Unit 1 are bounded by the GEIS for Decommissioning (Reference 1).

#### Terrestrial and Aquatic Resources

Unit 1 was maintained in protective storage in its original location within the previously disturbed IPEC power block. The NRC found in the SEIS, Vol. 1 (Reference 2) that there would be no impacts on ecological resources associated with decommissioning beyond those discussed in the GEIS for Decommissioning (Reference 1). The SEIS, Vol. 1, 4 and 5 (Reference 2, 3 and 4) considered impacts to terrestrial and aquatic resources associated with continued operation and decommissioning of those units. Any significant potential for impacts to terrestrial and aquatic resources from Unit 1 were subsumed in the use of Unit 1 facilities for operation of Units 1 and 2. Therefore, HDI concludes that impacts associated with the Unit 1 SAFSTOR decommissioning period on terrestrial and aquatic ecology are bounded by the SEIS developed for License Renewal Vol. 1, 4 and 5 (Reference 2, 3 and 4) and the GEIS for Decommissioning (Reference 1).

#### Environmental Justice

The environmental justice evaluation reported in the SEIS, Vol. 1 (Reference 2) was conducted during the Unit 1 SAFSTOR period. The NRC concluded that there would be no disproportionately high and adverse impacts to minority and low-income populations from the continued operation of Units 2 and 3. The potential for impacts related to environmental justice associated with Unit 1 SAFSTOR decommissioning period were comparatively negligible; consequently, this category is bounded by the SEIS, Vol. 1 (Reference 2).

### Cultural, Historic and Archeological Resources

Unit 1 was maintained in SAFSTOR within its operational area; therefore, HDI concludes that the potential for impacts to cultural, historical and archeological resources is bounded by the GEIS for Decommissioning (Reference 1). As noted in the SEIS, Vol. 5, (Reference 6) the power block area and other areas south and east of the power block have been disturbed during site preparation and construction and have little to no potential for archeological resources. The Unit 1 components placed into SAFSTOR are located within the IPEC power block. Therefore, HDI concludes that, the potential for impacts to cultural, historical and archeological resources during the Unit 1 SAFSTOR period was small and bounded by the SEIS developed for License Renewal Vol. 1, 4 and 5 (Reference 2, 3 and 4) and the GEIS for Decommissioning (Reference 1).

The NRC also noted in the SEIS, Vol 1 and Vol. 5 (Reference 2 and 4) that no formal significance or eligibility evaluation had been conducted for Unit 1. No subsequent evaluation of eligibility was conducted for the remainder of the Unit 1 SAFSTOR period. Therefore, HDI concludes that for the Unit 1 SAFSTOR period, no cultural, historical or archeological impacts occurred.

### Threatened and Endangered Species

There were no decommissioning activities outside of the operational area for Unit 1 as defined in the GEIS for Decommissioning (Reference 1). The potential for impacts to aquatic threatened and endangered species was primarily associated with operation of Units 2 and 3 during the Unit 1 SAFSTOR period, and during the SAFSTOR period for Unit 1, permit conditions including operational and monitoring requirements were implemented to minimize the potential for environmental impacts to threatened and endangered species.

Unit 1 did not encroach on the habitat of any threatened or endangered terrestrial species and any impacts from construction noise and human activity associated with Unit 1 were (to the limited extent they occurred) localized, of short duration and ecologically insignificant. Therefore, HDI concludes that the impacts of the Unit 1 SAFSTOR decommissioning period on threatened and endangered species are analogous to and significantly less than those presented in the SEIS Vol. 1, 4 and 5 (Reference 2, 3 and 4) and are therefore bounded by them.

### Groundwater Contamination

With the exception of the groundwater contamination originating from the Unit 1 spent fuel pool, the potential for impacts associated with Unit 1 were negligible and to the extent they existed, were subsumed in the operation of Units 2 and 3. As noted in the SEIS, Vol 1 and Vol 5 (Ref 2 and 4), the calculated maximum dose to an offsite member of the public associated with the combined groundwater and liquid effluents pathways were found to be well within the Federal limits. This evaluation included the dose resulting from the Unit 1 spent fuel pool leak. Thus, the potential environmental impacts of the Unit 1 groundwater plume were addressed in the SEIS developed for license renewal, Vol 1 ,4 and 5 (Reference 2, 3 and 4)

HDI concludes that the environmental impacts associated with the Unit 1 SAFSTOR decommissioning period are bounded by previously issued environmental impacts statements and site-specific analysis summarized in this response.

- C) Section 5.1.14 of the PSDAR indicates that HDI anticipates decommissioning activities at IPEC will be confined to the operational area and previously disturbed areas, and in the event that ground disturbance is proposed in areas outside operational and previously disturbed areas (or historical or archeological resources are encountered during excavation), assessments and consultation with New York State Historic Preservation Officer (NYSHPO) will be conducted, as appropriate. The PSDAR concludes that the “potential for impacts to cultural, historical, or archeological resources is bounded by the [Decommissioning] GEIS.” The PSDAR also references SEIS, Vol. 1 and NUREG-1437, Supplement 48, Volume 5 concerning license renewal of IPEC Units 2 and 3 (PSDAR Reference 16 and referred to in the PSDAR and herein as “SEIS, Vol. 5”) to support this conclusion.**

However, the analyses included in the referenced documents do not appear to bound potential impacts of DECON to IPEC Unit 1. Specifically, Section 4.4.5.1 of SEIS, Vol 1. states:

**[T]he IP1 [IPEC Unit 1] reactor was one of three “demonstration plants” that began operation in the early 1960s. It is representative of the earliest era of commercial reactors to operate in the United States. To date, no formal significance or eligibility evaluation has been conducted for IP1; however, the plant could become eligible for inclusion on the National Register of Historic Places. As mandated by Section 106 of the NHPA, an evaluation would be conducted if it was determined that a project could affect IP1.**

The PSDAR identifies that HDI plans to dismantle and demolish IPEC Units 1, 2, and 3. In addition, HDI did not indicate in the PSDAR whether they considered the IPEC nuclear facility itself eligible for inclusion on the National Register of Historic Places or Historic American Engineering Record. Section 4.3.14.2 of the Decommissioning GEIS states:

**In a few situations, the nuclear facility itself could be potentially eligible for inclusion in the National Register of Historic Places, especially if it is older than 50 years and represents a significant historic or engineering achievement. In this case, appropriate mitigation would be developed in consultation with the SHPO [State Historic Preservation Officer]. Even for buildings that are less than 50 years old, the processes and engineering that were employed may be of interest and may be eligible for the Historic American Engineering Record.**

Clarify whether HDI plans to determine, in consultation with the NYSHPO prior to dismantlement and demolition, the current eligibility status of IPEC Unit 1 and the balance of the IPEC facility itself for inclusion in the National Register of Historic Places or Historic American Engineering Record, and, if required, identify appropriate



**mitigation measures (e.g., preservation of historic information and data) potentially resulting from this consultation.**

Response: Indian Point Unit 1 has no historical significance being only in service commercially from August 1962 until October 31, 1974. The unit was shut down because the emergency core cooling system did not meet regulatory requirements at that time. In January 1976, all spent fuel was removed from the reactor vessel. HDI has no current plans to seek evaluation or determination from NYSHPO or the Historic American Engineering Record (HAER) regarding the eligibility of IPEC Unit 1 or the balance of the IPEC facility for nomination of inclusion to the National Register of Historic Places or inclusion in the HAER collection at the Library of Congress.

HDI anticipates that decommissioning activities will take place within the IPEC operational and previously disturbed areas. In the event that ground disturbance is proposed in areas outside operational and previously disturbed areas, or historical or archeological resources are encountered during excavation, assessments and consultation with NYSHPO will be conducted, as appropriate.

**D) Section 5.1.14 of the PSDAR cites SEIS, Vol. 5 as the basis for the following statement.**

**The NRC concluded that the power block area and other areas south and east of the power block have been disturbed during site preparation and construction and have little to no potential for archeological resources. The NRC also found a potential for portions of the property not disturbed by construction activities south of the power block area and in the northeast portion of the IPEC property to contain intact subsurface archeological deposits.**

**The NRC staff could not confirm this information in the cited reference. Clarify where in the cited reference this information is presented.**

Response: The reference in the PSDAR was incorrect. The statement in question was taken directly from the SEIS, Vol. 1, Section 2.2.9.2 (Reference 2).

**RAI-PSDAR-2**

**Section 2.5 of the PSDAR states, “The HDI decommissioning plan includes the expansion of the existing ISFSI [independent spent fuel storage installation] pad on the IPEC site to provide the dry cask storage capacity needed for the spent nuclear fuel currently in the IP2 and IP3 [IPEC Unit 2 and IPEC Unit 3] reactors and spent fuel pools. The expanded ISFSI will also include storage capacity for the GTCC [Greater than Class C] waste.” The PSDAR estimates approximately 13 GTCC canisters will be needed for decommissioning activities. Section 3.2 of the PSDAR states that the ISFSI pad currently has a 75-cask capacity with a planned expansion for 65 additional casks.**

**Section 5.1.1.1 of the PSDAR states, “IPEC has sufficient previously disturbed area onsite (due to construction or operations activities) for use during decommissioning.” However, this section does not contain any description or evaluation of the ISFSI pad expansion that is part of the decommissioning plan.**

**Section 4.3.1.4 of the Decommissioning GEIS states that “[f]or facilities having only onsite land-use changes as a result of large component removal, structure dismantlement, and LLW [low-level waste] packaging and storage, the impacts on land use are not detectable or destabilizing.” In making this land use conclusion, the Decommissioning GEIS does not explicitly consider ISFSI pad expansion.**

**Provide a discussion and evaluation of the potential environmental land use impacts of the construction and operation of the ISFSI pad expansion for storing IPEC spent nuclear fuel and 13 GTCC canisters. Identify the area of land required for construction (including staging and laydown) and operation of the ISFSI pad. Identify the current land use categories of affected land and state whether any wetlands will be affected. In addition, describe plans for obtaining NRC approval for the ISFSI pad and fuel storage capacity expansion.**

Response: The ISFSI pad expansion is underway. The pad expansion occupies 2.2 acres of previously disturbed land located immediately north of the existing ISFSI pad that formerly consisted of a parking lot, security walls, a stormwater basin and partial lawn area. The stormwater detention pond has been relocated as a result of the pad expansion.

Topographically, the site slopes downward to the north and east. Elevations in the ISFSI pad expansion area range from 90 to almost 105 feet, which included a detention pond which had been constructed for stormwater management during previous projects. No wetlands have been or will be affected by the construction (including staging and laydown). The expansion of the pad, including the management of soils excavated during the construction, is being performed under the NYSDEC General SPDES Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) and in accordance with the Storm Water Pollution Prevention Plan which has been approved by the local governmental entities with delegated approval authority from the NYSDEC. All work on the construction of the pad was evaluated for previously unreviewed environmental impacts in accordance with the station’s Technical Specifications, Appendix B and site procedures governing environmental reviews. Based on the environmental impact review performed by station personnel, in conjunction with the regulatory approval for the construction of the pad expansion, it was determined that there were no adverse environmental impacts associated with the project.

The general licensing provisions in 10 CFR Part 72, Subpart K specify that the IP1, IP2 and IP3 Part 50 Licenses authorize the design and construction of the Independent Spent Fuel Storage Installation (ISFSI) pad(s) to store spent fuel in NRC-approved casks at the Indian Point site. The licenses requires the performance of evaluations to demonstrate that the expanded ISFSI is adequate for storing spent fuel in dry casks. These evaluations show that the cask Certificate of Compliance conditions and technical specifications are met and that the site security program, emergency plan, quality assurance program, training program and radiation protection programs are adjusted as necessary to incorporate the expanded ISFSI into the Indian Point site plan.

The NRC Staff, as part of its day-to-day oversight, will review and assess the ISFSI expansion to ensure that it is fabricated/constructed in accordance with Title 10 of the Code of Federal Regulations (CFR) Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste."

### **RAI-PSDAR-3**

**Section 5.1.7.2 of the PSDAR addresses impacts on protected aquatic species, including the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) and shortnose sturgeon (*A. brevirostrum*). In this section, HDI mentions "barging large plant components from IPEC on the Hudson River and beyond." The only potential impact on sturgeon addressed in connection with such transport is dredging. The National Marine Fisheries Service (NMFS) broadly identifies vessel strikes to be a major threat to both sturgeon species in its various listing documents and species assessments.**

**Evaluate the potential for barge vessel traffic associated with IPEC decommissioning activities to adversely affect Atlantic and shortnose sturgeon. For an example of the types of factors that should be addressed in this request, refer to the NMFS's 2020 evaluation of vessel traffic impacts associated with Oyster Creek Nuclear Generating Station decommissioning activities.<sup>1</sup>**

Response: HDI has no current plans to employ barge transportation. If a future determination is made to employ barges for transportation of large plant components and other wastes, then a full environmental review would be performed, in accordance with the applicable licenses, permits and regulations including the IP1, IP2 and IP3 Technical Specifications, Appendix B. This would include obtaining any and all necessary approvals and permits from the US Army Corp of Engineers, and the New York State Department of Environmental Conservation. If it is determined that the use of the barges could modify the station's actions in a matter that causes an effect on Atlantic or shortnose sturgeon that was not considered in the existing biological opinion issued for Indian Point operations and shutdown by the National Marine Fisheries Service (NMFS), as amended April 10, 2018, then the NRC would be requested to submit a request to reinstate the Section 7 consultation with NMFS in accordance with 50 CFR 402.16(c).

Barge vessel traffic would only be expected to occur during the large component removal phase of the decommissioning period. Bulk material delivery scow barges typically have a draft of 11 feet maximum and a speed of 1 to 7 knots. The hypothetical increase in barge traffic resulting from Indian Point is anticipated to represent a small increase in the vessel traffic in the area, occurring over a multi-year period. In 2019, cargo was transported in over 7,300 trips up and down the Hudson River, according to the Army Corp of engineers, Waterborne Commerce

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<sup>1</sup> See Section 7.4 of: National Marine Fisheries Service. 2020. Endangered Species Act Section 7 Consultation Biological Opinion for Continued Operation of Oyster Creek Nuclear Generating Station Pursuant to a License Issued by the NRC in April 2009, Shutdown, and Ongoing Decommissioning. GAR-2019-01287. May 29, 2020. ADAMS Accession No. ML20153A228.

Statistics (Reference 7). In past years 2013-2018, Hudson River cargo vessel trips were reported as well over 100,000 per year. And according to the Maritime Association of the Port of New York/New Jersey, tug and barge movements on the Hudson River now number roughly 10 times that of ships and is growing rapidly (Reference 8).

Factors believed to be relevant to increasing risk of vessel strike include high speeds, limited clearance with the bottom, and restricted or narrow waterways. None of these factors is present in the case of barge vessel transportation. The barges are expected to move at less than 7 knots and their slow speed would reduce the risk of vessel strikes. The species of interest (Atlantic and shortnose sturgeon) are benthic organisms and the shipping channel around Indian Point averages more than 32 feet deep, according to the US Coast Guard. There would be more than several feet clearance between the barges traveling to and from Indian Point, and the bottom at the shallowest conditions. The areas to be transited are free of obstructions leaving ample room for the sturgeon to avoid being hit.

Shortnose and Atlantic sturgeon are benthic (bottom dwelling) species and they tend to stay in the main shipping channel in the area of Indian Point which is about 32 feet deep (USCG). The number of barges which may be used represent a small fraction of the barge and other boat traffic in the Hudson River. Therefore, as NMFS outlined in their evaluation of vessel traffic impacts on endangered species for the Oyster Creek Power Plant decommissioning, the increase in risk of vessel strike in the action area, due to the increased barge traffic is so small that it cannot be meaningfully measured, evaluated, or detected. Based on the NMFS evaluation of the potential for vessel strikes at Oyster Creek, it is extremely unlikely that a barge would strike a sturgeon in the area of Indian Point. Although there were news articles about vessel strikes due to barge traffic supporting work on the Tappan Zee Bridge in the Hudson River south of Indian Point, there is no expectation of that occurring due to barge traffic which may be used for transport of materials from the site. The area immediately adjacent to the Tappan Zee bridge work area in Haverstraw Bay is a key sturgeon habitat and is also very shallow (5-9 feet) per USCG, factors which would increase the likelihood of vessel strikes resulting from that project. However, as demonstrated, the same is not true for the Indian Point location.

In addition, intensive monitoring over three years (during the period of station operations) for sturgeon at the site under the 2018 Incidental Take Statement issued by the National Marine Fisheries service revealed the absence of any observed Atlantic or shortnose sturgeon. This further supports a conclusion that sturgeon in this region of the Hudson River tend to remain in deeper waters and therefore are not likely to be vulnerable to vessel strikes in the area.

#### **RAI-PSDAR-4**

**PSDAR Section 2.4.10, Site Restoration, does not discuss the existing groundwater contamination. In Section 5.1.8.2, Public Dose, HDI briefly discusses the presence of radiologically contaminated groundwater at IPEC and states that monitored natural attenuation (MNA) has been the selected remedial action implemented as part of the long-term monitoring program (LTMP). The PSDAR uses analysis from the 2018 Supplement to the Environmental Impact Statement (SEIS) that may not be appropriate**

**considering the accelerated decommissioning schedule for partial site release by 2033, and the calculation of DCGLs for the groundwater pathway prior to that time.**

**The IPEC 2020 Annual Radioactive Effluent Release Report (ADAMS Accession No. ML21168A062) shows groundwater in several monitoring wells with elevated levels of tritium, cesium-137, strontium-90, and nickel-63. The PSDAR assumes that natural attenuation will reduce the groundwater radiological concentrations to sufficiently low levels within 12 years, which is the timeframe for accelerated decommissioning of the IPEC site with the goal of unrestricted release of all areas except the ISFSI. With that assumption, active remediation and possible expansion of characterization are not included as possible activities in the PSDAR, nor do the associated costs appear to be included in the cost estimate for site restoration.**

**Provide a qualitative assessment that addresses the uncertainty of when the objectives of the MNA remedy for groundwater contamination will likely be achieved compared to the accelerated decommissioning timeline for meeting the NRC's unrestricted release criteria.**

Response: The groundwater contamination plumes primarily associated with past releases from the Unit 1 and Unit 2 spent fuel pools (SFPs) have substantially attenuated over time, and natural attenuation is expected to continue during the decommissioning process. Based on the observed natural attenuation to date, it is reasonable to estimate that groundwater impacts will attenuate sufficiently over time to support partial site release in accordance with the schedule presented in the PSDAR.

There is some uncertainty regarding the rate of MNA for the groundwater plumes due to the continued likely presence of residual radionuclides (primarily tritium and strontium-90) in the unsaturated zone beneath the Unit 1 and Unit 2 spent fuel pools (SFPs). The dismantling and demolition of the SFPs will include removal of surrounding- fill and soil contaminated at levels exceeding Derived Concentration Guideline Levels (DCGLs). These actions most likely will reduce the source term in the groundwater and are expected to result in enhanced attenuation

Expansion of the monitoring program is unlikely to be needed. The nature and extent of the groundwater contamination has been defined and the ongoing LTMP is designed and implemented to detect changes in the plume extent, track plume attenuation throughout the plume area, and detect new releases should any occur. The LTMP also is dynamic and adjusted as needed based on monitoring results.

Active remediation is not expected to be needed but would be considered if monitoring results indicate MNA will be unsuccessful in achieving adequate remediation in a reasonable timeframe.

There are sufficient funds (as presented in the PSDAR) available for achieving remediation of the groundwater plume to support partial release.

The schedule and cost estimate presented in the PSDAR are based on reasonable assumptions supported by currently available information. Achieving the criteria using the site characterization and survey methods prescribed by the NRC can be an iterative process and

may result in revisions to the decommissioning plan and schedule. The uncertainty associated with the groundwater contamination is among the factors that may affect the plan or schedule.

As stated in the PSDAR and required by 10 CFR 50.82(a)(7), the NRC will be notified in writing, with copies sent to the State of New York, before performing any decommissioning activity inconsistent with, or making any significant schedule change from, those actions and schedules described in the DECON PSDAR, including changes that significantly increase the decommissioning cost.

#### **RAI-PSDAR-5**

**Per 10 CFR 50.82(a)(4)(i), HDI was required to submit to the NRC a PSDAR for IPEC, including a site-specific DCE. HDI complied with this requirement based on its earlier submission of a PSDAR followed by the completion of the IPEC license transfer transaction with Entergy Nuclear Operations, Inc. on May 28, 2021. As part of that transaction, the agreements governing the IPEC decommissioning trust funds were amended. In order to fully understand the IPEC DCE, the staff requires copies of the current trust agreements. Provide copies of the current IPEC trust agreements.**

Response: A subsidiary of Holtec International acquired ownership of Indian Point Units 1, 2 & 3 on May 28, 2021. Holtec is in the process of updating the trust agreements to reflect name changes as a result of this transaction. Below are the applicable trust agreements as they existed on the date of the ownership change:

- Entergy Indian Point 2, Master Decommissioning Trust for Indian Point Nuclear Generating Units 1 & 2, and
- Entergy Indian Point 3, LLC Master Decommissioning Trust for Indian Point Nuclear Generating Unit no. 3.

# Delaware

The First State

Page 1

*I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "INDIAN POINT 3, LLC", CHANGING ITS NAME FROM "INDIAN POINT 3, LLC" TO "HOLTEC INDIAN POINT 3, LLC", FILED IN THIS OFFICE ON THE TWENTY-EIGHTH DAY OF MAY, A.D. 2021, AT 12:22 O`CLOCK P.M.*

  
Jeffrey W. Bullock, Secretary of State

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SR# 20212207203

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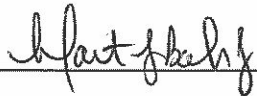
**DELAWARE  
CERTIFICATE OF AMENDMENT  
TO  
CERTIFICATE OF FORMATION  
OF  
INDIAN POINT 3, LLC**

The undersigned, for and on behalf of Indian Point 3, LLC, a limited liability company organized and existing under and by virtue of the Delaware Limited Liability Company Act (6 Del. C. § 18-101 et seq.), does hereby certify as follows:

1. The name of the Company is Indian Point 3, LLC.
2. The FIRST Paragraph of the Certificate of Formation is hereby deleted in its entirety and the following paragraph is substituted in lieu thereof:

FIRST. The name of the limited liability company is Holtec Indian Point 3, LLC

IN WITNESS WHEREOF, the undersigned has executed this Certificate of Amendment to Certificate of Formation on this 28<sup>th</sup> day of May, 2021.

By: 

Name: Martin J. Babos, Jr.

Authorized Person



# Delaware

The First State

Page 1

*I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF  
DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT  
COPY OF THE CERTIFICATE OF AMENDMENT OF "INDIAN POINT 1&2,  
LLC", CHANGING ITS NAME FROM "INDIAN POINT 1&2, LLC" TO "HOLTEC  
INDIAN POINT 2, LLC", FILED IN THIS OFFICE ON THE TWENTY-EIGHTH  
DAY OF MAY, A.D. 2021, AT 12:21 O`CLOCK P.M.*



  
Jeffrey W. Bullock, Secretary of State

7699280 8100  
SR# 20212207202

Authentication: 203322706  
Date: 05-28-21

You may verify this certificate online at [corp.delaware.gov/authver.shtml](http://corp.delaware.gov/authver.shtml)

**DELAWARE  
CERTIFICATE OF AMENDMENT  
TO  
CERTIFICATE OF FORMATION  
OF  
INDIAN POINT 1&2, LLC**

The undersigned, for and on behalf of Indian Point 1&2, LLC, a limited liability company organized and existing under and by virtue of the Delaware Limited Liability Company Act (6 Del. C. § 18-101 et seq.), does hereby certify as follows:

1. The name of the Company is Indian Point 1&2, LLC.
2. The FIRST Paragraph of the Certificate of Formation is hereby deleted in its entirety and the following paragraph is substituted in lieu thereof:

FIRST. The name of the limited liability company is Holtec Indian Point 2, LLC

IN WITNESS WHEREOF, the undersigned has executed this Certificate of Amendment to Certificate of Formation on this 28<sup>th</sup> day of May, 2021.

By: 

Name: Martin J. Babos, Jr.

Authorized Person

## References

Reference 1. U.S. Nuclear Regulatory Commission. Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities. NUREG-0586, Supplement 1, Volume 1. Final Report. November 2002. ADAMS Accession No. ML023470304.

Reference 2. U.S. Nuclear Regulatory Commission. Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3. NUREG-1437, Supplement 38, Volume 1. Final Report. December 2010. ADAMS Accession No. ML103350405.

Reference 3. U.S. Nuclear Regulatory Commission. Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3. NUREG-1437, Supplement 38, Volume 4. Final Report. June 2013. ADAMS Accession No. ML13162A616.

Reference 4. U.S. Nuclear Regulatory Commission. Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3. NUREG-1437, Supplement 38, Volume 5. Final Report. April 2018, ADAMS Accession No. ML18107A759.

Reference 5. Decommissioning Plan for Indian Point Unit 1, Consolidated Edison Company of New York, Inc., October 1980

Reference 6. Supplemental Environmental Information in Support of Indian Point Unit No. 1, Submitted to NRC in Response to NRC Requests for Additional Information (May 7 and December 15, 1986). March 1988.

Reference 7. U.S. Department of the Army, Corps of Engineers, Institute for Water Resources. 2019. Waterborne Commerce of the United States Calendar Year 2019, Part 1 – Waterways and Harbors, Atlantic Coast. Document ID IWR-WCUS-19-1.) Available at: <https://publibrary.planusace.us/#/series/Waterborne%20Commerce%20of%20the%20United%20States>

Reference 8. Maritime Association of the Port of New York/New Jersey, Tug and Barge Committee. 2016. Letter to Linda Fagan, District Commander, First Coast Guard District. January 21, 2016. Available at: <https://www.boatus.com/assets/www.boatus.com/gov/pdf/PNYNJ-Maritime-Association-proposal-for-Hudson-River-anchorage-sites.pdf>